



by Becca Anderson

The city limit of 40 ppm of chloroform exiting the plant is a struggle for any industrial user. By comparison, the water coming in from the city is already at 80 ppm. It has to go out cleaner than it comes in.

#### A CHANCE ENCOUNTER

"Receiving a letter from your local municipality stating that you are not in compliance with their bylaw can be very stressful," acknowledged Matthew Greig, general manager of JNE Environment, a division of the JNE group of companies. "Most businesses are not experts at waste water treatment. They are food processors, heavy industry or laundry companies, and they specialize in that. Waste water treatment can be complicated and technically demanding for them."

The JNE group of companies was founded in 1980 by Joe Ng, and has grown to over 300 employees, with offices in Canada and the U.S.A. They are proud of the fact that their very first customer in 1980 is still one of their largest customers today. The Environmental division was begun in 2001 as a waste water treatment chemistry provider. In 2009 the company added its own line of equipment to the chemical supply.

"Many companies do not advertise that they are struggling with waste water treatment issues," Greig said. "They tend to struggle on their own for a long period of time. So, we proactively reach out." It was through such a contact that Faster Linen heard of JNE, and invited the company to come evaluate the situation in the plant. Initial testing made the problem plain, and Halberstadt hoped he had found someone to help him.

"You can spend a lot of money in this area of your business and end up with something that doesn't work," said Halberstadt. Most companies offer chemistry, but not equipment. Getting them to work together is challenging. JNE took Halberstadt to visit a chicken producing plant that had spent \$750,000 on equipment that didn't meet the waste water goals. After JNE

got involved and designed a better system, the water exiting the plant was sparkling clean. "I was amazed to see that water," Halberstadt said.

As a final test of whether JNE was the company he would depend on, Halberstadt met with JNE representatives and the head of the City of Toronto's sewer use and bylaw enforcement. "During this meeting we outlined our approach and preliminary system design," said Greig. "They were familiar with our previous

Upper left: Partners Mark Halberstadt and Muhammad Husein.

1. Equipment delivery required cranes.
2. Two 7,800-gallon holding tanks for dirty water from washfloor.
3. Tanks discharging chemicals to raise or lower pH and separate sludge.
4. Holding tank to transfer treated water to air scrubber to remove chloroform.

# DOWN THE DRAIN

Mark Halberstadt (president/owner of Faster Linen Service in Toronto) is an efficiency guy. If it works better and saves money, he's willing to invest in it and make the company better. He's done that throughout his plant in Toronto, and we've covered his renovations, implementations and many other projects in the past. So it came as a nasty surprise to him when his water rates hit the roof for non-compliance with bylaws for waste water management in the city of Toronto. It turned into a major investment into the future of the company.

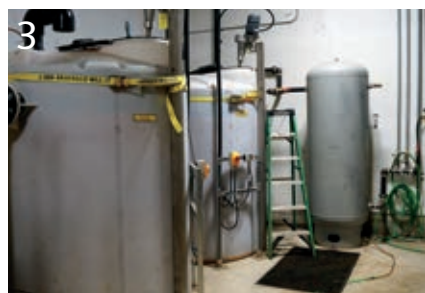
#### WHAT'S THE PROBLEM?

Industrial water users in many municipalities enter into an annual compliance agreement with the city, which includes dictated limits of various contaminants coming out with their waste water, and ensuring they are kept below that level to remain in compliance. For Toronto, some of those limits include 150 parts per million (ppm) of fat cells, oils and grease (FOG), and 40 ppm of chloroform (chlorine). Other things that are evaluated are total suspended solids and biological oxygen demand (BOD), which is an indicator of how the discharged waste water will interact with the environment and living things in it.

In February 2014, Faster Linen was told that because it was over the limit on FOG and chloroform, the company's industrial water rates were being removed, and would be billed at much higher residential rates as a penalty. This meant \$1 more per cubic metre (m<sup>3</sup>) of water; Faster Linen uses roughly 14,000 m<sup>3</sup> of water per month.

From that point until Halberstadt had a solution in place that was acceptable to the city, those higher rates sent over \$280,000 down the drain.

Faster Linen's customers include hospitality, spa, dental, medical, meat and poultry processing, food service and industrial accounts. That means a lot of fat cells and grease, and the need for a lot of chlorine. "You can't clean any white linens these days without chlorine," Halberstadt said. "It not only sanitizes the fabric, it brightens the whites, which pleases the customers."





1. Joe Quesenbery scrapes off layers of dried sludge from filter press.
2. Chemical pumps to inject caustic soda, polymeric coagulant and flocculent into tanks to treat water going into DAF tank.
3. Sludge on top of waste water, which is removed in the process.
4. Containers of water from left to right show various stages of treatment, from untreated to clear and ready for city sewers.
5. Sludge on the left, clear water on the right show success of equipment.

work with other customers and spoke highly of us and our track record of success to Mark. They concluded the meeting by telling Mark that if he was working with JNE Environmental, they would issue him a compliance plan and reinstate his block 2 industrial water rate. This would save him hundreds of thousands of dollars in city water fees and give him time to install his new system." At the end of the meeting, Halberstadt signed the commercial proposal and JNE got to work.

### NOT AN ISOLATED SITUATION

Halberstadt isn't the only one with a waste water problem, and Toronto isn't the only city cracking down. "Over the past 15 years we have seen almost every major municipality begin to police their sewer bylaws," said Greig. "This is in response to increased pressure to minimize capital investment in municipally owned waste water treatment plants to keep property taxes low, increased pressure and enforcement from the Ministry of Environment regarding the waste water treatment plants' effluent quality, and to ensure that each sewer user is treated fairly. The municipalities walk a fine line between enforcing their bylaws and fostering the growth of their industrial and commercial businesses."

While Halberstadt understands the difficulties of the city representatives, there's still room for concern. "I know the inspectors and enforcers are just doing their jobs. If they were my employees, I'd say they were doing a great job," he said. However, the fact that they were familiar with JNE's track record and yet didn't give Halberstadt any list of possible companies to help him, left him \$280,000 poorer before he found them and construction began.

"In addition, I have to meet the standards, but all the homes, hotels, condos, clubs, and golf courses that do their own laundry do not," said Halberstadt. "They dump a lot more into the system than all the industrial people combined.

If the goal is clean water coming out, it's not happening. I feel I'm a partner with the city because I'm keeping all my clients' FOGs and other things from going down the drain."

By the time Faster Linen and JNE began their joint project, Halberstadt had also been served with court summonses regarding his inability to keep his waste water readings within limits. He hired environmental lawyer Harry Poch to settle with the city and get him past this part of the problem. "Harry is great," he said. "He used to work for Ontario's Ministry of the Environment, and he knows how to get things done."

### TAKING ACTION

The plan agreed to by the City of Toronto involved Faster Linen hiring an engineer, working with JNE, having an electrician ready to install equipment, and spending \$1.4 million on new equipment. Faster Linen took a proactive approach to procuring the things they could, and let JNE do the rest.

"JNE Environmental supplied the overall waste water treatment process design, including a process flow diagram, and piping and instrumentation diagram, as well as a 200-gallon-per-minute dissolved air flotation unit, air stripper tower and overall process automation Programmable Logic Controller with colour touch screen interface," said Greig. "Faster Linen procured and installed the required tanks, agitators, filter press, instrumentation and pumps based on our detailed process design. We offered to procure all of the equipment, but the team at Faster Linen was very educated and experienced with capital projects, so they felt comfortable handling the commodity equipment."

The final plan could only be determined after extensive testing throughout the plant. A treatment formulation had to be created that would separate out the various items from the water that were produced by Faster Linen's system. "We had to test different coagulants, as well as flocculants (a substance that promotes the clumping of particles), in order to maximize fat oil and grease and total suspended solids removal," said Greig. "The presence of soap made this slightly more difficult because the soap acts as a chelating (bonding) agent, which prevents the coagulant from treating the waste water."

Testing also showed that different waste water contamination levels were produced in different parts of Faster Linen's production line, depending on what was being cleaned. This called for customized formulations. Fortunately, the production changes repeat regularly, and so they could be predicted and planned for. Another challenge was placement of the new equipment. Existing waste water collection was at the back of the plant; the new equipment would be housed in the front of the building. The system had to also accommodate the collection of waste heat from effluent waste water to pre-heat incoming city water, requiring a separate holding tank with overflow system to allow for the recovery of the waste heat while allowing the transfer of the waste water to the new treatment area.

The removal of chloroform was the greatest challenge. Chloroform is created when bleach is exposed to an organic molecule. When coupled with the presence of a lot of soap, it is difficult to remove. An 8-foot (96-inch) diameter power-packed tower stripper and dissolved air flotation unit (manufactured by JNE in its Hamilton, Ontario fabrication facility) brought the output level into line.

### THE RESULTS

"Once construction was complete, the JNE Environmental team, including support from JNE Automation, commissioned the system in less than a week, and it has been operating and meeting the City of Toronto sewer bylaw requirements ever since," said Greig.

"A good system has to include equipment, chemicals and service," Halberstadt said. The system he put in is not cheap, at \$1.4



Matthew Greig  
of JNE Environmental.

million. Ongoing costs run at about \$20,000 a month and include having hired 2.5 people and ongoing chemical costs. But the alternative of having residential rates for a commodity that Faster Linen uses at a rate of 36 million gallons a year is unthinkable.

The City of Toronto was so impressed with the job done at Faster Linen, it brought in 25 inspectors-in-training to see the system. Halberstadt is justly proud of that. "I'll show it to anybody. We're doing a good job."

"It has been a pleasure working with the Faster Linen team and seeing a business that was started by Mark Halberstadt's grandfather now transitioning into its fourth generation," said Greig. "Knowing JNE and I personally played a small role in making that happen gives me a lot of pride, as well."

#### IF YOU NEED HELP

Mark Halberstadt was sharp in his praise of environmental law attorney Harry Poch. He can be reached at 416-444-7971, [harrypoch@rogers.com](mailto:harrypoch@rogers.com). JNE offers a free, no-obligation first-site visit to evaluate potential problems. Matthew Greig can be reached at 905-529-5122 ext. 249, [MGreig@jne.ca](mailto:MGreig@jne.ca). ■

## COMING EVENTS

### September 6

#### CLATA TOM WHITE ANNUAL GOLF TOURNAMENT

Bay of Quinte Golf Club  
Belleville, ON  
Trevor Holmes  
[t.holmes@sympatico.ca](mailto:t.holmes@sympatico.ca)

### September 21-24

#### INTERNATIONAL DRY-CLEANERS CONGRESS (IDC) CONVENTION 2018

Jakarta, Indonesia  
[www.idcgroup.org](http://www.idcgroup.org)  
Chris Tebbs  
[interdryclean@shaw.ca](mailto:interdryclean@shaw.ca)

### October 12-13

#### CANADIAN FABRICARE ASSOCIATION CONVENTION

Holiday Inn (Yorkdale), Toronto  
[www.fabricare.org](http://www.fabricare.org)  
Sid Chelsky  
[sidchelsky@fabricare.org](mailto:sidchelsky@fabricare.org)

by Wilma Blokhuis

# PHOENIX

## Deluxe Dry Cleaners rising from the Ashes



On April 5, 2016 a devastating fire destroyed Deluxe Dry Cleaners, St. John's (Newfoundland & Labrador) oldest and most well-established dry cleaning and laundry plant. Adding insult to injury, the plant had completed a major renovation just four days previous to the fire. Spontaneous combustion of cleaned restaurant kitchen rags left in a laundry hamper caused the blaze; apparently not an uncommon cause of fire. Fortunately there was nobody in the building when it burned.

### NOTHING LEFT

"It was a total loss," recalled owner Spiro Angelopoulos. "Not one piece of equipment could be salvaged; nothing survived." Only the foundation remained intact, and Spiro's determination was to forge ahead and not look back. The business had been opened by his father, Jim Angelopoulos, in 1980. "He started it the week I was born," Spiro says. He never once considered letting it go. He was determined to turn this setback into an opportunity. Ten months later, like the phoenix rising from the ashes, the business reopened, redesigned and re-imagined.



Spiro Angelopoulos

The story of that 10 months is interesting. Angelopoulos had to rebuild from scratch; however, he also wanted to stay in business while dealing with the insurance company and rebuilding his plant. Having six depots across the city, he was determined to remain open and continue serving his customers.

### NO STOPPING

"Five or six days after the fire, I hopped into my truck and trailer and

went across the island buying up any dry cleaning equipment I could find. We went into a small dry cleaning operation in central Newfoundland and asked the owner if he had any extra equipment. I could tell he wanted to sell, so I asked him how much he wanted for the whole lot. I made a deal with him right then and there. He was cleaning his last load and we were disconnecting and putting everything on the trailer. I came back to St. John's and rented a temporary warehouse. It took me two weeks working around the clock to set up a functional plant. With a minimal interruption we were back serving our customers.

"My building had been 10,000 square feet and I had just completed a major renovation. We had just finished on Thursday, and on Monday/Tuesday overnight it all burned to the ground. That was tough," Angelopoulos added.

### TEN MONTHS TO REBUILD

It took long and protracted negotiations to deal with

Top: Rebuilt Deluxe Dry Cleaners. Below: New suite of Sankosha finishing equipment. Bottom: A view of the busy plant floor.

