

Contract No. R005-0012

“Phase I: Biomass Enhanced Refined Lignite Demonstration Project”

Submitted by ComPAKco and Great American Energy

Principal Investigators: Jim Flaherty/Michael Flaherty

PARTICIPANTS

Sponsor	Cost Share
ComPAKco	\$169,500
Federal Machine	\$ 35,000
Great American Energy	\$ 90,500
North Dakota Industrial Commission	<u>\$275,000</u>
Total Project Cost	\$570,000

Project Schedule – 7 months
Contract Date – May 28, 2009
Start Date – June 1, 2009
Completion Date – January 31, 2010

Project Deliverables:
Status Report: June 30, 2009 ✓
Status Report: August 31, 2009 ✓
Status Report: November 30, 2009
Final Report: January 31, 2010

OBJECTIVE/STATEMENT OF WORK:

The project’s objective is to optimize the design and operation of compacting technology to blend lignite with biomass to produce a high value solid fuel for home and commercial furnaces. A ComPAKer will be engineered to produce product at an optimum rate. The ComPAKer is a machine that has been designed to make biomass pellets. The proposal seeks to combine beneficiated coal, biomass, and additives into pellets. Because it is plentiful in North Dakota, grasses will be the first choice for biomass. The density of the material will increase the energy value. This will be beneficial for transportation. The biomass enhanced fuel product(s) will be tested in home and small commercial furnaces. Testing and analysis will be performed to characterize the fuel and determine the product firing characteristics and emissions. A fuel specification will be developed to aid in establishing markets for the product. Emissions testing will be conducted to demonstrate the environmental performance of the product.

STATUS

Contract executed. First two status reports have been received. Engineering design work is substantially complete; equipment design is complete; equipment construction is in progress; marketing assessment complete, research testing complete, and product testing on-going.

10/4/09