



Sustainable Solutions

Client

Jenkins Brick Company

Location

Moody, Alabama, USA

“The new plant utilizes landfill gas, provides new jobs in small town Alabama, and was recognized nationally by the EPA.”

Beth Vaughan,
Senior Project Manager,
Jenkins Brick Project,
CH2M HILL

Environmental Consulting to Brick Manufacturing Plant Fueled by Landfill Gas

Project Highlights

In October 2003, Mike Jenkins, chief executive of Jenkins Brick Company, contacted CH2M HILL about evaluating landfill gas (LFG) as a source of fuel for the new Jenkins Brick manufacturing facility plant. In addition to accommodating expanded production, Jenkins wanted to set a new industry standard by converting to a more cost-efficient and environmentally friendly fuel source.

CH2M HILL was selected to provide contract and project development services, environmental consulting, and LFG and natural gas design for the \$56-million project.

The CH2M HILL team evaluated hundreds of existing landfills within the Jenkins' eight-state search area. Of the 301 landfills evaluated, three qualified for additional research into volume of waste, acceptance rates, storage capacity, and Jenkins' market demand for LFG. The Veolia Environmental Services' Star Ridge Landfill in St. Clair County, Alabama was selected as the best overall match.

CH2M HILL produced the air permit application, designed the LFG pipeline system, and oversaw its installation. The new Jenkins plant is fueled by methane captured from the VeoliaES Star Ridge Landfill as a byproduct of waste decomposition. In place of natural gas, the LFG is then pumped through a 6.5-mile pipeline to fire the plant's brick-making kiln. When up to full capacity, the plant will produce and ship about 136 million bricks a year.

The grand opening of the Jenkins Brick Company plant in October 2006 heralded a first for a major U.S. manufacturer: a facility sited specifically to use nearby LFG as fuel. Today, 40 percent of the plant's energy needs are being met with LFG, with 100 percent projected to be met in 10 years as the landfill grows. When the plant begins operating at 100 percent design capacity, the company's energy use at its three plant locations will be reduced from 1,581 kilojoules (1,500 Btu) per pound of brick to 738 kilojoules (700 Btu). The plant will also significantly reduce methane emissions from the landfill in addition to annually reducing greenhouse gas emissions by 62,000 metric tons of carbon dioxide.

Sustainable Components

- According to the U.S. EPA, “This project has the same effect as annually capturing 10,000 cars' emissions.”
- Optimized landfill to increase the amount of methane gas that could be captured for use by 250%.
- Provided new high-paying jobs in small town Alabama. The average annual total compensation at the plant will be \$50,000, in a county where the per-capita income is less than \$18,000 per year.



Awards

The U.S. Environmental Protection Agency awarded Jenkins Brick Company their Landfill Methane Outreach Program 2006 Project of the Year. Jenkins Brick Company was also recognized with the Governor's Air Quality Conservationist of the Year award in 2007, a joint recognition of the Governor of Alabama and the Alabama Wildlife Federation.