

**MEETING MINUTES**  
**LIGNITE RESEARCH COUNCIL**

**November 13, 2012**  
**Best Western Doublewood Inn, Bismarck, ND**

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

Dave Schmitz - BNI Coal, Ltd.  
Randel Christmann, North Dakota State Senate; Lignite Research Council Vice-Chairman  
Jim Deutsch – North Dakota Public Service Commission  
John Dwyer - Lignite Energy Council; Lignite Research Council Chairman  
Layton Freborg - North Dakota State Senate  
Paul Govig – North Dakota Department of Commerce  
Mark Hager - International Brotherhood of Electrical Workers  
Chris Zygarlicke – Energy & Environmental Research Center  
Carlyle Hillstrom – North Dakota Farm Bureau  
Jay Kost – The Falkirk Mining Company  
Carroll Dewing – The Coteau Properties Company  
Luther Kvernen - Minnkota Power Cooperative, Inc.  
Ned Kruger - North Dakota Geological Survey  
Al Rudeck – Minnesota Power  
Brady Pelton – North Dakota Coal Conversion Counties Association  
Andrea Stomberg – MDU Resources Group  
Dave Smith, Ph.D. - SaskPower  
John Weeda - Great River Energy  
Bob Fagerstrom, Dakota Gasification Company  
Rich Voss, Great Northern Project Development

**OTHERS PRESENT:**

Dave Allard - Lignite Energy Council  
Sandi Tabor – Lignite Energy Council  
Steve Benson, Ph.D. – Microbeam Technologies  
Karlene Fine - North Dakota Industrial Commission  
Renee Walz - Lignite Energy Council  
Michael L. Jones, Ph.D. - Lignite Research Council Technical Advisor; Lignite Energy Council

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Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order at 1:30 p.m. (CST) November 13, 2012 at the Best Western Doublewood Inn, Bismarck, ND.

**Approval of May 17, 2012 LRC Meeting Minutes:**

Dwyer asked for a motion to approve the minutes of the May 17, 2012 LRC meeting. Carroll Dewing so moved; seconded by Carlyle Hillstrom. Motion carried.

**Program Financial Summary:**

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

Fine said that the Program's \$9,618,088 in available funding for the 2011-2013 biennium (as of 11/13/12) includes: \$400,802 for administration of the Program; \$528,815 for litigation (Minnesota); \$1,000,000 for non-matching Lignite Marketing Feasibility Study (LMFS) projects; \$686,171 for Small Research Projects; \$498,300 for Marketing Projects; and \$6,504,000 for Demonstration Projects. (The \$6,504,000 for Demonstration Projects does not include the commitment of \$12,482,309 over future biennia for the Lignite Vision 21 Program projects (the Coal-to-Liquids project, the Spiritwood Energy project and the Great Northern Project Development project).

**Program's Project Updates:**

Jones, technical advisor to the NDIC and the LRC, gave updates about active R&D projects (seven carbon capture and storage projects, three gasification projects, four demonstration projects, four Lignite Vision 21 Program (LV21) projects, three metal emissions projects, two education/public relations projects and two NOx projects.) He also summarized two of the LV21 Phase IV studies – Beneficial Use of CO<sub>2</sub> and Advanced Power Options for a Green Fields power plant in the size range of 175 to 225 MWe.

**Grant Round LXXIV (74) Grant Application LRC-LXXIV-A: "Optimization Tools to Manage Coal Properties and Plant Operations"; Submitted by: Microbeam Technologies, Inc.; Request for: \$299,972; Total Project Costs: \$699,972; Project Manager: Steven A. Benson, Ph.D.; Project Duration: Two years.**

Jones said that the general objective of the project is to develop improved tools to manage lignite properties and plant operations based on measureable lignite properties that can be used to improve low-NOx cyclone operation.

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 210.8 out of 250 points. The weighted score was 203 out of 250 points from reviewer 12-10, 212 out of 250 points from reviewer 12-11, 218 out of 250 points from reviewer 12-12, and 210 out of 250 points from reviewer 12-13. Technical peer reviewers 12-10, 12-12 and 12-13 recommended that the project be funded; technical peer reviewer 12-11 recommended that funding may be considered. As technical advisor to the NDIC and LRC, Jones recommended that the project be funded, subject to the following contingencies:

- Matching funding received from all of the parties.
- Technical Advisor participates in workshops to monitor progress of the project.
- Tools developed are available to the LRC.

Jones said that Minnkota Power and BNI Coal are conflict-of-interest parties for proposal LRC-LXXIV-A.

Steve Benson of Microbeam Technologies gave a presentation in support of proposal LRC-LXXIV-A.

**Grant Round LXXIV (74) Grant Application LRC-LXXIV-B: “Annual Lignite Energy Council Education Seminar: Energy, Economics & Environment”; Submitted by: Lignite Energy Council; Request for: \$160,000; Total Project Costs: \$320,000; Principal Investigator: Renee Walz; Project Duration: 24 Months.**

Fine said that the overall objective of the proposed project is to educate teachers from North Dakota and neighboring states about the economic benefits, career opportunities and operations of the lignite industry, enabling them to educate their students about the industry. The four-day seminar, which is held each June, includes tours of mines and coal conversion facilities along with presentations and panel discussions on a number of relevant issues including history, geology, mining and reclamation, converting lignite to electricity, converting lignite to synthetic natural gas, economics, career opportunities, environmental, transmission and research and development topics. Approximately 125-135 educators attend annually.

Fine said that the two technical peer reviewers for this proposal gave the proposal an average weighted score of 203.5 out of 250 points. The weighted score was 204 out of 250 points from reviewer 01-01, and 203 out of 250 points from reviewer 01-02. Both technical peer reviewers recommended that the project be funded.

As Executive Director of the NDIC, Karlene Fine recommended that the project be funded.

Fine said that the Lignite Energy Council and all members of the Council that provide both cash and in-kind contributions to the Teachers Seminar are conflict-of-interest parties for proposal LRC-LXXIV-B.

Renee Walz gave a presentation in support of the proposal.

Jones gave an overview of the grant application LRC-LXXIV-C. Dwyer called for a motion to go into confidential session. Paul Govig so moved; seconded by Al Rudeck. Motion carried.

**Grant Round LXXIV (74) Grant Application LRC-LXXIV-C: “Enhance, Preserve and Protect the North Dakota Lignite Industry – Phase VII – Research & Development, Environmental and Transmission Planning Services”; Submitted by: Lignite Energy Council; Request for: \$4,772,250; Total Project Costs: \$4,772,250; Principal Investigators: Mike Jones, Sandi Tabor and John Dwyer; Project Duration: Three Years.**

Fine said that the central objective of the proposed project is to preserve and protect the existing lignite fleet in North Dakota. There will also be an effort to enhance the future of the state’s lignite resources by supporting existing partners in the development of new lignite-based power plants and other facilities. In order to achieve these objectives the EPP Project team will develop and implement research & development, environmental, legal and transmission strategies. The EPP Project team will continue to work with the ongoing LV21 Program partners; oversee research and development studies with the assistance of the Lignite Technology Development Workgroup; coordinate industry response to environmental issues that may jeopardize the future of existing generation facilities; develop strategies and oversee legal activities that may require litigation due to state and federal statutes and regulations including if needed legal support; and participate in the planning processes focused on the development of new transmission infrastructure and other related transmission activities.

Fine said that the two technical peer reviewers for this proposal gave the proposal an average weighted score of 202.5 out of 250 points. The weighted score was 189 out of 250 points from reviewer 02-01, and 216 out of 250 points from reviewer 02-02. Technical peer reviewer 02-01 recommended that funding may be considered; technical peer reviewer 02-02 recommended that the project be funded.

As Executive Director of the NDIC, Fine recommended that the project be funded using non-match dollars. Flexibility is needed to respond to the changing environment. The PI has responded to the Reviewers comments by outlining the process that will be followed using the Lignite Technology Development Workgroup.

It will be important that the LEC include in their quarterly reports the processes that will be utilized in the selection of projects and subcontractors and, as has been done in the past, seek approval from the Industrial Commission on projects of a significant size (in excess of \$100,000 or as determined by the Industrial Commission Executive Director.) It should be noted that if the Council recommends this project for approval and the Industrial Commission adopts that recommendation it is contingent upon legislative action increasing the amount of non-matching funding available under the Lignite Research Program during the 2013-2015 biennium.

Fine said that the Lignite Energy Council is the conflict-of-interest party for proposal LRC-LXXIV-C.

Mike Jones gave a presentation in support of the proposal.

Dwyer asked for a motion to close the confidential session and return to open session. John Weeda so moved; Bob Fagerstrom seconded; Motion carried.

**Nominating Committee Report re: Election of LRC Chairman, LRC Vice Chairman, and LRC Executive Committee Members**

Layton Freborg as Chairman of the Nominating Committee recommended the following nominees whose terms will run from January 1, 2013 through December 31, 2014: Chairman, John W. Dwyer, Lignite Energy Council; Vice Chairman, Randel Christmann, State Senator; Other Members: Luther Kvernen, Minnkota Power Cooperative; Charlie Bullinger, Great River Energy; Gary Loop, Dakota Gasification Company (Bob Fagerstrom, Alternate); Ed Murphy, North Dakota Geological Survey; and Jay Kost, The Falkirk Mining Company. Dwyer asked if there were any nominations from the floor. There being none he asked for a Motion to approve the recommended nominees. Luther Kvernen so moved; Rich Voss seconded; Motion carried.

**Ballot Results re: LRC's Recommendations to NDIC Regarding Grant Round LXXIV(74) Proposals LRC-LXXIV-A, LRC-LXXIV-B, LRC-LXXIV-C.**

Dwyer announced the results of the LRC's confidential ballots concerning the LRC's recommendations to the NDIC regarding the three Grant Round LXXIV(74) proposals as follows:

**-Grant Round LXXIV (74) Grant Application LRC-LXXIV-A: "Optimization Tools to Manage Coal Properties and Plant Operations"; Submitted by: Microbeam Technologies, Inc.; Request for: \$299,972 - (Small Research); Total Project Costs: \$699,972; Project Manager: Steven A. Benson, Ph.D.; Project Duration: Two years. Contingencies: Matching funding received from all of the parties; Technical Advisor participates in workshops to monitor progress of the project; and tools developed are available to the LRC.**

**Fund: 18 votes. Do Not Fund: 2 votes.**

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**-Grant Round LXXIV (74) Grant Application LRC-LXXIV-B: "Annual Lignite Energy Council Education Seminar: Energy, Economics & Environment"; Submitted by: Lignite Energy Council; Request for: \$160,000 for two years (\$80,000 annually) - (Small Research); Total Project Costs: \$320,000 for two years (\$160,000 annually); Principal Investigator: Renee Walz; Project Duration: 24 Months.**

**Fund: 20 votes. Do Not Fund: 0 votes.**

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**-Grant Round LXXIV (74) Grant Application LRC-LXXIV-C: "Enhance, Preserve and Protect the North Dakota Lignite Industry – Phase VII – Research & Development, Environmental and Transmission Planning Services"; Submitted by: Lignite Energy Council; Request for: \$4,772,250 - (nonmatching funds from Lignite Research, Development and Marketing Program); Total Project Costs: \$4,772,250; Principal Investigators: Mike Jones, Sandi Tabor and John Dwyer; Project Duration: Three Years.**

**Fund: 19 votes. Do Not Fund: 1 vote.**

Dwyer thanked Layton Freborg for his 40 years of service to the state in various offices as this is his last Lignite Research Council Meeting. Dwyer also recognized Randel Christmann for his win of a seat on the Public Service Commission. Dwyer noted that he plans to recommend that Christmann be the representative from the PSC to the Lignite Research Council in the future.

Dwyer then called on Dave Smith of SaskPower to give an update on the Boundary Dam Unit 3 ICCS Project. Smith indicated that construction should be completed in March of 2013 with commissioning in October of 2013 and the unit should be on-line in January of 2014. Smith said the tower construction on the Heat Rejection Plant is in progress and should be completed in December. The cooling water piping between the heat rejection plant and the capture facility should be completed in the spring. Construction on the Compressor Building began this spring. The building is located adjacent to the capture facility. Structural steel work is in progress and the compressor should be set in place this month (November). Once that is installed, the building will be closed. The Water Treatment Plant has been constructed and the mechanical portion should be completed in May of 2013. Smith also noted that the CO<sub>2</sub> capture plant should be completed in April 2013; BD3 unit outage for turbine modification and unit upgrades will take place March through September of 2013. The flue gas cooler will be delivered in December of 2012. The project remains on time and on budget.

**NDIC Meeting:**

Dwyer said that the LRC's recommendations concerning the Grant Round LXXIV(74) requests will be considered by the NDIC at its meeting on November 19, 2012.

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

The grant application deadline dates for 2013 are April 1<sup>st</sup> and October 1<sup>st</sup>. The next LRC meeting has been scheduled for May 21, 2013 at the Best Western Doublewood Inn, Bismarck.

**Adjournment:**

There being no further business, Dwyer requested a motion to adjourn the LRC meeting. John Weeda so moved; seconded by Al Rudeck. Motion carried. The meeting adjourned at 3:35 p.m. November 13, 2012.

Renee Walz, Recording Secretary

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