

ChemStewards® Case Study 2010

Company Profile

Nation Ford Chemical (NFC) specializes in the production of a variety of specialty chemicals—in particular, organic intermediates, polymers, dyes, and pigments. About 40% of NFC's manufacturing is for toll customers.

Nation Ford Chemical has been in business since 1978. Headquartered in Fort Mill, South Carolina, NFC is a privately owned, single site company with 85 employees operating 24 hours/365 days a year with \$25 million in annual sales.

NFC serves the following markets:

Specialty Chemicals, Dyes, Pigments, Custom Polymers and General Tolling

EHS&S Background

Prior to adopting ChemStewards®, our company had many small or partial systems (Hot Work, Line Break, Vessel Entry, DOT Security Plan, Contingency/Emergency Plans, etc.) with no continuity in our plans.

As members of SOCMA, we recognized that ChemStewards was better suited for smaller chemical companies like ours. Participating in ChemStewards allowed us to pull all of our Environmental, Health, Safety and Security (EHS&S) activities under one program.

NFC's goal for implementing ChemStewards was to increase environmental, safety, and security awareness among our employees, as well as improve the overall performance of our facility. SOCMA provided valuable information to help our staff get the program up and running. We frequently accessed the SOCMA website, as well as the guidelines, spreadsheets and checklists for the program. We also participate in the ChemStewards Spring Regional Roundtables each year.

At NFC, ChemStewards is integrated from the executive level to the hourly employees. The program is fully supported by upper and middle management, and is part of every activity. Our site has an EHS&S committee and a safety committee, and the operators who serve on those committees also take part in training. While our organization is small, everyone is involved with the program. Duties are spread out through the company, and ChemStewards gave us a system to coordinate all of these things. We are also an ISO:9001 facility, which helped us document everything for ChemStewards.



Benefits of ChemStewards Implementation

Employee Health & Safety

Our OSHA (Occupational Health & Safety Administration) recordable rate prior to implementing ChemStewards was 12. After implementing ChemStewards, our OSHA recordable rate dropped to 4.

NFC believes that a safer, more environmentally aware facility becomes a more productive facility. We put in a behavioral audit system to improve our OSHA recordable rate and have successfully gotten every employee involved.

Pollution Prevention

Our company has seen a decrease in the amount of waste it generates. NFC uses activated carbon to treat wastewater before it goes to the local Publicly Owned Treatment Works, and we have been able to significantly reduce the amount of carbon we use in this application. Eliminating a portion of our solid hazardous waste in several processes and recycling some additional materials in others are examples of our waste reduction and recovery efforts.

In particular, we have a large polymer process, and prior to our waste minimization efforts, it was producing over a million pounds of hazardous (solvent and solids rich) wastewater per year. We were able to implement a recovery system to reclaim the solvent and recycle it back into the process. Also, the solids and water are now recovered as two separate non-hazardous waste streams.

By installing a waste heat recovery system on our steam boilers, we have become much more efficient in our use of natural gas. This gained efficiency also translates into lower boiler emissions.

NFC has also seen an increase in the amount of waste that is recycled and a reduction in toxic release inventory. For example, we have been able to eliminate and/or recycle xylene in several of our dye processes.

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Benefits of ChemStewards Implementation

Community Outreach

Since NFC is a fairly secluded facility, there hasn't been a direct enhancement of our relationship with the community. We are approximately 1.5 miles from any residential areas, a mile from any industrial facility and surrounded by woods on three sides with a river on the fourth.

We have continued our relationship with the local emergency responders and fire department, and they run regular drills with our employees. ChemStewards has allowed us to document this and put a system in place to monitor and identify holes in our emergency response plan. Also, our technical staff participates in the local schools by judging science fairs and helping in the classrooms with chemistry experiments, which helps us strengthen ties with the community.

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Cost Benefits

ChemStewards has helped NFC to create a safer work environment for its employees, while at the same time helped to foster a more productive work force. When workers have an increased sense of safety, they are more productive at their jobs. Increased recycling efforts and waste reduction projects have also bolstered our cost effectiveness. In addition, we have reduced our waste disposal costs by 15-20% and our energy costs by around 10%.

Other Benefits

We have had a number of cost benefits, especially the establishment of a safer work force as evidenced by our reduced OSHA recordable rate.

SOCMA membership has benefited NFC by allowing us to obtain and share information with facilities and companies similar to ours. This exchange of information has helped us expand our networking opportunities, which is important to our business. Also, NFC appreciates that SOCMA is a strong advocate for small chemical companies in Washington, DC.

We highly suggest that companies consider integrating the ChemStewards program into their ISO: 9001 system to maintain the administrative control of the documentation. They will see tremendous benefit by doing so.

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