

Performance Track Case Study

Safe (and Clean) Port: The Port of Houston Authority Earns High Marks for Community Outreach and Environmental Performance

Serving the 10th largest seaport in the world, the Houston Ship Channel is a dynamic waterway that provides a link between Houston and the Gulf of Mexico. The Port of Houston Authority (PHA) and 150-plus private industrial companies constitute the Port of Houston—a 25-mile long expanse of diversified public and private facilities that manage more than 7,000 vessels and 150,000 barges annually.

PHA is the first U.S. port to meet ISO 14001 requirements and has set a standard for other ports to follow in terms of air quality, water quality, pollution prevention, and community relations. In 2003, two of PHA's facilities—its Central Maintenance Facility and a container terminal at Barbours Cut—gained acceptance into Performance Track. The Central Maintenance Facility has since reduced its air emissions of volatile organic compounds (VOCs) and achieved its total solid waste commitment, and the Barbours Cut Terminal has reduced its NO_x emissions, discharges of toxics to water, and disposal of absorbent waste. Both facilities renewed their membership in Performance Track in 2006 and made a new set of environmental commitments. PHA encourages its employees and facilities to involve themselves in the community and education through its Priority Sponsorship Guidelines, which include an environmental awareness component.

EMS Implementation Leads to

PERFORMANCE TRACK MEMBERSHIP

“The greatest advantage of Performance Track is that it helps facilitate better communication and dialogue with peers and other stakeholders.”

Aston Hinds, Ph.D.
Environmental Affairs Manager,
Port of Houston Authority

In 2000, EPA's Office of Water invited PHA to participate in a pilot program that provided public entities and organizations the opportunity to develop and institute an Environmental Management System (EMS). A few years later, PHA's Central Maintenance and Barbours Cut facilities received third-party assessment audits, demonstrating that the EMS at each facility met ISO 14001 requirements and is maintaining environmental compliance. For the strength of their EMS implementation, present and future commitment to above-average environmental compliance and performance, and their excellence in community outreach, PHA's Central Maintenance and Barbours Cut facilities were selected to be members of Performance Track. PHA has since worked with EPA's Sector Strategies program in helping nine other ports develop their own EMS models. In addition, PHA used its EMS as a model to develop its own security management system.

Company PROFILE

Company Name:	The Port of Houston Authority
Location:	111 East Loop North Houston, Texas 77029
Phone/Fax:	(713) 670-2438 / (713) 670-2427
Total # of Employees:	500+
Years in Business:	93
Primary Cargo:	Containers, Bulk Material, and International Cargo
Certifications:	ISO 14001 registered

Performance Track

COMMITMENTS & METHODS OF IMPROVEMENT

PHA's Central Maintenance facility made four environmental commitments when it became a Performance Track facility in 2003. The following is a summary of the methods the facility has implemented toward fulfilling these commitments:

1. **Discharge of Toxics to Storm Water** – Implemented storm water awareness training and instituted several best management practices to prevent adverse effects from storm water runoff, including the installation of silt fencing, drain cover protection, and maintaining emergency response equipment in the event of a spill.
2. **Total Energy Use** – Began installation of a Cool Roofing System for the outside maintenance department. This project was designed to reduce the amount of heat buildup in the office areas, and use more natural lighting to reduce energy consumption. Once the installation is complete, the facility expects its energy consumption to decline over time.
3. **Emissions of VOCs** – Improved procurement requirements to include air quality emission standards (including cleaner burning engines, use of alternative fuels, and low and/or ultra low emission vehicles) for all equipment purchases.
4. **Total Materials Use** – An innovative employee converted a cement mixer to allow shop personnel to reuse absorbent material several times before disposal. By placing the used absorbent in the mixer, the spilled material in the absorbent is evenly distributed and the absorbent can be used multiple times. Also, shop towels used for cleanup had previously been sent to landfills but are now recycled.

PHA's Barbours Cut facility made commitments to reduce air emissions, discharges of toxics to water, total solid waste, and total energy use.

1. **Air Emissions:** The Barbours Cut facility has reduced NO_x emissions from its cargo-handling equipment fleet by 36 percent in normalized terms by increasing its use of diesel emulsion fuel and accelerating engine turnover.
2. **Discharges to Water:** The amount of iron discharged to water from scrap metal storage at Barbours Cut increased during the facility's first three years in Performance Track despite efforts to reduce it; however the facility says the increase is due to stormwater upsets that occurred during construction activities at the site.
3. **Generation of Waste:** The facility committed to reduce its disposal of absorbent waste. Due to increases in the port's business volume the actual quantity of absorbent waste increased over its first three-year term in Performance Track, but it is now recycling 100 percent of its absorbent waste instead of sending it to the landfill.
4. **Energy Use:** Barbours Cut reduced its total use of electricity on a normalized basis (energy use per number of vessel container moves) by 2.5 million kilowatt-hours through a power factor correction project for container cranes at the facility. The correction improved the stability of energy supply, which reduced frequent overload that had resulted in episodes of costly down-time. Following each episode the electrical system had to be reset, and the cranes bought back online. An important outcome was an overall increase in energy efficiency.

Community Outreach INITIATIVES

Given the day-to-day interaction the Port Authority has with its surrounding neighbors, tenants, and contractors, PHA recognizes a tremendous opportunity to lead by example in going beyond environmental compliance and encouraging community awareness and involvement. PHA has used its internal training initiatives to communicate the importance of environmental awareness to employees and is in the process of expanding its tenant and external stakeholder environmental awareness and engagement program.

In addition to developing and distributing an annual report on its environmental efforts and achievements, PHA reaches out directly to the community around the port. PHA employees volunteer in a variety of community projects, such as planting a community garden at Port Houston Elementary School, and PHA sponsors environmental stewardship events every year. Through a partnership with the Galveston Bay Foundation, PHA supports the annual Marsh Mania event, a project that creates and/or restores wildlife habitats along the bay, enhances the bay's water quality through the establishment of natural filters, and helps prevent coastline erosion. In collaboration with community organizations, PHA launched the Mighty Tidy, a trash skimmer boat that captures floating trash and debris. The boat has removed nearly 2,400 cubic yards of trash over two years. Other community outreach projects include the restoration of Redfish Island and the use of dredged material from the Houston Ship Channel to create Evia Island, a protected nesting habitat for shore birds.

Besides having two facilities in Performance Track since 2003, PHA recently received the following recognitions:

RECOGNITION/YEAR	REASON
Gulf Guardian Award / 2004	Earned first place for the Mighty Tidy's proactive protection of Buffalo Bayou and Galveston Bay, in the Gulf of Mexico.
Clean Texas Partner / 2004	Accepted as a partner for the establishment and maintenance of environmental compliance at the port.
TCEQ Environmental Excellence Award / 2003	Top recognition for the widening and deepening of the Houston Ship Channel that provides a positive impact on the state's air, water, and land.

Ready to GET STARTED?

For more information about other members' commitments and accomplishments and to learn how you can become a member of Performance Track, visit our Web site at www.epa.gov/performance-track or call (888) 339-PTRK (7875).

