

FY-04-L(50)-LMFS-36

“Feasibility of Lignite-Powered Ethanol Plants in North Dakota”

Principal Investigator: Mark Yancey
Contractor: BBI International Consulting

PARTICIPANTS	
<u>Sponsor</u>	<u>Cost Share</u>
NDIC	\$ 50,000
Total Cost	\$ 50,000

Project Schedule - 36 Months

Contract Date – 2/2/04
Start Date – 2/3/04
Completion Date – 3/19/04

Project Deliverables

Contract Signed: 2/3/04 (✓)
Reports:
Verbal Status Report: 2/16/04 (✓);
Draft Report: 3/8/04 (✓);
Final Report: 3/19/04 (✓)

OBJECTIVE / STATEMENT OF WORK:

The objective of this study is to evaluate the feasibility of increasing ethanol production using new technology (FBC, Gasification CoGen) to provide lignite energy to an ethanol production plant: Tasks include: 1) Determine ethanol and lignite expansion potential (near-term < 5years; long-term > 5years); 2) Evaluate the economics of lignite as a fuel source for ethanol plants; and 3) Characterize the potential total utilization of lignite using a fluid bed combustor (FBC) *or* a gasification-based co-generation (CoGen) process for on-site integrated lignite-based energy producing power and steam.

STATUS: The final report concluded that a natural gas fired-ethanol production plant would be profitable at natural gas prices above \$6 mcf. Capital investment cost for lignite-fired ethanol production plants are higher than a natural gas-fired plant.