

FY98-XXIX-80
**CONSTRUCTION OF A FORCED OXIDATION PLANT FOR GYPSUM
PRODUCTION**

CONTRACTOR: Cooperative Power Association

PRINCIPAL INVESTIGATOR: Russ Nelson
701- 442-7007 (O)
701-442-7207 (fax)
rmelson@grenergy.com

PARTICIPANTS

<u>Sponsor</u>	<u>Cost Share</u>
Cooperative Power Association	\$3,900,000
ND Industrial Commission	<u>\$1,300,000</u>
Total Project Cost	\$5,200,000

Project Schedule – 12 Months
Contract Date – 4/1/98;6/2/99
Start Date – 4/1/98
Completion Date – 10/1/00

Project Deliverables
Status Report – ~~7/1/01~~
Status Report – ~~10/31/01~~
Status Report – ~~12/31/01~~
Final Report – ~~3/31/02~~

OBJECTIVE / STATEMENT OF WORK

The objective of this clean coal demonstration project is to construct a commercial scale facility for the conversion of Coal Creek Station flue gas desulfurization (FGD) sludge to gypsum. An engineering goal of this project is to demonstrate that high quality gypsum can be produced from the lignite scrubber sludge at a commercial scale. The business goal of this project is to economically market gypsum produced from the Coal Creek Station FGD sludge for use in wallboard manufacture, soil amendment, and plant foliage treatment. Initiation of this project requires the submission of a completed positive marketing study.

The Industrial Commission participated in five related small research projects involving characterization of raw Coal Creek Station FGD sludge, oxidation of the raw sludge, evaluation of product gypsum, market surveys, and market assessments. The results of these five previous studies FY94-XVI-54, FY95-XX-63, FY97-XXIV-69, FY97-XXIV-70, and FY98-XXVIII-77 support this demonstration project.

STATUS

The marketing study FY98-XXVIII-77 was in March 1998. The highest potential for marketing FGD derived gypsum in North Dakota are wallboard, soil amendment, foliar feeding (agricultural application) sugar beet pulp processing and animal feed supplement. The board of directors of Cooperative Power and United Power Association (Great River Energy) approved the project in 1999 and preliminary engineering and process design were initiated.

Prior to initiating preliminary engineering and process design, the GRE conducted a marketing study, concluding that transport of drywall to market sources was not competitive with existing commercial sources of drywall. The project was terminated and remaining funds returned to the NDIC in November, 2003.

No final report was prepared.