

**MEETING MINUTES**  
**LIGNITE RESEARCH COUNCIL**  
**November 4, 1998**  
**Radisson Inn, Bismarck, ND**

**MEMBERS (or their authorized alternates) PRESENT:**

|                   |  |
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| Gerald Bauman     | Coal Conversion Counties Association   |
| Dick Bergstad     | I.B.E.W. #714                          |
| Curtis Blohm      | Knife River Corporation                |
| Mike Jones        | Energy & Environmental Research Center |
| John Dwyer        | Lignite Energy Council                 |
| Randel Christmann | North Dakota State Senator             |
| Rich Fockler      | Basin Electric Power Cooperative       |
| Bruce Hagen       | North Dakota Public Service Commission |
| Ron Haugen        | North Dakota Farmers Union             |
| Al Lukes          | Dakota Gasification Company            |
| Doug Kane         | MDU Resources Group, Inc.              |
| Bruce J. Kopp     | Northern States Power                  |
| Marlowe Johnson   | Otter Tail Power Company               |
| John Weeda        | Cooperative Power                      |
| John Bluemle      | North Dakota Geological Survey         |
| Dean Peterson     | The North American Coal Corporation    |
| Chuck Reichert    | BNI Coal, Ltd.                         |
| Luther Kvernen    | Minnkota Power Cooperative             |
| Valdon Swanson    | North Dakota Farm Bureau               |
| Gordon Westerlind | United Power Association               |

**OTHERS PRESENT:**

|                    |  |
|--------------------|--|
| Lyndon Anderson    | Lignite Energy Council                 |
| Jim Deutsch        | North Dakota Public Service Commission |
| Karlene Fine       | Industrial Commission of North Dakota  |
| Vicki Gilmore      | Lignite Energy Council                 |
| Delaine Nagel      | Nagel Systems                          |
| Jerry Nagel        | Nagel Systems                          |
| Clifford R. Porter | Lignite Research Council               |
| Andy Stewart       | Cooperative Power                      |

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Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order on November 4, 1998, at Radisson Inn, Bismarck, North Dakota.

**Financial Summary**

Clifford R. Porter summarized the financial summary for the 1997-1999 North Dakota Lignite Research, Development and Marketing Program. As of 9/30/98, the balance in the budget for administration of the program: \$191,378; non-matching funds for marketing feasibility studies: \$392,799; matching funds for small research projects: \$1,178,933; and matching funds for demonstration projects: \$10,058,761. Committed for lignite marketing feasibility studies as of 5/13/98: \$77,200; available uncommitted 1997-1999 funds for small research projects as of 9/30/98: \$588,303; available for demonstration projects: \$1,179,569. Porter said that \$250,000 for a lignite marketing feasibility study by the UND School of Medicine will not be used because the principal investigator is leaving UND and the grant was cancelled.

### **Approval of Minutes**

Dwyer asked for a motion to approve the minutes of the July 22, 1998 LRC meeting. Doug Kane so moved; seconded by Dean Peterson. Motion carried.

### **Approval of LRC Meeting Dates and Grant Application Deadlines for 1999**

Dwyer asked for a motion to approve the Lignite Research Council meeting dates and the grant application deadlines for 1999. The LRC's 1999 meeting times and dates will be 1:30 p.m. February 17, 1:30 p.m. July 21 and 11:00 a.m. October 26. Grant application deadlines for 1999 are January 1, May 1, and September 1. Mike Jones so moved; seconded by Curt Blohm.

### **Approval of Nominating Committee Recommendations**

Bruce Hagen gave the Lignite Research Council Nominating Committee report. The committee recommends that John Dwyer be re-elected as chairman of the Lignite Research Council and that Doug Kane be elected as vice chairman. Hagen moved that Dwyer be re-elected chairman; seconded by Kane. Motion carried. Hagen moved that Kane be elected vice chairman; seconded by Rich Fockler; motion carried. There were no nominations from the floor for either office.

### **Lignite Research, Development and Marketing Program Updates**

Andrew Stewart of Cooperative Power gave an update on the FY98-XXIX-80 ("Construction of a Forced Oxidation Plant for Gypsum Production"). He said the regional market potential for gypsum is good. Markets will include use of gypsum for wallboard, soil amendment, processing of sugar beet pulp, crop disease control, and animal feed. En-Rock, a firm in West Fargo, ND, will market the gypsum, which Stewart said should be available sometime in February 1999, especially for the soil amendment market.

Stewart said that fly ash has been a byproduct utilized by Coal Creek Station since 1981, with revenues in 1997 of about \$600,000. Bottom ash marketing began in 1997.

### **Financial Summary of Research Projects**

Porter said that a summary of research project grants and the current small research projects financial summary may be found on pages 16 through 23 of the meeting book. There is \$588,303 in available unobligated targeted funding for small research projects as of September 30, 1998. Funding requests for the current grant round (Grant Round XXXII) total \$220,490.

### **Grant Round XXXII Grant Applications**

Porter summarized technical peer reviewers' comments for the two Grant Round XXXII proposals. As technical advisor to the Lignite Research Council, he also gave his recommendations regarding funding these proposals.

**LRC-XXXII-A: "Center for Air Toxic Metals Affiliates Program - Continuation of Membership"; Submitted by Energy & Environmental Research Center; Principal Investigator: John H. Pavlish; Request for: \$75,000; Total Project Costs: \$3,750,000; Project Duration: Three years.**

Porter said the Center for Air Toxic Metals (CATM) is a partnership among government, industry and academia focused on pollution prevention and control technologies. CATM has provided valuable information on analytical methods, predictive modeling, and control systems. Porter recommended the project be funded. Two of the three technical peer reviewers recommended funding; one recommended that funding may be considered. The technical peer reviewers gave the project an average weighted score of 176.7 out of 250 points. The potential conflict-of-interest party is EERC.

Mike Jones thanked the Lignite Research Council for its support of the project.

Dwyer asked for a motion that the Lignite Research Council meet in confidential session for the discussion concerning proposal LRC-XXXII-B. It was moved by Bruce Hagen and seconded by Doug

Kane that under provisions of Section 44-04-18.4 and Section 54-17.5-06 of the North Dakota Century Code the Lignite Research Council proceed into executive session to discuss LRC-XXXII-B, the item listed on the agenda under confidential business. Motion carried.

Chuck Reichert asked why the executive session was being held. Dwyer said there was a request from the grant applicant for the confidential session, which the applicant is entitled to under the statute.

**LRC-XXXII-B: "Ash + Mineral Soil + Moisture + Compaction = Rammed Earth Abode": Submitted by Jerry Nagel; Principal Investigator: Jerry Nagel; Request for: \$145,490; Total Project Costs: \$315,980; Project Duration: One year.**

Porter said the objective of this project is to use bottom ash as an ingredient in a rammed earth abode. The goal of the project is to construct a four-plex apartment using the rammed earth design employing 17% bottom ash, 6% to 10% cement, and 73% to 77% earth fill. The four technical peer reviewers gave the project an average weighted score of 144.5 out of 250 points. One of the technical peer reviewers said the project should be funded, two of the technical reviewers recommended do not fund and one recommended that funding to be considered but additional information should be provided. As technical advisor, Porter recommends do not fund. The benefits claimed including insulation, fire prevention, energy storage, strength, and insect deterrent are made but not fully supported. Porter said there should be more of a contribution from industry. Although the matching requirement is met, industry involvement would be useful in achieving success.

Dwyer asked for a motion to re-open the meeting to the public. Dick Bergstad so moved; seconded by Reichert. Motion carried.

Jerry Nagel and Delaine Nagel arrived at the meeting. Dwyer asked Jerry Nagel if he wanted the Lignite Research Council to return to confidential session before Nagel commented about the proposal. Mr. Nagel said that would be unnecessary. Both Jerry and Delaine Nagel spoke in support of the proposal after Porter summarized what he had said about it prior to the Nagels' arrival. Mr. Nagel said he grew up knowing about bottom ash because his relatives used it for insulation at the Fort Berthold Reservation. He summarized compaction tests he had done to show the insulation value of bottom ash. He said he did not expect to receive a funding OK at this Lignite Research Council meeting and that he will continue to work with EERC and Cooperative Power to refine the proposal and better determine costs. Delaine Nagel said one reason she and her husband understand the insulating value of ash is because after her husband's grandparents burned coal to heat their home in wintertime, there would still be ice in the middle of the ash pile in July.

Porter said he would work with EERC, Cooperative Power and any other interested company to see if the proposal could be revised, then introduced again for the next grant round in January 1999 to address some of the issues raised by the technical peer reviewers.

**Briefing on Great Plains Synfuels Plant**

Dwyer asked Al Lukes to summarize the status of Great Plains Synfuels Plant projects. Lukes said that details and some alternate funding are being worked out for the carbon dioxide pipeline project, which is moving ahead and is on schedule. They hope to have CO<sub>2</sub> in the pipeline at the end of 1999. Lukes said the demand for the fertilizer produced by the plant is lower than usual because many farmers are strapped for cash.

**Confidential Balloting for Grant Round XXXII Proposals**

The LRC cast confidential ballots to either recommend or deny funding of the two Grant Round XXXII proposals.

The balloting results for the Grant Round XXXII proposals were as follows:

LRC-XXXII-A: Fund: 20; Do Not Fund: 0.

LRC-XXXII-B: Fund: 1; Do Not Fund: 18; Abstained from Voting: 1.

Two of those who voted "Do Not Fund" indicated that Jerry Nagel should consult with Clifford Porter, re-work the proposal and submit it again for consideration for the next grant round (Grant Round XXXIII).

**Next Lignite Research Council Meeting; Grant Round XXXIII Deadline**

Dwyer said the next Lignite Research Council meeting is scheduled for 1:30 p.m. February 17, 1999, and the next grant round deadline is January 1, 1999.

**Adjournment**

There being no further business, the meeting was adjourned pursuant to a motion by Doug Kane; seconded by Dick Bergstad. Motion carried.

Vicki Gilmore, Recording Secretary

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