



Virginia Pollution Prevention Case Study Fareva Richmond Inc.

Facility Information

Fareva manufactures and packages Over-the-Counter pharmaceutical products for distribution worldwide. The Fareva Richmond property is comprised of 306 acres and is located on the southeast side of Richmond. Two primary buildings are currently located on site. There are approximately 500 employees at the site spread over three shifts.

Environmental Challenges and Opportunities

After obtaining OSHA's Voluntary Protection Programs (VPP) Star Site Certification in 2008, Fareva's Director of Environmental Health & Safety (EHS) decided the site should strive for certification of its environmental excellence through the Virginia Environmental Excellence Program (VEEP). The Zero Waste Initiative was a project Fareva had been working on for many years and VEEP gave them a way to formalize it through implementation of an Environmental Management System (EMS).

Fareva's Zero Waste Initiative strives to recycle 95% or more of all waste generated at the site. As a part of this initiative, the Zero Landfill Program, which is a relatively new and smaller program, was designed to help reach the "high-hanging fruit." The facility continually strives to find less expensive and easier ways to dispose of their waste. While some of their waste streams were readily recyclable, it was difficult to find a vendor that would accept some of their harder to recycle items. Fareva had been recycling materials such as metal drums, pallets, and corrugated for many years when they decided to conduct a waste audit to determine exactly what they were sending to the landfill. They started with the larger volume materials such as scrap wood, scrap metal, other corrugated materials, white paper, etc. Each year Fareva continues to find ways to recycle more and more materials, steadily lowering the types of waste sent to the landfill. As part of the Zero Landfill program, Fareva staff goes into specific areas of the site and creates custom made recycling programs for each area. For the Zero Landfill program to succeed, the process must be easy for the employees to comply with.

Implementation of their Sustainability Programs

Zero Waste and Zero Landfill Programs

Through their Zero Waste Initiative, Fareva is currently recycling about 90% of the 7-8 million pounds of waste that they produce annually. Some of this achievement is due to participation in the Zero Landfill program by different areas around the plant. Even though it is voluntary, in 2011 when the Fareva EHS Department formalized the program and approached the supervisors of distinct areas of the plant to see if they wanted to become a Zero Landfill area, they all said yes. There are currently 17 distinct and diverse areas of the facility, covering approximately 200 employees, participating in the Zero Landfill program.

A Zero Landfill area recycles all its waste, sending nothing to the landfill, which at Fareva has meant the diversion of hundreds of thousands of pounds per year of trash from the local landfill. This program has been implemented in manufacturing areas, packaging lines, laboratories, and

warehouse spaces. Waste such as corrugated cores, clean plastic components, bags, stretch wrap, solid bleached sulfate (SBS) cartons, and metals have all been sent off-site for recycling. In the past, these materials that are produced during the packaging of products were sent to the landfill.

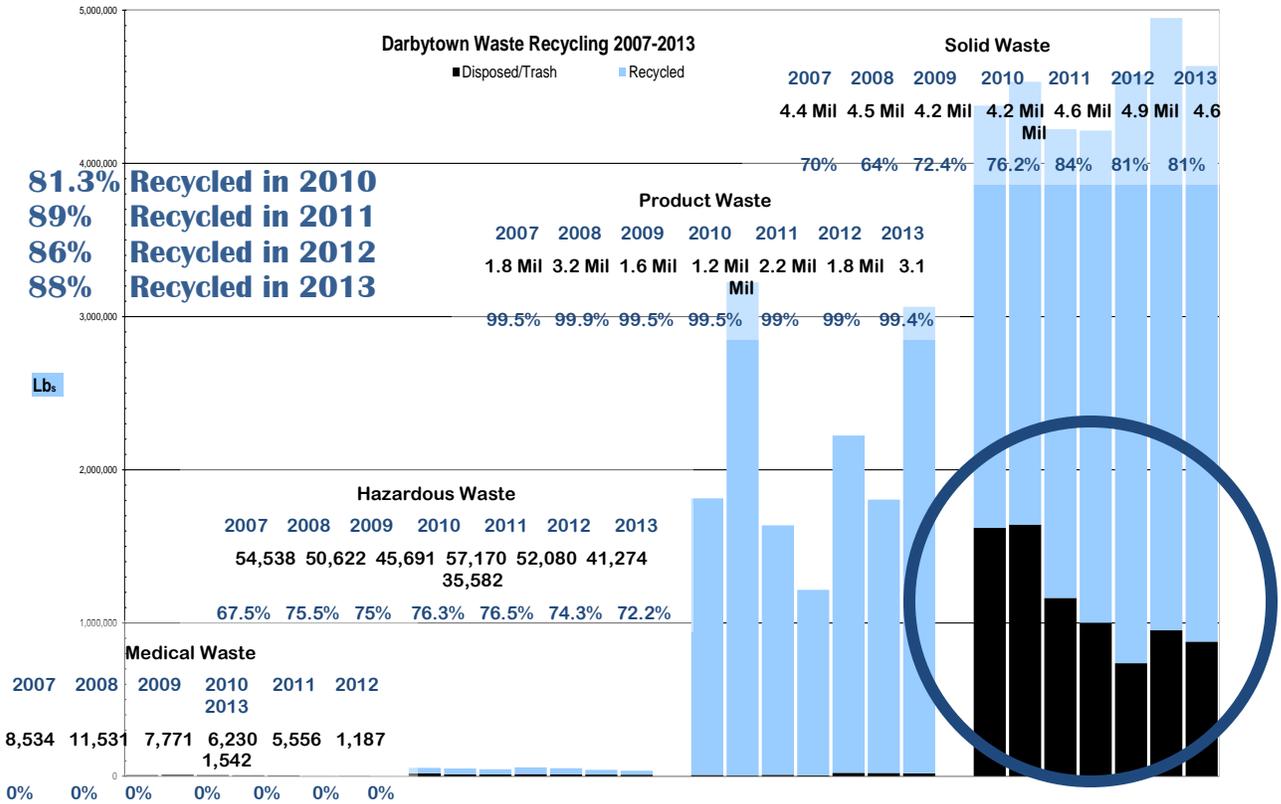
The Zero Landfill program has been up and running since 2011. When a new area is identified as a possible Zero Landfill site, the EHS Department schedules a Zero Landfill review in the area. The review consists of two EHS specialists going over the waste generation process with supervisors and employees to understand what waste is being generated, how much, and at what location. EHS comes up with collection procedures that are then agreed on by operations staff, the EHS team, and housekeeping staff. Recycling containers are labeled and staged, employees are trained, and then a two week test of the procedures is run. After the test EHS meets with that area's supervisors and employees again to fine tune the process. At that point, data collection begins and the site becomes a regular pick up for the Zero Landfill program. It is only with the help of area supervisors and employees that an effective Zero Landfill program can be designed specifically for that area of the plant.

The program has gained in popularity partly due to its recognition element. Once an area qualifies as a Zero Landfill area, a ceremony is held by the EHS Department for the area's management to congratulate the employees and present a plaque and Zero Landfill sign for them to display. A photo is taken of the group with their plaque and sign and a site-wide email is sent alerting everyone of the newest Zero Landfill area. This type of publicity and recognition encourages other parts of the plant to join the program and has increased the number of employees becoming actively engaged in the site's sustainability efforts.

The site's pallet recycling program continues to evolve and is a factor in the Zero Waste Initiative. In 2013 a cost savings program was instituted whereby the site buys pallets with FAREVA stamped on the side and has their incoming components arrive on these pallets. Once the components are removed from the pallet at the front of the packaging lines, the pallet is moved to the end of the packaging line where it receives finished goods for shipment from the plant. The site disposed of far fewer pallets than in the past because of this new process.

Some of the facility's waste is sent to a Waste-To-Energy (WTE) plant for incineration. This diverts it from the landfill and reduces the need for fossil fuels to be burned by the energy generating facility. It also results in reduced emissions that the waste would have created once the material was in the landfill. Instituting the Zero Waste and Zero Landfill programs has reduced the number of times the trash compactor is taken to the landfill from twice a day to three times a week.

The Zero Waste Initiative is a multi-faceted program that meets the needs of diverse areas. Many implementation ideas have come from Fareva employees over the years. This directly empowers employees to help solve the waste issues of their specific work area which leads to sustainable processes.



Environmental Stewardship

The plant accomplishes many activities through its Environmental Stewardship program. For many years there has been a Sunflower Seed Giveaway in honor of Earth Day, planting of sunflower gardens onsite, as well as employee training on various sustainability issues. Fareva employees also clean up two miles of Darbytown Road four times a year as part of their Adopt-A-Highway/Keep Henrico Beautiful partnership. These cleanups are fun events that are often used as team building activities. There is also a group of employees who donate their time each spring to getting the onsite bird boxes ready for the return of birds after the winter, helping to make Fareva's facility a welcome place for wildlife.

Fareva Energy Council

The Fareva Energy Council is made up of 10 employees that have been trained and certified as Industrial Energy Auditors. The Energy Council meets monthly to discuss energy usage at the facility and develop energy conservation projects. In 2013 the Energy Council completed lighting upgrades in five areas of the plant, installed gang switches in seven areas of the plant so hallway lights could be turned off by the last person out. They have also encouraged turning off many types of electric equipment through the Green Dot Initiative. These Green Dot stickers are posted around lighting switches throughout the facility in order to raise awareness about saving energy. It is a small initiative that makes a big difference because the signage is eye-catching, informative, and located in areas that employees will notice it.

The Energy Council spearheaded a project to introduce new low temperature glue into Fareva's many packaging lines that only needs to be heated to 200 degrees instead of 300 degrees like the old glue, requiring less electricity at the glue pots. The Energy Council conducts Energy Audits each quarter on a specific area of the plant or piece of equipment. All of the opportunities that are identified during the quarterly energy audits are reviewed at the monthly Energy Council meetings, and those that are feasible to institute are tracked through to completion. Smaller projects, like the installation of the gang switches, were instituted right away, but others may be put off due to cost of some of the larger projects. All feasible projects are added to the "wish list" for future review and implementation.

Results

Fareva has a certified EMS and has been an E4 (Extraordinary Environmental Enterprise) member of VEEP since 2010. Participation in VEEP and certification of their EMS has proven an important selling point to prospective customers. The Zero Landfill program is a visible sustainability program due to the identifiable logo, which they have placed on signs and plaques throughout the facility. During current and prospective customer visits, site management shares their sustainability successes and this has been a factor that is bringing new business to the site.

Water conservation was also on Fareva's best practices list for 2013. The Cleaning Validation group came up with a project to reduce the use of USP (ultra clean) water, used for cleaning production and packaging equipment. The Cleaning Validation group conducted a study whereby the final USP rinse of equipment was reduced to a minimum of one minute, when it was previously at least five minutes. It is estimated that approximately 70,000 gallons of USP water was saved in 2013. Since it takes 1.7 gallons of potable water to make 1 gallon of USP water, Fareva purchased 119,000 gallons less of potable water, saving \$12,000. Fareva plans to expand this program into other pieces of manufacturing and packaging equipment.

The EHS Department is continually working on improving the program through assessment of new processes and new equipment that are brought onsite. The EHS Department works with the Engineering Department to establish procedures to address the environmental implications of new equipment, from dealing with the crates the equipment arrives in to running waste tests on new production and packaging lines. EHS works with Engineering during installation to collect samples of new components, analyze them for recycling potential, and then works with Operations personnel to institute good waste/recycling procedures during validation tests. EHS is now included in design meetings so that water conservation, energy efficiency and waste reduction are integrated into projects from the beginning.

Protection of storm water is another priority for Fareva. The site has three open topped containers that hold wood and metal for recycling as well as construction debris. In the past these containers were protected from rainwater by heavy plastic covers that were manually rolled on and off as needed. Fareva wanted to make the solution more permanent and spent \$10,000 in 2013 to construct permanent roofs over each of the 3 containers. This allows for easy access to the containers and also protects them from rain and snow.

Fareva won a 2013 Bronze Virginia Governor's Environmental Excellence Award for their Zero Landfill Project. The site celebrated this accomplishment with all three shifts of Fareva employees during their quarterly Safety and Health Fair. Employees were encouraged to read the article about the award in Virginia Business magazine and enjoy the success that they had helped create. This award has motivated the workforce to keep striving to achieve their goals and it has become an important selling point when working with perspective customers.

Fareva has also committed to sharing their best practices through outreach. In July 2013, Eunice Kulesza of Fareva was a speaker at the Virginia Department of Environmental Quality's VEEP Workshop in Richmond. The discussions that develop at these types of workshops are beneficial to all participants as well as the presenters.

Evaluation of the Process

Reduction of landfill waste has been the primary benefit of the Zero Waste Initiative, although cost savings and improved employee morale are important outcomes as well. These solid waste reductions have led to a cost savings from recycling plastics, metal corrugated and SBS. Energy reductions have also saved Fareva thousands of dollars. Fareva has benefited financially from all the Sustainability programs the site has undertaken over the years.

The Zero Landfill Program could easily be instituted at other sites, since it relies on the flexibility and creativity of those instituting it. Because waste management needs are dependent on the types of waste generated in a specific area, it is best to look at a homogenous area as a distinct area. At Fareva, all the laboratories became Zero Landfill areas in a similar manner and using similar procedures, while the warehouse, manufacturing, and packaging lines needed different solutions to meet their Zero Landfill needs. In some cases EHS staff had to use new containers and train employees to separate their waste in specific ways to ensure the desired outcome.

Continual Improvement of the Program

Fareva has set numerous environmental goals for the future to ensure that the program continues to grow and improve. In addition to their goals of recycling 95% or more of all waste and reducing water consumption and CO2 emissions by 5% each, Fareva has also asked each of the four Safety Committees to conduct four environmental stewardship projects a year. Two of the four projects must be related to waste reduction and the committees will track the savings achieved.

Environmental Goals and Targets are determined in January each year and are communicated to all employees, as well as progress reports on goals through VEEP Bulletin Boards, All Hands Meetings, Health and Safety Fairs, and site-wide communication through their website.

Fareva continues to strive to expand their sustainability program in waste reduction, water conservation, and energy efficiency. These are their three VEEP commitments.