

2004 American Association of Port Authorities Environmental Improvement Awards

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**Port of Portland's
Annual Environmental Objectives and Targets Program**

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Contact:
Sarah Allender, Environmental Program Manager
Port of Portland
P.O. Box 3529
Portland, OR 97208
503-944-7303
allens@portptld.com

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Introduction – Paper Highlights

The Port of Portland (Port) recognizes that the activities associated with the broad and diverse services it provides impact the environment. In order to meet the Port policy of practicing responsible environmental stewardship, implementation of proactive environmental programs, and incorporating environmental considerations into all aspects of its strategic planning and business decision-making, the Port has created a program for annual environmental objectives and targets to reduce the environmental impacts of the Port's activities and improve its environmental performance. The program is comprehensive in that it is Port-wide, and is designed to reduce environmental impacts of Port operations in a variety of areas such as water quality, air quality, and natural resources. The program is implemented on an annual cycle and is fully integrated into the Port's annual budget cycle and work load planning. The program is a key element of the Port's overall Environmental Management System.

The Port of Portland first established Port-wide environmental objectives and targets in 2001, and completed implementation of those objectives and targets in 2002. Since then, as an element of the Port's Environmental management System, environmental objectives and targets have been established, tracked, completed, and reported each year, with the 2004/2005 objectives and targets being finalized in June 2004 for completion by July 2005.

The program consists of an annual multi-step process involving workers and financial resources from multiple areas and levels within the Port. This process begins with a review of the Port's activities, determination of which activities have significant impact on the environment, a review of progress made toward meeting previous objectives and targets, and consideration of statewide environmental initiatives, external trends and influences, stakeholder concerns, and business needs. Objectives are developed based on this review. Examples of objectives include reducing energy consumption, minimizing impacts to water, air, and natural resources, and reducing waste generation and hazardous materials use. After objectives are set, workers within the port volunteer or are selected for cross-functional teams to develop multiple environmental targets for each of the objectives. These teams are responsible for developing

the targets, setting achievement criteria, and identifying resources and projects necessary for meeting the targets. Progress toward target achievement is measured throughout the year, and results are reported in the Ports Annual Environmental Report. After reporting, as part of the EMS continuous improvement cycle, the program undergoes a management review and improvements are incorporated.

Goals and Objectives

The Port of Portland recognizes that the activities associated with the broad and diverse services it provides impact the environment. In order to meet the Port policy of practicing responsible environmental stewardship, implementation of proactive environmental programs, incorporating environmental considerations into all aspects of its strategic planning and business decision-making the Port created a program for annual environmental objectives and targets to reduce the impact of the Port's activities and improve its environmental performance.

The primary environmental goals of this annual program are to:

- 1) improve environmental performance on a Port-wide basis by establishing and achieving annual Port-wide environmental objectives and targets, and
- 2) increase environmental awareness and participation in environmental programs through achieving cross-Port ownership in setting, tracking and achieving environmental objectives.

The program is now in its fourth year of implementation, and has achieved these goals on a continuing basis.

Comment: Need confirmation that the stormwater system was voluntary. Ken Wilhite indicated that it was. Do we anticipate that the type of system will be mandatory in the future? I.e. are we saving costs by installing it now in conjunction with other work?

Discussion

Background

As an element of the Port's Environmental Management System, the Port first established Port-wide environmental objectives and targets in 2001, and completed implementation of those objectives and targets in 2002. Since then, environmental objectives

and targets have been established, tracked, completed, and reported each year, with the 2004/2005 objectives and targets being finalized in June 2004, to be met by July 2005.

Objectives and Methodology

The primary environmental goals of this annual program are to: 1) improve environmental performance on a Port-wide basis by establishing and achieving annual Port-wide environmental objectives and targets, and 2) increase environmental awareness and participation in environmental programs through achieving operational ownership in setting, tracking and achieving environmental objectives. In its fourth year of implementation, the objectives and targets program has met these goals on a continuing basis.

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Consistent with the Port's environmental policy of incorporating environmental considerations into all aspects of its strategic planning and business decision-making, environmental objectives and targets have been developed, tracked, and accomplished by cross-functional, multi-level teams within the Port.

On an annual basis, the program is a multi-step process which begins with a review of the Ports activities, determination of which activities have significant impact on the environment, a review of progress made toward meeting previous objectives and targets, and consideration of statewide environmental initiatives. Port-wide objectives are developed based on this review. Examples of objectives include reducing energy consumption, minimizing impacts to water resources, and reducing waste generation and hazardous materials use. After objectives are set, workers within the Port volunteer or are selected for cross-functional teams to develop multiple environmental targets for each of the objectives. These teams are responsible for developing the targets, setting achievement criteria, and identifying resources and projects necessary for meeting the targets. Although objectives are Port-wide in nature, the program is designed so that targets can be Port-wide or area specific. In this way, operational areas can set and own achievement of environmental targets designed to address their identified issues and needs. Proposed objectives and targets are reviewed by management, and are approved

by Port Directors. Development of objectives and targets in synchronization with the development of the Ports business plans and fiscal year assures that projects can be planned and resources can be effectively allocated to meet the annual targets. The projects necessary to meet the annual targets are then implemented throughout the year. Progress toward meeting the targets is measured throughout the year, reported to Port Directors on a quarterly basis, and results are reported in the Port's Annual Environmental Report.

Award Criteria

1. *The level and nature of benefits to environmental quality, beautification or community involvement.*

Meeting the Port's annual environmental targets has benefited the Port's environmental quality, as well as that of the community within which the Port operates. Benefits to the environment are synchronous with the objectives which the Port has selected. These objectives have included reduction of greenhouse gas emissions, minimization of impacts to natural and water resources, minimization of impacts to air quality, reduction of waste generation, reduction in use of hazardous materials, reduction in energy consumption, and design for the environment.

To increase community involvement and awareness, the Port's environmental objectives and targets are communicated to stakeholders, community groups, and environmental organizations through quarterly outreach programs as well as an Annual Environmental report. Quantitative measures of progress toward meeting our targets are discussed in more detail under Award Criteria 4.

2. *The level of independent involvement and effort by the port.*

The process of developing, tracking, meeting, and reporting the annual objectives and targets is carried out within the Port. Success of the program has required active participation by Port employees at all levels, from shop floor to the director level, and from all Port areas, from Marine Maintenance to Aviation Planning to Engineering to Community Affairs to Finance. More than 75 employees directly participate in the development of annual objectives and targets, in a process that takes approximately six months. Additional workers are involved in

the projects implemented to meet targets. Carrying out specific projects to meet individual targets is achieved through the efforts of port employees as well as external contractors. Where external contractors are involved, such as with development of a Port-wide air inventory, the achievement has still called upon significant direct participation, contribution and management by internal stakeholder teams.

Development of the annual objectives and targets is a key component of the Port's goal of integrating environmental considerations into all aspects of strategic planning and business decision-making. Development of the annual objectives and targets has been independent of any regulatory action requirements.

3. *The creativity of the solution or programs.*

In developing this annual program, the challenge has been to develop a sustainable program in which each year new targets are generated that meet the program objectives and are consistent with the Port's environmental policy. This challenge has been met by using the EMS continuous improvement process, so that each year the program undergoes a review and is modified. This continuous improvement has resulted in the expansion of personnel commitment to include direct involvement of more than 75 Port employees in seven teams. With expanded participation, the creation and ownership of targets has expanded from individuals to teams. In the same way, ownership and participation in the process has expanded from primarily environmental professional to a larger suite of staff from all areas of the Port. Increased diversity in the participation and ownership of the program has resulted in a broader range of annual targets, and an evolution from simple and discrete targets to more complex and difficult targets. Broader participation has also resulted in broader ownership of implementation of the projects designed to achieve the targets, as well as their final results. To meet the challenge of an expanding annual program, the program has also evolved so that its cycle is integrated with the Port's fiscal year, business planning cycle, and budget process and is directly linked with the Ports business plan.

4. *Whether the project or program results are apparent (the project must be complete through some beneficial increment).*

Program results are apparent in that the Port has established a three year record of establishing, tracking, meeting, and reporting environmental objectives and targets, as well committing the necessary financial and personnel resources to meet the targets. A complete listing of the Ports objectives and targets from 2001 to the present are attached. Examples of objectives and associated targets include the following.

- *Reducing Energy Consumption*

Completed targets have included three energy conservation projects and participation of a tenant in an energy conservation project. Targets which directors have approved for 2004/2005 include conducting three building energy audits at Port facilities and implementing viable projects to reduce energy consumption.

- *Minimize Impact to Air Quality and Reducing Greenhouse Gas Emissions*

Completed targets have included increasing the Ports alternative fuel vehicle pool to 22%, followed by increasing alternative fuel and hybrid vehicles to 32%, completion of a Port-wide air emissions inventory, and implementation of a process improvement at a marine terminal gate to reduce truck traffic emissions. Targets which directors have approved for 2004/2005 include conducting three building energy audits at Port facilities and implementing viable projects to reduce energy consumption.

- *Minimize Impacts to Water Resources*

Completed targets have included achieving a 30% reduction in water use in two selected projects through use of drip irrigation rather than spray irrigation, development of a Port-wide water conservation plan, and installation of pollution prevention curb markers at 100% of identified stormwater catch basins.

- *Minimize Impacts to Natural Resources*

Completed targets have included development of habitat management strategies to reduce wildlife hazards at Portland International Airport, and development of a Port-wide Invasive Species Management Strategy.

- *Reduce Waste Generation and Hazardous Materials Use*

Completed targets have included reduction of toxic janitorial supplies by 65%, and reduction of Port-wide solid waste sent to landfills by 14%. Targets which directors have approved for 2004/2005 include assessing environmental and safety impacts of chemical products used at Aviation and Marine maintenance facilities and eliminate or substitute at least six products at Portland International Airport by June 2005 and another six at Marine Facilities Maintenance

5. *The cost effectiveness of the activity or the program.*

By aligning the environmental objectives and targets program with the Port's business planning cycle, the Port has increased efficiencies in developing and funding the projects necessary to achieve environmental targets. Efficiencies also have been gained by establishing Port-wide objectives to address issues on a Port-wide basis, rather than fragmented efforts by individual divisions (e.g. Marine or Aviation) or other groups within the Port. Substantive involvement in the program by more than 75 workers within the Port has distributed the process workload, and enabled the Port to better utilize the knowledge base of the Port, resulting in more efficient meeting of increasingly complex targets.

6. *The transferability of the technology or idea to the port industry.*

Although the Port of Portland has elected to set Port-wide objectives and targets, the same process model could be scaled for use by larger or smaller ports, or by specific areas within Ports. The use of internal resources for setting, tracking, and reporting the objectives and targets is transferable to all ports, as is the concept of continuous improvement to make the program sustainable, and aligning it with other business and planning cycles and considerations.

Conclusion

The Port's Environmental Objectives and Targets Program is entering its fourth annual cycle. As an element of the Port's Environmental Management System, during these four years the program has been successful in delivering environmental benefits to the Port and to the environment within which the Port operates. A key measurement of the success of the program has been its evolution into a sustainable annual program, participation and ownership from all levels of workers within the Port.

Port of Portland

2001/2002 Environmental Objectives & Targets

OBJECTIVES

1. Reduce greenhouse gas emissions
2. Minimize impacts to water quality
3. Minimize waste generation and hazardous materials
4. Minimize impacts to natural resources
5. Implement Environmental Management System

Reduce Greenhouse Gas Emissions

- ◆ Increase alternative vehicle pool Portwide to 28% in 2001/2002
- ◆ Increase employee use of commute options other than single occupancy vehicles to 33% in 2001/2002
- ◆ Purchase at least 1% of our energy from “green power” in fiscal year 2001/2002

Minimize Impacts to Water Quality

- ◆ Adopt Required Environmental Practices for construction activities by October 2001
- ◆ Review Best Management Practices for stormwater discharges (to identify effectiveness) by end of September 2001
- ◆ Identify needed changes in Best Management Practices for stormwater discharges and develop implementation schedule by January 2002

Reduce Waste Generation and Hazardous Materials Use

- ◆ Reduce generation of waste materials Portwide by 10% by the end of fiscal year 2001/2002 (through recycling, reuse, and reduction in use)
- ◆ Remove/replace mercury auto switches on Port fleet vehicles by the end of June 2002
- ◆ Identify five environmentally preferable alternative product categories by September 2001
- ◆ Within the five environmentally preferable alternative product categories, purchase an average of 25% of the preferable alternatives in 2001/2002

Minimize Impacts to Natural Resources

- ◆ Complete a Natural Resources Management Plan by April 2002

Implement Environmental Management System

- ◆ Achieve 80 % conformance to EMS procedures during the 2001/2002 baseline systems audit

2002/2003 ENVIRONMENTAL OBJECTIVES & TARGETS**OBJECTIVE:
Reduce Greenhouse Gas Emissions****TARGETS:**

- ◆ Increase alternative fuel vehicle pool to 22% (from 2002 baseline) in 2002/2003
- ◆ Replace landscape combustible fuel equipment from 2-stroke to 4-stroke engine (as needed and if available) by June 2003
- ◆ Complete a Portwide Air Emissions Inventory by June 2003
- ◆ Implement two process improvements at T-6 gate in 2002/2003
- ◆ Complete three energy conservation projects by June 2003

**OBJECTIVE:
Minimize Impacts to Water Resources****TARGETS:**

- ◆ Develop Portwide Water Conservation Plan by June 2003
- ◆ Identify and evaluate Port's potential sources of Temperature Impact to Columbia Slough by June 2003
- ◆ Develop a Stormwater Management Plan for Port industrial parks by September 2002
- ◆ Install pollution prevention curb markers at 100% of identified stormwater catch basins by December 2002

**OBJECTIVE:
Reduce Waste Generation and Hazardous Materials Use****TARGETS:**

- ◆ Reduce Portwide landfill-bound waste by 13% (relative to 2000 baseline) by June 2003
- ◆ Reduce hazardous paint waste generation by 5% at PDX by June 2003

**OBJECTIVE:
Minimize Impacts to Natural Resources****TARGETS:**

- ◆ Develop a Portwide Invasive Species Management Strategy by June 2003
- ◆ Update PDX Wildlife Hazard Management Plan by March 2003

**OBJECTIVE:
Consider Design for the Environment (DFE) for Planning, Construction & Procurement****TARGETS:**

- ◆ Conduct one internal "green building" educational workshop by June 2003
- ◆ Purchase an average of 65% of the five environmentally preferable alternatives by June 2003 within the five product categories (paper towels, toilet paper, paint, toner cartridges, office paper)
- ◆ Complete Marine Environmental Action Plan by June 2003

2003/2004 ENVIRONMENTAL OBJECTIVES & TARGETS

OBJECTIVE:

Minimize Impacts to Air Quality and Reduce Greenhouse Gas Emissions

TARGETS:

- ◆ Increase alternative fuel and hybrid vehicles to 32% by June 2004
- ◆ Complete Portwide Air Emissions Inventory by June 2004
- ◆ Implement one process improvement at T-6 gate by June 2004



OBJECTIVE:

Minimize Impacts to Water Resources

TARGETS:

- ◆ Complete three training sessions for “Required Environmental Practices for Construction” by June 2004
- ◆ Complete technical guidance manual for pesticide and fertilizer management by June 2004
- ◆ Quantify baseline pollutant loads from PDX by June 2004
- ◆ Use drip irrigation rather than spray irrigation for two projects by June 2004 to achieve 30% water reduction within these projects



OBJECTIVE:

Reduce Waste Generation and Hazardous Materials Use

TARGETS:

- ◆ Reduce Portwide solid waste to landfill by 14% by June 2004
- ◆ Purchase 65% of janitorial products by June 2004 that meet or exceed environmentally preferable product criteria



OBJECTIVE:

Minimize Impacts to Natural Resources

TARGET:

- ◆ Develop habitat management strategies to reduce the wildlife hazards at PDX by June 2004



OBJECTIVE:

Consider Design for the Environment (DFE) for Planning, Construction & Procurement

TARGET:

- ◆ Create toolkit of DFE considerations and options for Port development projects and apply to two Port projects by June 2004



OBJECTIVE:

Reduce Energy Consumption

TARGETS:

- ◆ Complete three energy conservation projects by June 2004
- ◆ Have at least one tenant participate in tenant energy conservation program by June 2004

2004/2005 ENVIRONMENTAL OBJECTIVES & TARGETS

OBJECTIVE:

Minimize Impacts to Air Quality

TARGETS:

- ◆ Reduce emissions from dredge operation by replacing/upgrading dredge tender boat engine and other engines in Navigation fleet, as feasible, by June 2005
- ◆ Reduce idling/transaction time by 50% at PDX parking toll plaza by June 2005
- ◆ Take five actions by June 2005 to reduce diesel particulate emissions
- ◆ Identify air quality improvements through energy source changes for PDX gate & ground service equipment by completing preliminary engineering & economic evaluations by June 2005



OBJECTIVE:

Minimize Impacts to Water Resources

TARGETS:

- ◆ Complete water efficiency evaluations for three Port water systems by June 2005
- ◆ Reduce the amount of treated timber chocks at T6 container yard by 20% by June 2005
- ◆ Implement four water conservation measures from the *Water Conservation Plan for PIC* by June 2005



OBJECTIVE:

Reduce Waste Generation and Hazardous Materials Use

TARGETS:

- ◆ Assess environmental and safety impacts of chemical products used at Aviation and Marine maintenance facilities and eliminate or substitute at least six products at PDX by June 2005 and another six at MFM by March 2006
- ◆ Conduct study by June 2005 to determine feasibility of expanding PDX pre-consumer food waste program to post-consumer food waste in order to divert waste from landfill
- ◆ Install plastic bottle and aluminum can recycling collection containers for passengers at PDX by June 2005 in order to divert waste from landfill
- ◆ Reduce Portwide solid waste to landfill by 15% by June 2005



OBJECTIVE:

Minimize Impacts and Seek Opportunities to Enhance Natural Resources

TARGETS:

- ◆ Organize a weekend event for Port staff to clean up Port-owned shorelines by June 2005
- ◆ Install 30 pieces of large wood debris at Vanport Wetlands, three bird boxes at the Randall Mitigation Site, and 30 pieces of large wood debris and one bat box at the T5 Powerline Site by September 2004 to increase habitat diversity at Port mitigation sites

2004/2005 ENVIRONMENTAL OBJECTIVES & TARGETS (Continued)**OBJECTIVE:****Consider Design for the Environment (DFE) for Planning, Construction & Procurement****TARGET:**

- ◆ Provide two training opportunities by June 2005 to promote sustainable tenant redevelopment projects

**OBJECTIVE:****Reduce Energy Consumption****TARGETS:**

- ◆ Evaluate new technology to determine financial and technical viability of the Eco-start motor energy controller [*placeholder target until evaluation is completed*]
- ◆ Conduct three building energy audits at Port facilities and implement viable projects by June 2005

**OBJECTIVE:****Purchase Electric Energy From Sustainable Sources****TARGET:**

- ◆ Purchase 3% of PDX's, 5% of Marine's, and 5% of the Port Building's electric power from sustainable wind-generated sources in 2004/2005