When Disaster Strikes A Chemical Company

Complex Chemical Company

If a natural disaster hit your business, would you be prepared? How would you recover from the damage to your infrastructure?

Unfortunately, Complex Chemical Co., Inc. had to learn the real-life answers to these questions when, on April 24th, 2010, a powerful EF-3 tornado hit their chemical processing plant in Tallulah, Louisiana. A “tornado outbreak” — multiple tornados from the same weather system — ripped through four southern states, causing severe damage including multiple injuries and fatalities. When the tornado reached Complex Chemical’s plant, there were 14 employees present. Luckily, nobody was seriously hurt (three people sustained minor injuries). However, devastating damage was done to the entire 20-acre facility.

Complex Chemical Co. — a family-owned company that manufactures Antifreeze, Brake Fluid, and VI Blend — has been in operation since 1974 and had never been affected by such a catastrophe before. Fortunately, the team at Complex had prepared and was able to think on their feet after the event, so the damage was minimized and recovery was relatively swift. Still, without a crystal ball no one can prepare for every eventuality, nor can anyone fully protect themselves from the immense power of natural disasters. In the wake of the tornado, Jerry Melton, owner, and his son Travis Melton, sales & marketing manager, along with their entire team at Complex, learned about the reality of recovery and the efficacy of the measures that they had taken in advance to protect their business.

The Complex Chemical facility after the April 24, 2010 tornado.

Step 1: Assess the Damage

With safety in mind, assessing the extent of the damage is the most pressing thing to be done in the early days after a disaster. Are there any immediate hazards? What can be fixed, as opposed to what needs to be replaced? What kind of cleanup needs to be done right away? How has transportation been affected?

Three days after the tornado, Complex Chemical Co. was able to take stock of the extensive damage to their facility. It was painfully apparent that all of their warehouses and office areas were virtually destroyed. Their electrical infrastructure was also wiped out completely, their piping system was severely damaged, and all of their communications were down. Three railcars were lying on their sides, with several others leaning and in danger of turning over as well. Seven storage tanks had toppled. Piles of twisted metal and other debris were scattered throughout the plant and there were several inches of spilled materials in the containment areas, driveway, and former building areas.

There was some good news, too. Many elements of the facility had actually survived the tornado. Eleven processing units had only peripheral damage. The laboratory and heaters were only slightly damaged. The company’s central server survived, saving business records and many other crucial files. Complex also found that their spill prevention system had worked as it was supposed to – no materials left the confines of the plant.

After surveying the wreckage, Complex Chemical began the long journey to rebuild their facility. It would take a full two years before it was finished.

Step 2: Create a Recovery Plan – Safety First

The first week after the tornado, Complex Chemical’s operations, safety, and management departments all got together and made a list of what had to be done

on a prioritized basis and created an “aggressive but doable” timetable to get each item functional, says Melton.

Safety was again top priority. For a chemical facility, that means materials must be dealt with safely and quickly. The majority of all spilled materials were pumped into temporary tanks for ultimate disposal right away.

The process of removing the endless debris also needed to begin right away. Contractors were hired, and heavy equipment was rented to enable the debris removal process to proceed as rapidly as possible.

According to Melton, increased supervision was essential during the initial recovery phase. Employees were put together into teams, with about one supervisor for every seven people. “We didn’t let anyone walk around or work alone,” he says. His staff also made sure employees had plenty of liquids and food on site. He adds: “We are proud to say that out of one hundred workers over a years’ time we only had one minor injury.”

Workers were at the plant from morning until night, seven days a week. Melton was especially gratified by his employees’ commitment and how that contributed to the rapid recovery: “Everyone was willing to do whatever needed to be done. They worked 14-hour days for the first 30 days straight. Many even offered to work without a paycheck for that month if it would help Complex survive,” he says. “Of course we compensated them for their hard work, but we also realized they really had a genuine concern for [the company’s] survival.”

Step 3: Get Business Up And Running

In order to keep customers content during uncertain times, supply continuity is essential. While getting a facility back up to speed, a business may contract other facilities to help supply customers temporarily. Melton suggests possibly lining up companies in advance as part of an emergency plan. Additionally, elements of a facility, like offices and warehouses, can be replaced by temporary structures. Melton encourages business owners to consider long-term customer satisfaction over short-term expenses. “Be willing to think outside the box. Is renting equipment and offices worth it to be able to service your customers sooner, even though you will not get any of your investment back on rented equipment?”

Shortly after the tornado, Complex rented trailers to set up temporary offices. To temporarily replace the destroyed warehouses, they brought in 20x40-ft containers for storage of raw materials and products. They rented 13 large generators and placed them strategically throughout the plant to power key areas – those with the most important pumps for moving product around, truck scales, their laboratory, and blending and distillation units. Communication lines were brought back up as soon as possible. It was especially important that driveways be cleared of debris right away so that truck shipments could be made.

In the immediate aftermath of the tornado, Complex outsourced several areas of production including blending. In two weeks’ time they were shipping out their own

inventory from before the tornado. Within a month the main heater that supplies heat to their process areas was re-started successfully and they were able to begin simple blending to produce their own brake fluid. “It was especially challenging because our folks had to be safe and work making product while debris removal and repairs where going on all around them,” says Melton.

The next step was a rebuild of permanent structures including warehouses and offices. When building structures, plans must be drawn up and there are long waits for permits, so starting as early as possible is obviously important. Melton urges businesses to check building codes in the area before rebuilding. Older structures and equipment may have been “grandfathered in” and will have to be built differently to meet current codes, he says.

By June 14, less than two months after the tornado, all 11 of Complex Chemical’s processing units were operating successfully at 90 percent capacity and making product. Packaging and drumming were the only areas of production still being outsourced. But the damage that had changed everything was still evident all around them: crews were still busy removing debris with barely an end in sight.

Step 4: Focus on the Future

Despite all of these challenges, one bright spot after a calamity is the unique chance to make improvements. Melton advises: “Rebuilding is an opportunity to start fresh where needed, and possibly redesign some areas of the business to run better than before. In other words, what seems like a massive negative can have positive results.”

Think about space. Complex built a new, larger office building separate from the main plant, providing more room to handle the administrative side of the business while also leaving more space at the operations area of the facility. Several destroyed warehouses they had used for storage of raw materials and finished goods were replaced with one new 100,000-square-foot warehouse. With everything stored in one place, efficiency was increased. Finally, brake fluid packaging lines, originally situated next to oil blending areas, were moved to a new area to give both of these operations more room.

Think about updating and making infrastructure more efficient. Complex was forced to build a brand new electrical system to replace the one that had been demolished. The new system adhered to the latest codes, and was now more protected and better organized for future maintenance and expansion. Some of the hard piping, pumps, and other items related to the production process were rearranged to make those operations more efficient and easier to operate. A brand new, large steel enclosure to protect both the distillation and oil blending units was rebuilt to include a truck loading area, facilitating transportation of product. Another improvement Complex made to transport: they added more concrete to several key “traffic” areas. These extra slabs made loading and unloading operations run smoother and faster, increasing turnaround time.

Think about restructuring. During this period of change, Complex even decided

discontinue a low-producing line to allow more focus on more successful products.

Melton found that all of their improvements helped to streamline their business and save money. “More efficiency means lower production cost,” he says. “Better economy of space means more room to expand with less investment. A better-run office means we’re able to get the paperwork out quicker and less chance of mistakes.”

All these changes have likely paid off: Complex Chemical’s business has actually expanded since the storm.

Preparing for the Worst

Throughout their ordeal, Complex Chemical learned which precautions they took before the tornado were helpful, as well how to best protect the company in the unlikely event of another disaster. For instance, insurance claims can be extremely time consuming and a possibly a sticky situation, right when one is in the middle of dealing with the reality of a disaster’s effects on a business. Be prepared to spend a lot of time gathering information to submit, warns Melton. But more can be done before a disaster hits to protect oneself.

“First and foremost,” he says, “have a qualified [insurance consultant] review your insurance policy. There are many ways you may think you have enough but you don’t. The devil is indeed in the details.” He advises: “An example would be that replacing old equipment with new equipment will cost more, and if your insurance is based on the cost of equipment from 10-plus years ago, you might not have enough to cover replacing it.”

One unique challenge for a chemical facility is the containment of materials. After the tornado hit Complex Chemical, the team was happy to discover that no materials left the confines of the plant. The spill prevention system they had put into place is made up of three tiers: a concrete tier around the tanks themselves, an earthen levy that surrounds all the various tank sections, and a cut of the route the water naturally uses to drain from the entire property. The system actually goes above and beyond current EPA regulations, but implementing a superior system was essential for Complex. “We decided a long time ago to have responsible business practices in place to protect the environment around us,” says Melton. With the system in tact after the tornado, they continue to have the peace of mind it brings.

Finally, as part of their rebuild, Complex had a “bunker” installed near their office building, where they now keep important records and documents for safekeeping. If there is time, their employees will also be able to take shelter there in an emergency.

Relationships Are Everything

When challenging events in life happen, they say “you find out who your friends are.” Similarly, after a natural disaster, working relationships

come into clear focus – and can be invaluable. “We had a lot of customers and even some competitors step up and help us,” says Melton. “It gave us a new understanding as to the relationships we have in the business community we work in.”

Melton says that their business relationships created a reciprocal feeling of good will that helped them in their time of need. “We have a philosophy that if you treat your customers how you would like them to treat you, and think of them as partners and not just some entity to make money off of, that they would think the same, at least on some level. The tornado showed the fruits of that philosophy,” he observed.

He added: “Remember that your customer base will have a wide range of their levels of understanding and patience with what your company is going through. Management’s emotions are bound to be high during such a time.” He advises facility owners to step back and think about long-term relationships with colleagues before speaking or take action during such an emotional time.

At the ribbon cutting to unveil their new-and-improved facility, Melton spoke about the people he feels are the true heroes of the plant’s recovery – his employees: "The story of this rebuilding is theirs, the pages written with their blood, sweat and tears. They have demonstrated the finest qualities of the American worker and represented what has made this country so great. They never asked 'how,' simply, 'how soon.'"

He goes on to thank the employees, whom he calls “family.”

“You can’t buy the kind of loyalty to a business our employees showed; it can only be earned by being a good steward of the trust they have put in you,” he says.

Perhaps Complex Chemical Company’s story illustrates that employees who feel they are treated like family might be the best kind of disaster recovery insurance there is.

This article was originally published on Manufacturing.net. *[1]*

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