

Economy, Energy & Environment (E3) Kennametal, Inc. Chilhowie, VA



“The E3 project including the NASCAR Challenge provided a good opportunity to take a fresh look at energy utilization and resource conservation.”

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The Manufacturing Technology Center (MTC) Connection:

The MTC received a grant from the US EPA for the delivery of an Economy, Energy and Environment (E3) pilot project in Southwest Virginia. The MTC experts in lean, environmental and energy practices performed an E3 Technical Assessment to identify strategies for better efficiencies in energy usage, process flow and pollution prevention within the selected organization. One of those organizations was Kennametal Inc. in Chilhowie, VA.

The Project:

Kennametal’s management and employees are dedicated at all levels to keeping our environment and employees safe. The facility created an Environmental, Health and Safety (EHS) mission statement that reads as follows;

It is Kennametal’s commitment to operate an effective EHS management system that goes beyond basic regulatory compliance.

This mission is then again re-iterated in the site’s EHS Policy of which an excerpt follows;

The management of Kennametal recognizes the importance of safety and health in the workplace, and is committed to controlling the recognized hazards in that workplace. Holding EHS as a core value, the Facility will not make, handle, use, sell, transport, or dispose of a product unless we can do so safely and in an environmentally sound manner.

The philosophy behind this commitment is:

1. The safety and health of Kennametal’s employees, contractors, and visitors is the primary concern.
2. Safety, health and good environmental management are an integral part of production and all other business functions that cannot be separated or by-passed.
3. Environmental, safety, and health is a responsibility that must be shared equally and without exception by everyone within the company.

Kennametal’s employees and management work together to achieve the goals and objectives identified at the beginning of each fiscal year. Employees not only participate on projects but a program exists for them to find and identify improvement ideas, submit the idea and complete the change to make the improvement. These improvements can be environmental, safety, quality or general working condition improvements. During Chilhowie’s fiscal year 2014 over 425 improvements were submitted and completed.

The employees find better ways to recycle material and save energy. They lead continuous improvement projects and various teams and committees to manage programs and policies so that they can actively affect change. Annual participation in improvement projects is sustained at 100% and results from Kennametal’s Voice of the Employee surveys are some of the highest in the company year over year.

Process Improvement – Continuous improvement is the core to Kennametal’s business strategy, therefore, multiple process improvements have been implemented since the E3 assessment to ensure that the K100 Score card, a monthly report measuring over 25 KPI’s meet and even exceed identified goals. One of these process improvements was to eliminate monument processes and right size equipment. Chilhowie is eliminating the three draw furnace and replacing it with more energy efficient, individual draw furnaces. This will allow the individual furnaces to be run as needed as opposed to the large furnace running all the time even if only one line is feeding the unit. The new draws are being put in place during calendar year 2015 & 2016.

Energy Efficiency – One of the actions identified during the E3 assessment was to improve the lighting on the shop floor and change to energy efficient lighting. This project was completed and the savings of \$4000 monthly is still being realized year over year. The savings achieved is equivalent to the quoted savings identified during the initial stages of the lighting project during the E3 assessment.

Environmental Stewardship - The Kennametal facility had issues with water usage both incoming to the facility and exiting as sewage. The Water Project completed in FY14 had two problems to resolve. The first challenge was that the water meter coming into the facility was not working correctly. The second challenge was the Town to request more stringent threshold limits for Total Suspended Solids (TSS) as a permit condition for the Sewage Discharge Permit even though was below permitted thresholds already.

The facility partnered with the Town to replace the main water meter to resolve the incoming water usage challenge. For the sewage TSS requests, in order to go above and beyond compliance, the holding tank is now pumped 6x a year instead of 3x and the internal settling tank for the vibratory cleaning operation is cleaned too. The impact of replacing the main water meter is improved record keeping and consistent e-metric results since accurate measurements of water usage are recorded monthly. The more frequent pumping and cleaning of the internal settling tank have resulted in consistent TSS readings. The readings are far below the upper threshold limit on the sewage discharge permit. The Town benefits from lower TSS going into their water works system too. Giving an overall environmental improvement to the surrounding water shed, making us better “green” partners.

Worker Safety – The Virginia Voluntary Protection Program (VPP) is designed to recognize and promote exceptional safety and health management programs. The Virginia VPP participants are a select group of facilities in high hazard industries that have implemented outstanding health and safety programs. On May 30, 2014 Kennametal was awarded the recommendation of “STAR” site after completing a thorough on-site audit of the site’s health and safety program which included employee interviews. Through employee engagement, management and labor established a cooperative relationship and implemented and sustained an exemplary safety and health program. Kennametal is the sixtieth facility to become a STAR site in the Common Wealth of Virginia and was awarded the VPP flag at a ceremony October 2, 2014.

Quality and safety metrics improved along with energy costs decreasing through an accumulation of the various continuous improvement projects. Employee engagement is higher, noise reduction & ergonomic improvement projects are underway and material handling is being limited where possible. All of these were outlined improvements in our E3 assessment.

Having a green process that includes recycling and working with the customers to recycle all steel and carbide has allowed Kennametal to keep the cost down and therefore remain competitive in tough markets. The work force is flexible and experienced which also allows us to move the people to the work and bring into the facility new product and processes as they are available. Customers want to know that they are buying products from ethical, safe, environmentally sound businesses like Kennametal. By continuing to improve and be stewards in the community for safety and the environment, Kennametal positions itself for long-term viability in an unsure market.

