

LRC-III-15
HOT WATER DRYING OF NORTH DAKOTA LIGNITE

CONTRACTOR: BNI Coal, Ltd. & Minnesota Power

PRINCIPAL INVESTIGATOR: George R. Nehls, Jr.
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PARTICIPANTS

<u>Sponsor</u>	<u>Cost Share</u>
BNI Coal, Ltd. & Minnesota Power	\$600,000
ND Industrial Commission	<u>70,000</u>
Total	\$670,000

Project Schedule – 1 Year

Contract Date – 9/5/89
Start Date – 4/28/89
Completion Date – 3/28/90

Project Deliverables

Final Report – 3/28/90 ✓

OBJECTIVE / STATEMENT OF WORK

The ultimate objective of this proposal was to economically upgrade North Dakota lignite to an export quality boiler fuel and to locate a commercial plant in North Dakota. The intermediate objective of this program was to demonstrate the process on an industrial scale, and thereby participate in the DOE Clean Coal Technology Program. Immediate objectives of this proposal were to complete the necessary bench-scale and pilot-scale testing required to support the data requirements for a CCT application.

STATUS

Bench-scale testing was done at the University of North Dakota Energy & Environmental Research Center (EERC) and at the Electric Power Research Institute (EPRI) Oil Agglomeration Test Facility. Test quantities of hot water dried lignite fines were produced at EERC. The hot water dried material was agglomerated at the EPRI oil agglomeration pilot plant. Pilot-scale fuel production was done at the IGT facility. The lignite was screened. The fine fraction was sent to the EPRI facility for oil agglomeration. The coarse fraction was processed in the IGT pilot-plant. Performance testing of the fuel was done at the Combustion Engineering's Fireside Test Facility in Windsor, Connecticut. The beneficiated lignite appeared to be a satisfactory fuel for replacement in boilers currently using higher rank coal. This program provided key information to BNI and Minnesota Power which was used in the preparation of a CCT III proposal.