



FACT SHEET

ENVIRONMENTAL STEWARDSHIP

The Port of Houston Authority requires that all contractors and consultants must adhere to all federal, state and local environmental regulations and procedures as stated in the PHA Environmental Compliance Policy, effective May 1, 2001.

PHA Environmental Compliance Policy

The Port of Houston Authority is committed to conducting Port operations and managing resources in an environmentally sensitive and sound manner. The Port of Houston Authority fully supports the environmental goals and objectives of the United States, the State of Texas, and local authorities as embodied in their respective laws, rules, and regulations. It is a goal of the Port of Houston Authority to be recognized by the maritime industry as a "Model Port" in environmental compliance. In addition, it is the Port of Houston Authority's intent to:

1. Provide and promote proactive environmental leadership and compliance in all business decisions, pollution prevention, best management practices, and policy programs, while attaining the widest range of beneficial uses for the environment.
2. Continually evaluate and improve activities and practices to achieve our established goals of meeting and/or exceeding all current Federal and State standards and regulations.
3. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations through increased pollution prevention, environmental awareness and communication with employees, customers, suppliers, patrons, regulatory agencies, and neighboring communities.

4. The Port of Houston Authority is committed to the spirit and intent of this policy and the laws, rules and regulations, which give it foundation.

PHA Water Quality Initiatives

PHA is continually working to implement water quality initiatives at its facilities. The PHA received a Coastal Coordination Council grant in 2006 to study phytoremediation as a best management practice for storm water treatment. The study showed promising results for decreasing the pollutant load, but additional studies will need to be conducted to confirm the preliminary findings. As an education and outreach program under its Municipal Separate Storm Sewer System Permit, the PHA installed storm drain markers at its facilities. The storm drain markers state in both English and Spanish “Do Not Dump, Drains to Bay” to remind employees that storm water does not receive treatment. The importance of maintaining water quality for drinking water is of utmost importance. The PHA conducted a cross-connection survey at all facilities to ensure that no potential existed for cross contamination of drinking water. The PHA actively maintains the backflow prevention at all of its terminals. A National Performance Track goal for water conservation has been set to reduce water usage at its Barbours Cut Terminal by 5%. The PHA is on track to meet its water conservation goal by the 2009 deadline.

PHA Air Quality Initiatives

PHA is continually evaluating and implementing programs to reduce air emissions from its' operations, as air quality remains a top priority. During 2007, the PHA implemented a vanpool program for its' employees. This program has grown to 11 vans sponsored by the METROVan program by METRO and HGAC. The vanpool program was started to continue PHA's role as a “Commute Solution Champion” in which the PHA has been designated as an EPA “Best Workplace for Commuters” employer. The specific benefits of the vanpool program include:

- Reduction of approximately 442,000 miles driven per year
- Reduction of NO_x by 0.19 tons per year, VOC by 0.22 tons per year and CO₂ by 210 tons per year
- Reduction of gasoline consumption by about 24,000 gallons per year

The Port Authority continues to meet its commitment of 25% NO_x and 25% VOC emission reductions from its mobile fleet equipment and operations. The Port Authority has committed to purchasing ultra low and low emission vehicles for its on-road fleet and has replaced its off-road fleet with cleaner engines.

The Port Authority continues to promote the use of Texas Emission Reduction Plan (TERP) incentive program and encourages legislative funding support. The Port Authority has been a successful recipient of these grants and was awarded over \$600,000 in grant funds to replace 14 yard crane engines with new, cleaner

diesel engines. This will allow the Port Authority to reduce approximately 130 tons of NOx over the next 7 years from this equipment.

The Port Authority was invited to attend the C40 World Ports Conference in Rotterdam. Representatives from 14 international ports met to discuss initiatives and approaches towards reducing CO2 emissions. The ports were brought together under the auspices of the C40 Large Cities Climate Leadership Group and supported by the Clinton Climate Initiative. The C40 Climate Leadership Group is an alliance of the world's largest cities committed to tackling climate change. The result of the meeting was a first draft for a World Ports Climate Declaration.

The Port has been a long-time advocate for conducting emission inventories to determine accurate baselines and establish accurate progress. The Port assisted the TCEQ and its consultant in obtaining valuable vessel data to conduct a routine vessel study. This cooperation led to the Port Authority assisting the TCEQ in collecting more data from the harbor craft sector in HGB area for an updated emission inventory.

Dredging and Marsh Projects

The Houston Ship Channel initial deepening and widening was completed in 2005 and the project continues to conduct maintenance dredging operations, which will place material into the marsh and upland areas created during the channel deepening. The PHA has elements of deferred construction that have been designed and included in future fiscal year construction budgets to account for the additional capacity needs in the channel. To address disposal capacity needs, projects were designed and awarded in 2007 to raise the levees of the upland sites (Lost Lake, Spilman Island and Peggy Lake) along the deepened channel and to build two new marsh cells at Atkinson Island.

Three existing marsh cells at Atkinson Island were filled with maintenance dredging material in 2007 and continue to settle before the cells can be planted in 2008. The Mid Bay site also received maintenance material in 2007 and will need time to settle. At the existing marsh cells on Bolivar a study was completed which led to a design for creeks and channels in the marsh that will bring in tidal flow and enhance this habitat. Through 2007 approximately 3,000 acres of habitat have been collectively created at Atkinson Island, Mid Bay Island, Bolivar Peninsula, Evia, Goat and Redfish Islands.

Bayport Environmental Mitigation Features

PHA has preserved more than 450 acres of wetlands, forested uplands, open-water habitat and coastal prairie along the lower part of the San Jacinto River,

173.5 acres of protected or created wetlands and upland prairie at the Memorial Tract near the Armand Bayou Nature Preserve, and 500 acres on the Katy Prairie as part of the construction of the container and cruise terminal facilities at Bayport. The Texas Department of Parks and Wildlife, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the Texas Commission on Environmental Quality have each submitted written statements to the U.S. Army Corps of Engineers generally indicating that the PHA's plan adequately addresses their concerns and establishes appropriate conditions that are included in a permit for Bayport. PHA developed other mitigation features that more than compensate for the environmental impacts from the facility.

- The use of clean fuel and clean engine technology at Bayport help reduce air emissions.
- A three-mile long buffer zone around the Bayport facility includes a landscaped sight and sound berm that is 20 feet tall.
- The buffer zone also includes part of an extensive storm water collection system that will protect Galveston Bay.
- Lighting systems designed to use black light poles and specially designed fixtures will limit night-time impacts from Bayport operations.
- Jurisdictional wetland will be replaced at a ratio of more than three to one to increase the habitats available for fish, waterfowl and other coastal wildlife.
- The beneficial use of dredged material will create up to an additional 200 acres of inter-tidal marsh.
- PHA has drawn on expertise developed in other ports around the world to make the new Bayport facility environmentally sound. PHA will continue to review our development plans as new environmental technologies and techniques evolve.
- PHA will continue to work to address all public concerns and issues regarding the facility, setting a new standard for sustainability and social responsibility in the maritime industry. The Port Authority is committed to being a good neighbor and will work as hard as we can to meet that goal.

Environmental Efforts Shine During ISO Audit

The Port of Houston Authority was the first U.S. port to implement an Environmental Management System (EMS) that meets the rigorous parameters of the ISO 14001 standards. The International Organization of Standardization (ISO) 14001 standards recognize the PHA's voluntary development and implementation of an innovative environmental management system (EMS)

focusing on reducing and recycling solid waste, lowering air emissions, reduction of waste volumes and improving storm water quality, while reducing energy consumption.

The PHA successfully completed its first ISO 14001 audit by the Det Norske Veritas Certifications in August 2002. The Port Authority achieved certification to the ISO 14001: 2004 standard in September 2005. In the evaluation of the PHA's environmental programs and EMS, DNV gave the PHA noteworthy remarks for going beyond what is required of the ISO standard and the commitments of the EMS. Specifically, the audits of 2007 highlighted:

- PHA reduced VOC emissions by 32% from 2002 through 2006.
- MSDS are very well managed. They are available online and in hardcopy at all audited locations.
- PHA's participation in the community outreach program, Clean & Green, to clean up the Bayou. Port of Houston Authority, the Buffalo Bayou Partnership and corporate partner Shell Oil Company formally launched the Clean & Green Port of Houston program on September 4, 2007. The initiative uses community service workers through the Harris County Supervision & Corrections Department to clean up trash from Buffalo Bayou's banks and waterways, five days a week. Seven months into the program, enough trash has been collected from Buffalo Bayou to fill nearly 47 garbage trucks. That's equivalent to 1,166 cubic yards of litter, which is 250 percent more than the amount collected during the same period in the previous year.

Top Accolades for Environmental Stewardship

Second Annual Sponsorship of Host Site for Houston-Galveston Area Council's "Clean it Like You Mean It."

The Port Authority initiated sponsorship of the Baytown Nature Center site in 2006. A team of approximately 250 members of the PHA SupPORTers joined forces with thousands of other dedicated volunteers on March 25, 2006, to help clean 3.5 tons of trash from Houston area waterways during the 13th Annual River, Lakes, Bays 'N Bayous Trash Bash. For educational outreach, the event also included a "Keep It Clean" poster contest that was open to all students at Baytown's Pumphrey Elementary School. School supplies worth \$400 were donated to the school as a reward, all contest participants received ribbons and their entries were displayed at the Eddie V. Gray Wetlands Center. The Port of Houston Authority continued its sponsorship of the Baytown Nature Center site for the third consecutive year. The 15th Annual River, Lakes, Bays, 'N Bayous Trash Bash in 2008 was a resounding success. Perfect weather graced all 17 locations, where nearly 4,500 volunteers cleaned up 85,000 pounds of trash along the 97 miles of shoreline. PHA SupPORTers were among those who teamed up to properly dispose of tires and recycle a total of 1,500 pounds of

material. Volunteers of all ages partook in this educational event at the nature center, educational displays and an environmental magic show.

EPA's National Performance Track Program

Recognizes and encourages top environmental performers to go beyond compliance to attain levels of environmental performance and management that benefit people, communities, and the environment. The PHA was accepted into the program in April 2003 with goals for improving air quality, reducing storm water impacts, waste minimization and reducing energy consumption at the port. All Performance Track members are recognized nationally for their environmental stewardship and receive various incentives from the USEPA. The Port Authority renewed its commitment for an additional three years in the National Performance Track Program in 2006. The newly established goals include water conservation, improving air quality, reduction in waste, and energy efficiency.

Three-time winner, Gulf of Mexico Program Gulf Guardian Award

PHA was recognized for its demonstrated efforts to enhance natural wildlife habitats through the creation of wetlands in Galveston Bay. The Government awards were won in 2000, 2004 and 2008, with the more recent award recognizing the PHA and its partners in launching the community outreach program, Clean & Green, to clean up the bayou. Port of Houston Authority, the Buffalo Bayou Partnership and corporate partner Shell Oil Company formally launched the Clean & Green Port of Houston program on September 4, 2007. The initiative uses community service workers through the Harris County Supervision & Corrections Department to clean up trash from Buffalo Bayou's banks and waterways five days a week. Seven months into the program, enough trash from Buffalo Bayou to fill nearly 47 garbage trucks. That's equivalent to 1,166 cubic yards of litter, which is 250 percent more than the amount collected during the same period the previous year.

The PHA's Beneficial Uses Group (BUG) tied for third place partnership in the 2007 Gulf Guardian awards. Created in 1990, the BUG is one of several subcommittees formed by the U.S. Army Corps of Engineers' Interagency Coordination Team to address environmental issues associated with the Houston-Galveston Navigation Channel's expansion project.

Clean Texas Program

The Port of Houston Authority has been accepted into the Clean Texas Program at the Bronze level. Created by the Texas Commission on Environmental Quality, the partnership is for entities committed to a high-performing environmental program.

TCEQ Environmental Excellence Award

Recognizing the PHA's Houston Ship Channel widening and deepening project as an initiative that provides a positive impact on the state's air, water and land.

American Association of Port Authorities' Environmental Improvement Award

This award was given to PHA for its air quality program, which achieved significant reductions in emissions of nitrogen oxide, volatile organic compounds, and particulate matter at PHA's operational facilities.

American Association of Port Authorities' 2002 Calvin Hurst Award

Recognizing the PHA's innovative Environmental Management System (EMS), the PHA was the first port since 1998 to be named the recipient of this coveted port industry accolade, which is named posthumously in remembrance of the first professional marine environmentalist who served at the Port of Los Angeles from 1972 to 1987. Because of the exemplary nature of its intended recipients, the AAPA does not necessarily present the award every year.

EPA Recognizes The Port of Houston Authority as a "Best Workplace for Commuters" employer.

Using leased vans that service five separate areas of the surrounding community, the employee vanpool program is annually reducing approximately 442,000 miles driven, 0.19 tons of NOx, 0.22 tons of VOC, 210 tons of CO₂, and about 24,000 gallons of gasoline consumption. The use of a vanpool program has also reduced the number of vehicles from the overall traffic congestion by 30.