

**MEETING MINUTES**  
**LIGNITE RESEARCH COUNCIL**  
**May 17, 2010**  
**Best Western Doublewood Inn, Bismarck, ND**

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

Wade Boeshans, BNI Coal, Ltd.  
Randel Christmann, North Dakota State Senate (District 33); Lignite Research Council Vice-Chairman  
Kevin Cramer, North Dakota Public Service Commission  
Carroll Dewing, The Falkirk Mining Company  
John W. Dwyer, Lignite Energy Council; Lignite Research Council Chairman  
Tom Erickson, Energy & Environmental Research Center  
Bob Fagerstrom, Dakota Gasification Company  
Layton Freborg, North Dakota State Senate (District 8)  
Joe Friedlander, The Coteau Properties Company  
L. David Glatt, North Dakota Department of Health  
Paul Govig, North Dakota Department of Commerce  
Keith Hill, SaskPower  
Carlyle Hillstrom, North Dakota Farm Bureau  
Diane Kathol, Dakota Westmoreland Corporation  
Al Lukes, Great Northern Project Development  
David Lyons, U. S. Department of Energy – National Energy Technology Laboratory  
Ed Murphy, North Dakota Geological Survey  
Gerry Pfau, Minnkota Power Cooperative, Inc.  
John Phillips, ND Coal Conversion Counties Association  
Jan Rudolf, Otter Tail Power Company  
Josh Skelton, Minnesota Power  
Andrea Stomberg, Montana-Dakota Utilities Co.  
John Weeda, Great River Energy

**OTHERS PRESENT:**

Dave Allard, Lignite Energy Council  
Alan Bland, Western Research Institute  
Mike Briggs, The Falkirk Mining Company  
Karlene Fine, North Dakota Industrial Commission  
Vicki Gilmore, Lignite Energy Council  
Michael L. Jones, Ph.D. Lignite Research Council  
Brandon Pavlish, Energy & Environmental Research Center  
Vicky Steiner, North Dakota Coal Conversion Counties Association  
Sandi Tabor, Lignite Energy Council

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Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order at 12:05 p.m. (CST) May 17, 2010 at the Best Western Doublewood Inn, Bismarck, ND.

**Approval of November 17, 2009 LRC Meeting Minutes:**

Dwyer asked for a motion to approve the minutes of the November 17, 2009 LRC meeting. John Weeda so moved; seconded by Carlyle Hillstrom. Motion carried.

**Program Financial Summary:**

Karlene Fine gave a brief financial summary regarding the Lignite Research, Development and Marketing Program (Program).

Fine said that available funding for the 2009-2011 biennium (as of 5/17/10) is: \$465,732 for administration of the Program (the \$465,732 includes \$150,000 for an economic study the ND Legislature directed the ND Industrial Commission (NDIC) to complete; these numbers include \$84,976 that has been expended on the study); \$382,622 for litigation; \$1,000,000 for non-matching Lignite Marketing Feasibility Study (LMFS) projects such as the Lignite Energy Council Lignite Vision 21 Program project; \$1,296,300 for Small Research projects; \$0 for marketing projects; and \$5,217,700 for Demonstration Projects. (The \$5,217,700 for demonstration projects does not include the commitment of \$15,853,807 over future biennia for the Lignite Vision 21 Program projects (the Coal-to-Liquids project, the Spiritwood Energy project or the Great Northern Project Development project).

**Program's Project Updates:**

Jones, technical advisor to the NDIC and the LRC, gave updates about the Program's active R&D projects (eight of which concern carbon capture and storage, six demonstration projects, four Lignite Vision 21 Program-related projects, one project concerning mercury, two gasification projects, one beneficiation project, and one NOx-related project.) He also briefly discussed the four Lignite Vision 21 Phase V studies.

**Grant Round LXIX(69) Grant Application LRC-LXIX-B:**

The first of the four Grant Round LXIX(69) grant applications addressed at the meeting was **LRC-LXIX-B ("Partnership for CO<sub>2</sub> Capture Phase II"; Submitted by: Energy & Environmental Research Center (EERC); Request for: \$150,000 (in Small Research project funds); Total Project Costs: \$1,860,000; Project Manager: Brandon M. Pavlish; Project Duration: 18 Months).**

Jones said that with this project, EERC is building on the results of the Phase I activity to develop promising technologies toward demonstration and commercialization that captures and separates CO<sub>2</sub> from a dilute gas stream produced by combusting fossil fuels. In order for this to happen, the project will focus on developing demonstrating a range of CO<sub>2</sub> capture technologies while achieving high reductions in SOx, NOx, particulate, mercury, and other gas constituents as required by CO<sub>2</sub> capture technologies.

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 177 out of 250 points. The weighted scores were 210 out of 250 points from reviewer 10-04, 146 out of 250 points from reviewer 10-05 and 175 out of 250 points from reviewer 10-06. Technical peer reviewer 10-4 recommended Fund; technical peer reviewers 10-5 and 10-6 recommended Funding May Be Considered.

As technical advisor to the NDIC and LRC, Jones recommended that the project be funded, contingent on the following: a) Technical summary identifying accomplishments of Phase I accepted by the Technical Advisor; b) Program Management Plan including milestone chart, schedule, financial plan, working groups, organization and communication charts, test matrix and specific performance criteria submitted and approved by the Technical Advisor; and c) Matching Funding received from all parties.

Jones said that the conflict-of-interest parties for proposal LRC-LXIX-B are EERC, SaskPower and Basin Electric Power Cooperative.

Brandon Pavlish of EERC gave a presentation in support of proposal LRC-LXIX-B.

**Grant Round LXIX(69) Grant Application LRC-LXIX-C:**

The second of the four Grant Round LXIX projects addressed at the meeting was **LRC-LXIX-C: (“WRITECoal™ Gasification Process for Low Rank Coals for Improved Integrated Gasification Combined Cycle with Carbon Capture: Phase II – Pilot-scale Demonstration”); Submitted by: Montana-Dakota Utilities Co. (MDU) and Western Research Institute (WRI); Request for: \$549,500 (from Demonstration Project funds); Total Project Costs: \$1,970,922; Project Manager: Andrea Stomberg (MDU); Principal Investigator: Alan E. Bland, Ph.D. (WRI); Project Duration: 24 Months.)**

Jones said that this project will demonstrate at a 1-2 MWth pilot-scale the WRI’s WRITECoal™ gasification process for integrated gasification combined cycle (IGCC) with carbon capture capture, fuel cell applications, and chemicals production, to identify engineering and scale up issues and to estimate the cost of WRITECoal™ Gasification process for low rank coal including lignite coal.

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 175.3 out of 250 points. The weighted scores were 207 out of 250 points from reviewer 10-07, 160 out of 250 points from reviewer 10-08 and 159 out of 250 points from reviewer 10-09. Technical peer reviewer 10-07 recommended that the project be funded; technical peer reviewers 10-08 and 10-09 recommended Funding May be Considered.

As technical advisor to the NDIC and LRC, Jones recommended that the project be funded (Demonstration Project funds), contingent on the following: a) Technical summary identifying accomplishments of Phase I accepted by the Technical Advisor; b) Program Management Plan including milestone chart, schedule, financial plan, working groups, organization and communication charts, test matrix and specific performance criteria submitted and approved by the Technical Advisor. The Technical Advisor should be invited to participate in all group meetings; c) Matching funding received from all the parties; and d) Demonstrate to Technical Advisor that the potential cost of electricity using WRITECoal™ could be less than other options for electricity generated from lignite.

Jones said that the conflict-of-interest parties for proposal LRC-LXIX-C are Montana Dakota Utilities Co. and Basin Electric Power Cooperative.

Andrea Stomberg of MDU introduced Alan E. Bland, Ph.D. of WRI. Bland gave a presentation in support of proposal LRC-LXIX-C.

**Confidential Session; Return to Open Session:**

Dwyer called for a motion to close the LRC meeting for a confidential closed session regarding the confidential portions of Grant Round LXIX(69) proposals LRC-LXIX-A (“Evaluation of Novel Technologies for CO<sub>2</sub> Capture”; Submitted by: Energy & Environmental Research Center”); LRC-LXIX-C (“WRITECoal™ Gasification Process for Low Rank Coals for Improved Integrated Gasification Combined Cycle with Carbon Capture: Phase II – Pilot-Scale Demonstration”; Submitted by: Montana-Dakota Utilities Co. (MDU) and Western Research Institute (WRI); and the entire confidential proposal LRC-LXIX-D (“Lignite Vision 21 Program – Phase VI Generation Technology, Environmental and Transmission Planning Services”; Submitted by: Lignite Energy Council). It was moved by John Weeda and seconded by Andrea Stomberg that the Lignite Research Council meeting be closed to consider the confidential portions of proposals LRC-LXIX-A and LRC-LXIX-C, and the entire confidential proposal LRC-LXIX-D, all of which include requests for confidentiality pursuant to North Dakota Century Code 54-17.5-06. Motion carried. The confidential session began at 12:45 p.m. and ended at 1:35 p.m..

Dwyer called for a motion to open the LRC meeting. Kevin Cramer so moved; seconded by Diane Kathol. Motion carried. The LRC meeting returned to open session at 1:36 p.m.

**Grant Application Deadline Dates; Next LRC Meeting:**

The next grant application deadline date is October 1, 2010. The next LRC meeting has been scheduled for 12:00 p.m. (CST) November 15, 2010 at the Best Western Doublewood Inn, Bismarck.

**Other:**

Kevin Cramer said there will be a CapX-related meeting upcoming this month.

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**Ballot Results: LRC's Recommendations to NDIC Regarding Grant Round LXIX(69) Proposals:**

Dwyer announced the results of the LRC's confidential ballots concerning the LRC's recommendations to the NDIC regarding the Grant Round LXIX(69) proposals, as follows:

**Grant Round LXIX(69) Grant Application LRC-LXIX-A:** "Evaluation of Novel Technologies for CO<sub>2</sub> Capture"; Submitted by: Energy & Environmental Research Center; Request for: \$50,000 (from Small Research project funds); Total Project Costs: \$1,935,156; Project Manager: Brandon M. Pavlish; Project Duration: 16 Months. -

**Fund:** 23 votes. **Do Not Fund:** 0 votes.

**Grant Round LXIX(69) Grant Application LRC-LXIX-B:** "Partnership for CO<sub>2</sub> Capture Phase II"; Submitted by: Energy & Environmental Research Center; Request for: \$150,000 (from Small Research project funds); Total Project Costs: \$1,860,000; Project Manager: Brandon M. Pavlish; Project Duration: 18 Months. -

**Fund:** 20 votes. **Do Not Fund:** 2 votes. **Abstained:** 1

**Grant Round LXIX(69) Grant Application LRC-LXIX-C:** "WRITECoal<sup>TM</sup> Gasification Process for Low Rank Coals for Improved Integrated Gasification Combined Cycle with Carbon Capture: Phase II – Pilot-scale Demonstration"; Submitted by: Montana-Dakota Utilities Co. (MDU) and Western Research Institute (WRI); Request for: \$549,500 (from Demonstration Project funds); Total Project Costs: \$1,970,922; Project Manager: Andrea Stomberg (MDU); Principal Investigator: Alan E. Bland, Ph.D. (WRI); Project Duration: 24 Months. -

**Fund:** 16 votes. **Do Not Fund:** 5 votes. **Abstained:** 2

**Grant Round LXIX(69) Grant Application LRC-LXIX-D:** "Lignite Vision 21 Program – Phase VI Generation Technology, Environmental and Transmission Planning Services"; Submitted by: Lignite Energy Council; Request for: \$1,312,500 (from Non-Matching funds); Total Project Costs: \$1,312,500; Principal Investigator/Project Manager: Michael L. Jones, Ph.D.; Project Duration: 24 Months. -

**Fund:** 22 votes. **Do Not Fund:** 0 votes. **Abstained:** 1

**NDIC Meeting – May 20, 2010:**

Dwyer said that LRC's recommendations concerning the four Grant Round LXIX(69) requests will be considered by the NDIC at its meeting scheduled for May 20, 2010.

**Adjournment:**

There being no further business, Dwyer requested a motion to adjourn the LRC meeting. John Weeda so moved; seconded by Carlyle Hillstrom. Motion carried. The meeting adjourned at 1:45 p.m. May 17, 2010.

Vicki Gilmore, Recording Secretary

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