

The U.S. Environmental Protection Agency is working to reduce releases of toxics from small businesses during extreme weather events (e.g., flooding and storm surge events). This bulletin highlights pollution prevention opportunities for increasing the success, competitiveness, and overall resilience of your business. Pollution prevention strategies which include the use of environmentally friendly products and practices, can reduce the risk of improper chemical management, limit liability, save money and increase worker and customer satisfaction.

## Did You Know?

Solvents, other chemicals, and fugitive dust and/or lint can impact air quality if proper health and safety practices are not followed. Poor management of chemicals, some of which are hazardous, may harm our lakes, streams, groundwater, and even drinking water via run off to storm water drains. Managing these chemicals better can also save you money.

Perchloroethylene or “PERC” is a precursor to ground level ozone which is a powerful antioxidant that can irritate the lungs. Exposure to PERC can occur to your workers, businesses, or nearby residents, and to the environment following releases to air, water, land, or groundwater. The July 13, 2006 final air toxic rules requires a phase-out of PERC machines collocated in residential buildings by 2020.

PERC has several health risks, such as:

- Skin, eye, and respiratory irritation;
- Nervous system effects such as headaches, dizziness, and impaired coordination;
- Damage to liver and kidneys;
- A likelihood of causing cancer<sup>1</sup>

There are more than 30,000 dry cleaning operations in the U.S. and about 85% use PERC as the primary cleaning solvent. Though most dry cleaners use less than 140 gallons of PERC per year, the cumulative impact from these numerous facilities is significant.<sup>2</sup>

<sup>1</sup>NEWMOA: <http://www.newmoa.org/prevention/projects/wetclean/about.cfm> 

<sup>2</sup>CDC: <http://www.cdc.gov/niosh/docs/hazardcontrol/hc16.html> 

## Additional Information:

[EPA P2 – What You Can Do About P2- Business Resources](http://www.epa.gov/p2/what-you-can-do-about-pollution-prevention-business-resources): <http://www.epa.gov/p2/what-you-can-do-about-pollution-prevention-business-resources>

[EPA DfE](http://infohouse.p2ric.org/ref/51/50050.pdf): <http://infohouse.p2ric.org/ref/51/50050.pdf>

[NJDEP Dry Cleaning](http://www.nj.gov/dep/enforcement/drycleanergrant.html):  <http://www.nj.gov/dep/enforcement/drycleanergrant.html>

[NYS P2I](http://www.rit.edu/affiliate/nysp2i/professional-wet-cleaning-program): <http://www.rit.edu/affiliate/nysp2i/professional-wet-cleaning-program> 

[UMass TURI](http://www.turi.org): 

[http://www.turi.org/our\\_work/business/small\\_businesses/dry\\_cleaning](http://www.turi.org/our_work/business/small_businesses/dry_cleaning)

[UCLA](http://stpp.ucla.edu/node/382): <http://stpp.ucla.edu/node/382> 

[International Drycleaners Congress](http://www.idcgroup.org): [www.idcgroup.org](http://www.idcgroup.org) 

[National Controlled Cleaners Association](http://www.ncca.co.za/): <http://www.ncca.co.za/> 

[The North East Fabricare Association](http://www.nefabricare.com/): <http://www.nefabricare.com/> 

## A Success Story

### All Fabric Cleaners (AFC) Farmingville, NY

#### Conversion from PERC to Wet Cleaning

AFC used PERC for 15 years but wanted a healthier environment for its employees and wanted to clean many of its customers’ garments better than what PERC could attain. AFC was looking for that “competitive advantage.”

AFC was selected by the New York State Pollution Prevention Institute’s (NYSPI) Wet Cleaning Conversion Program which was funded by NYSDEC and USEPA Region 2 grants. The new Wet Cleaning system was installed in 2011 and the old PERC system was removed in 2012.

Since the conversion, quality increased and AFC had a **93% reduction in send-outs, re-dos and claims**. More garments were cleaned in shorter time and resulted in a **36% increase in efficiency**, total **annual cost savings of \$9,732**, and both employees and customers were pleased.

AFC also saw:

- A **42% reduction in electricity use**
- A **100% elimination of PERC**
- A **802 lb reduction in hazardous waste (100%)** and a **980 lb reduction in PERC air pollution (100%)**.

Perhaps best of all, AFC no longer required a NYSDEC permit.

#### CREDITS

Special thanks to the New York State Pollution Prevention Institute for providing the “All Fabric Cleaners” case study information.

 = <https://www.epa.gov/home/exit-epa>

## Dry Cleaning Insights



### Housekeeping and Maintenance

- Clean lint screens which can also extend the life of the dry cleaning machines.
- Consider investing in a PERC vapor detector to detect leaks.

### Process Control

- Bulky items take longer to dry. Make sure they completely finish drying instead of letting them dry outside the machine.
- If you are using a transfer dry cleaning system, then do not open the washer until the items can immediately be put into the dryer.
- Schedule color fabric items from light to dark.
- Use less hazardous spot removing.

### Spills and Prevention

- The cracks in floors should be sealed and coated with materials impervious to PERC and petroleum solvents.
- Size garment loads per machine guidelines which can also save water.

### Equipment and Technology

- Minimize the time that machine doors and button traps are kept open.
- Run a vent line from the water separator through a water trap to prevent evaporation of solvents.
- Do not let solvent return temperatures reach above 90°F when running the distillation system to prevent solvent loss.
- Consider converting to a closed loop dry-to-dry system which can reduce solvent use and waste.
- A refrigerated condenser is an alternative to carbon absorber PERC trap which can reduce the generation of contaminated separator water.

### Meeting Customer Demands

- Consider switching to wet cleaning as customers seek ways to be more environmentally friendly.

### Invitation

You are invited to share your own success stories with the EPA Pollution Prevention and Climate Change Section!

Tell us what problem or challenge your small business faced, what steps you took to overcome it and how or why it resulted in a successful outcome. Provide details like the ones you see in this bulletin that explain how your actions resulted in cost savings, operating efficiency improvements, or other measurable successes.

Your story could be featured in our next bulletin to serve as an example for other small businesses.

For more information and to find out how YOU can submit your success story, send an e-mail to us at: [Region2\\_PollutionPrevention@epa.gov](mailto:Region2_PollutionPrevention@epa.gov), visit our P2 site at: <http://www.epa.gov/p2> or contact Region 2 EPA P2 at: <http://www.epa.gov/p2/forms/contact-us-about-pollution-prevention>

#### Special thanks to:

The Washington State

[Department of Ecology](http://www.ecy.wa.gov/programs/hwtr/p2/sectors/drysect1.html)  for providing "Insights" information. <http://www.ecy.wa.gov/programs/hwtr/p2/sectors/drysect1.html>

### USEPA Region 2,

Serving New Jersey, New York, Puerto Rico, U.S. Virgin Islands.

