

**LRC-VIII-32  
ADVANCED PROCESSING  
OF NORTH DAKOTA LIGNITE**

**CONTRACTOR:** Minnesota Power

**PRINCIPAL INVESTIGATOR:** George Nehls, Jr.  
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**PARTICIPANTS**

<u>Sponsor</u>	<u>Cost Share</u>
BNI Coal, Ltd. & Minnesota Power	\$30,000
ND Industrial Commission	<u>25,000</u>
Total	\$55,000

  

<b>Project Schedule – 6 Months</b>	<b>Project Deliverables</b>
Contract Date – 1/28/92	Status Report – 3/17/92 ✓
Start Date – 1/1/92	Final Date – 6/9/92 ✓
Completion Date – 6/9/92	

**OBJECTIVE / STATEMENT OF WORK**

The overall objective of this project was to economically upgrade North Dakota lignite to an export quality boiler fuel. The specific goal of this study was to estimate the cost of a combined physical cleaning/hot water-drying process at a capacity of 4,000,000 tons per year (tpy) and a capacity of 10,000,000 tpy. The engineering cost estimate was provided by Bechtel Corporation, Inc.

**STATUS**

The study completed by Bechtel assumed physical cleaning, hydrothermal drying and slurry transport of the upgrade product. The 4,000,000 tpy study assumed a coal slurry pipeline to Bismarck, ND. This assumption produced a conclusion that a solid lignite fuel could be delivered to the Bismarck, ND area for \$1.68/MMBtu. The fuel would be a compliance coal with a minimum heating value of 10,000 Btu/lb. The 10,000,000 tpy study assumed a coal slurry pipeline to Duluth, MN. This assumption produced a conclusion that a solid lignite fuel could be delivered to Duluth, MN for \$1.97/MMBtu. The study presents information on costs for the major elements of the two studies, material balances, major equipment lists and cost summaries.