



## Profile



The first steamship traversed Buffalo Bayou in 1863 and in 1870, the US Congress established Houston as an official port of entry. The citizens of Harris County and the US Congress subsequently funded the dredging of a deepwater channel to connect Houston with the Gulf of Mexico. On November 10, 1914, President Woodrow Wilson pressed a button in Washington, D.C., and a mortar fired on the banks of the Houston Ship Channel. This event marked the completion of the Channel that made it possible for ocean going vessels to sail fifty miles up a narrow, winding channel to the Turning Basin, a few miles from downtown Houston.

Today, the Port of Houston is an internationally recognized port being the eighth largest port in the world. Nationally, the Port of Houston ranks first in foreign tonnage and second in total tonnage. The Port of Houston is also home to the second largest petrochemical complex in the world. In the year 2000, more than 7,000 ships and 100,000 barges called at facilities along the Houston Ship Channel.

The Port of Houston Authority (PHA) is an autonomous political subdivision of the State of Texas and is governed by a board of seven commissioners. The City of Houston and the Harris County Commissioners Court each appoint two commissioners and the Chairman. The Harris County Mayors & Councils Association and the City of Pasadena each appoint one commissioner.

The PHA owns approximately 8,000 acres of property adjacent to the Houston Ship Channel. The developed properties contain eleven terminals, 13 dredged material disposal areas, and 150 lease areas. These facilities were designed for handling general cargo, containers, grain and other dry bulk materials, project and heavy-lift cargo and virtually any other kind of cargo. In addition, the PHA operates two container terminals, handling more than 1 million twenty-foot equipment units (TEUs) per year. The PHA facilities are located in two counties, four cities, one industrial district, and in unincorporated areas of Harris County. The PHA employs approximately 500 individuals.

## **Fence Line**

The PHA selected two facilities for its fence line; the PHA's Barbour's Cut Container Terminal and the Turning Basin Terminal's Central Maintenance Facility. These facilities were selected as they are operated by PHA personnel.

The Barbour's Cut Container Terminal consists of six container berths, 125 acres of container marshalling yards, a maintenance facility, and a 24-hour emergency response crew with a fireboat. The facility operates 24 hours a day seven days a week and handled approximately 600,000 TEUs in 2000. The maintenance facility performs vehicle and equipment maintenance as well as facility maintenance (painting, HVAC, exterminating, etc.). The PHA expects to spend approximately \$50 million over the next five years in terminal improvements to increase container capacity and vessel productivity. Approximately 125 individuals are employed at the terminal.



The Turning Basin Terminal is at the navigational head of the Houston Ship Channel, eight miles from downtown Houston. The Turning Basin Terminal includes 37 public wharves, each offering between 428 and 806 feet of quay. The terminal has more than 1.9 million square feet of short-term covered storage and 3.3 million square feet of open storage. The Central Maintenance Facility, located at the Turning Basin Terminal, conducts vehicle and equipment, and facility maintenance for the Turning Basin Terminal and several other nearby terminals. Approximately 50 individuals are employed at this facility.

## **Key Drivers for Adopting an EMS**

The PHA's desire to develop and implement an EMS was driven by the following factors:

- Potential to improve environmental performance
- Improve employee's awareness of environmental issues and participation in the environmental program
- Reduction in costs
- Potential for regulatory benefits
- Valuable public relations and marketing tool
- Consistent with the PHA's overall environmental principles

## **Significant Aspects and Impacts**

As part of the EMS, the Environmental Affairs Department developed process flow diagrams of all of the activities conducted within the Fence line. These flow diagrams

were used as tools to extract the environmental aspects and associated impacts of the activity.

After all of the environmental aspects and impacts were identified, the EMS Core Team developed criteria to prioritize these aspects. Each aspect and associated impact was ranked from one to five (five being the most significant or largest) in eight categories: regulatory, health, natural resources, costs, probability of occurrence, solid waste generation, volume, and public issues.

## Objectives and Targets

When developing objectives and targets for the PHA's Fence line, the following critical factors were considered: commitment to the PHA's Environmental Policy, legal requirements, communication to internal and external interested parties, financial obligations and organizational goals of the PHA. Other factors included the ability to control, track, and measure each target and the associated costs.

The PHA believes the EMS is an opportunity to hold itself to a higher environmental standard and to set an example of a "model port" in its community. Consequently, the PHA developed the following objectives and targets:

- Reduce NOx emissions
- Reduce stormwater impacts
- Reduce generation of solid wastes
- Increase recycling efforts
- Participate in a Texas Natural Resource Conservation Commission (TNRCC) Clean Texas Program.

## Benefits of Adopting an EMS

With the development and implementation of the EMS, the PHA has realized many benefits, both within the Fence line and throughout the organization, such as:

- Improved Environmental Performance – Through the process mapping and development of objectives and targets, the PHA discovered ways to increase

recycling efforts, decrease use of products, and methods to reduce potential impacts to stormwater runoff. In addition, each Department participating in the mapping exercise learned a great deal about the operations within the Fence line and its potential impacts on the environment.

- Increased Internal Environmental Awareness – The PHA held an employee environmental mascot contest to represent the Environmental Policy and the Objectives and Targets of the EMS.
- Enhanced Management Confidence in Environmental Program – Job tasks and responsibilities were re-developed to incorporate the Significant Aspects and training requirements for each job description. This provided management with a better understanding of the interaction of job activities and the environment and the training provided to minimize these impacts, and the comfort of knowing these issues were being handled appropriately.
- Leaders in the Industry – As a result of the EMS, the PHA has been invited to participate in many discussions on environmental issues statewide and to provide assistance to other ports across the country and internationally.

### Costs

Total (projected) direct internal labor cost: **\$97,256**

### Time

Total direct internal labor time: **1,895 hours**

### Next Steps



It is anticipated that the PHA's EMS will be fully implemented by the summer of 2002, and the PHA intends on pursuing ISO 14001 certification at that time. The PHA has already initiated education of its tenants by including one tenant on the EMS Core Team, and plans on continuing outreach to other tenants on the value and importance of an EMS. The PHA will also begin evaluating including other PHA Facilities and Departments in its EMS, such as Real Estate and Turning Basin Facilities.

