



EXECUTIVE OFFICE OF
ENERGY AND
ENVIRONMENTAL AFFAIRS

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs

Office of Technical Assistance and Technology

July 2007

SouthCoast Technical Products Technical Assistance Case Study Filtration and Wastewater Compliance

Summary

SouthCoast Technical Products made changes to their operating processes which brought the company into compliance with Massachusetts environmental regulations and led to significant reductions in water use. By switching from an elaborate ultra filtration unit to a simple bag filtration process, the company was able to reduce more than 200,000 gallons of water and save \$37,000 per year.

Background

SouthCoast is a 21 employee company located in New Bedford, Massachusetts that has operated at the same facility since 1927. The company produces durable paper-based material used in the manufacture of products such as tape, book covers, and labels by saturating paper with latex and applying functional coatings. In early 2005, SouthCoast was sold to an investment group, which installed new management. New company president Tom Costella instituted a full environmental review right away, which ended with a complete factory cleanout.

Filtration Problems and Wastewater Compliance

During the environmental review, SouthCoast identified a major problem with their filtration system. Their ultra filtration unit, which treated wastewater from its process, removing solids before discharge, was inefficient. The company then contacted the Advanced Technology & Manufacturing Center (ATMC) at the University of Massachusetts - Dartmouth for assistance with their analysis of wastewater samples. ATMC also recommended that the company call OTA for compliance assistance.

Following the cleanout, the company was routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP informed the company that the large-volume shipment of waste that followed the factory cleanout and the storage of wastewater raised compliance issues.

OTA visited SouthCoast in February 2006 and assisted the company with their industrial wastewater compliance issues. SouthCoast staff had noticed that the filters in their treatment system were becoming clogged with latex particles at a very rapid rate with high maintenance costs. OTA suggested simple filtration, using bag filters. OTA also drew the company's attention to uncontrolled water use and suggested various water conservation practices to reduce the volume of wastewater, such as using a spray nozzle for cleaning and installing a high-pressure low-volume system for proper cleaning. This also enhanced the recovery of solids and expanded the reuse of process waters.

SouthCoast decided to switch to hand-controlled, pressurized rinsing and use bag filters, which were very successful in removing solids; the end-of-pipe ultra filtration system was no longer necessary. Because the company was not a large discharger of wastewater they did not need the filtration unit and were able to comply with their permit by implementing OTA's recommendation.

Results

Reductions

In addition to resolving their filtration problem and achieving compliance, SouthCoast reduced annual water use by 200,000 gallons per year.

Economic

SouthCoast estimates that it cost about \$20,000 a year in labor costs to maintain the previously used ultra filtration treatment system, with an additional \$12,000 per year for filter replacements. The new bag filters, which remove solids at the source just as effectively, only cost a few hundred dollars per year, and are easy to use. In addition to this annual saving of about \$32,000, the company also saves about \$5,000 per year from reduced water use.

“OTA helped save our business. Someone came down who knew exactly what we were talking about, knew what to do, and saved us approximately \$75,000 in the process.”

– Tom Costella, President

Technical Assistance Impact

To date, SouthCoast reduced water use by 400,000 gallons and saved close to \$75,000 in reduced labor, parts, and water costs. The company realized many other benefits from OTA's assistance. More importantly, the company was able to comply with their permit by implementing OTA's recommendations on usage of raw materials. Tank cars previously used for wastewater storage have also been freed up for raw material storage, which will become more important as the company continues to grow. SouthCoast's compliance and wastewater management issues were quickly resolved.

This case study is one in a series prepared by the Office of Technical Assistance and Technology (OTA), a branch of the Massachusetts Executive Office of Energy and Environmental Affairs. OTA's mission is to assist Massachusetts facilities with reducing their use of toxic chemicals and/or the generation of toxic manufacturing byproducts. Mention of any particular equipment or proprietary technology does not represent an endorsement of these products by the Commonwealth of Massachusetts. This information is available in alternate formats upon request. OTA's **non-regulatory** services are available at **no charge** to Massachusetts businesses and institutions that use toxics. For further information about this or other case studies, or about OTA's technical assistance services, contact:

Office of Technical Assistance and Technology, 100 Cambridge Street, Suite 900, Boston, MA 02114
Phone: (617) 626-1060 Fax: (617) 626-1095 Website: <http://www.mass.gov/envir/ota>