



CASE STUDY

Fileco
 Water Stewardship



\$17,000

Saved by reducing toxic waste disposal

\$4,000

Saved from reduced cleaning and maintenance

40%

Reduction in water consumption



“Inspired by its parent company Teknion, an award-winning business for sustainability efforts, Fileco undertook a project in 2010 to cut down the toxic wastes generated in the facility by replacing their iron phosphate and additives solution.”

WATER MANAGEMENT

Wastewater

Fileco manufactures filing cabinets using metal sheets. Before they can be painted and welded, they undergo a pre-treatment process.

As part of the process, Fileco used iron phosphate and other additives as cleaner. As a result, toxic substances were released into their waste water. The use of iron phosphate resulted in build-up of phosphorous in the system. To break down the build-up, descaling, the pumping of acids through the entire pipe system, was needed. The chemical additives included nonylphenol ethoxylate (NPE), phosphorous, chromium and molybdenum. To comply with the municipal discharge requirements,



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“With the new process, wastewater going down the drain complies with municipal discharge requirements and Fileco no longer pays for the removal of toxic substances.”



Fileco had to pay a private company for the removal of these toxic ingredients from the waste water.

Inspired by its parent company Teknion, an award-winning business for sustainability efforts, Fileco undertook a project in 2010 to cut down the toxic wastes generated in the facility by replacing their iron phosphate and additives solution.

The replacement solution reduced phosphate by 99 per cent from 10,000 ppm to 10 -100 ppm. Consequently, the phosphorous build-up became so minor that there is now no need to descale. NPE, a toxic substance listed by Health Canada, is in none of the new chemicals used. Additionally, phosphorous, chromium and molybdenum were reduced to negligible levels.

With the new process, wastewater going down the drain complies with municipal discharge requirements and Fileco no longer pays for the removal of toxic substances. This substitution has generated substantial savings. Fileco saves approximately \$17,000 per year with the reduced frequency of toxic waste disposal. Another \$4,000 is saved from reduced cleaning and maintenance of paint lines from minimal chemical build-up.

The total project investment was approximately \$21,000, providing an attractive one-year payback.

Water Conservation

The elimination of descaling and other cleaning processes has led to a major reduction in water use. Furthermore, the company has started reusing the water from one stage to another, rather than letting it flow directly down the drain after the initial use. The frequency of cleaning out the phosphate sludge from the catch basin, a part of the rinse stage, has also been reduced from once a week to once a month. Therefore, less water is required for rinse quality maintenance. These measures reduced the facility’s consumption of water by 40 per cent in 2011 when compared to 2010.

Future Initiatives

Fileco is looking to further reduce consumption and is working with York Region to find ways to reduce water consumption, such as recirculating the water used by spot welders in the facility for cooling in the rinse stage.