



Case Study of Young Manufacturing Company

Keys to Success



Project Description



Economic Value



Challenges & Advice



Benefits



Stewardship Meaning



The Young Manufacturing Company (YMC), in Beaver Dam, is a family-owned and operated company that began as a sawmill in 1858. In 1948, C.T. Young began manufacturing stair treads with three employees. Today, the company, which is located on 80 acres, employs 160 people and manufactures a full line of stair treads, risers and related components, as well as exterior door sills and door frames. One of the few family-owned woodworking companies left in the country, YMC uses all kinds of wood.

In 1976, YMC began to experiment with electrical power generation to meet future environmental regulations and deal with wood waste disposal problems.

Jeff Young, YMC plant engineer, explains about using biomass steam/electrical plants (BSEP), “With high-pressure steam available, we use it to run our turbine generator sets. The low-pressure exhaust is used to heat buildings and the drying kiln. It didn’t cost us anything

except for the turbine generator sets, which run 24/7 and generate about 40 percent of the electricity that is used in the plant.”

As the company grew and new regulations became effective, YMC called the Environmental Compliance Assistance Program for help. Kenya Stump, manager of the Environmental Assistance Branch, explained how new U.S. Environmental Protection Agency boiler regulations could affect the company, how to comply with those requirements and what paperwork was involved. Young also used the free service to discuss

how adding equipment and electricity generating capacity could change their permit and the process needed for making those changes. Young’s goal is to generate all heat and power in-house and not rely on the grid.

“Innovation has helped the company remain a key player in the market, and consulting with appropriate state employees about regulations is wise.”



By using biomass to produce electricity, YMC saves about \$30,000 each month for electricity and reduces the amount of material

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going to landfills, saving on hauling or tipping fees. The busier the plant gets, the more waste created and the more power that is needed for the drying kilns. This all balances out by using biomass. Using wood waste and burning it both cleanly and efficiently can be a challenge. Through trial and error, YMC perfected the combustion design and won awards for its operations.

? “YMC now stores wood dust in silos and burns it in the boilers,” says Young. “It was a challenge sometimes to find places to sell the dust. In the last 25 years, there is a market for it, such as making pellets for heat or animal bedding. Paper mills use it to power their boilers.”

Pleased to produce electricity by using biomass, YMC officials are also grateful for the resources



Biomass-produced electricity heats the drying kiln.

provided by Stump and her program.

Young says, “There is no reason not to use state resources that are offered. Ms. Stump was very knowledgeable and made it easier. If you read through the permits and have questions, it’s nice to get a second opinion and have somewhere to go for answers.”

+ Though the company processes more than 60 million pounds of lumber and raw materials each year, only one percent is waste, since 99 percent of those materials are converted into sellable products, energy and recycled materials.

By using the two BSEPs to burn wood waste for fuel, no fossil fuel, is used, conserving nonrenewable resources. Since biomass is a highly oxygenated fuel, it produces much less CO2 during combustion compared to fossil fuels, decreasing the effect on global warming.

YMC actually uses the steam twice, first to make electricity and then capturing the exhaust for heat. YMC has 500,000 square feet under roof and pays nothing to heat the space because the BSEPs produce 100 percent of the heat energy



This is one of two steam plants using biomass to produce electricity.

required. Young says it makes sense economically to use biomass. Innovation has helped the company remain a key player in the market, and consulting with appropriate state employees about regulations is wise.



“We burn about 25-30 tons of wood waste each day. This is as green a fuel as it gets,” says Young. “Our use of biomass has allowed us to survive. Permits are a huge deal as far as emissions go and using Environmental Compliance Assistance Program resources has helped us stay in compliance and keep things simple.”

HELPFUL HINT: We are here to help when you need information or resources for your business. The services of the Environmental Compliance Assistance Program are free.