

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

**May 17, 2012**

**Best Western Doublewood Inn, Bismarck, ND**

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

Wade Boeshans - BNI Coal, Ltd.  
Sheldon Buck – Prairie Mines & Royalty Ltd.  
Randel Christmann, North Dakota State Senate; Lignite Research Council Vice-Chairman  
Kevin Cramer – 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  
John Harju – Energy & Environmental Research Center  
Carlyle Hillstrom – North Dakota Farm Bureau  
Jay Kost – The Falkirk Mining Company  
Luther Kvernen - Minnkota Power Cooperative, Inc.  
Ed Murphy - North Dakota Geological Survey  
Josh Skelton – Minnesota Power  
Vicky Steiner – North Dakota Coal Conversion Counties Association  
Andrea Stomberg – MDU Resources Group  
Dave Smith, Ph.D. - SaskPower  
Charlie Bullinger - Great River Energy

**OTHERS PRESENT:**

Dave Allard - Lignite Energy Council  
Steve Benson, Ph.D. – University of North Dakota Institute for Energy Studies  
Jim Deutsch – North Dakota Public Service Commission  
Karlene Fine - North Dakota Industrial Commission  
Vicki Gilmore - Lignite Energy Council  
Mike Holmes – Energy & Environmental Research Center  
Michael L. Jones, Ph.D. - Lignite Research Council Technical Advisor; Lignite Energy Council  
Scott F. Korom – University of North Dakota Institute for Energy Studies  
Bill Sawyer – Minnesota Power  
Ed Steadman – Energy & Environmental Research Center  
Zhengwen Zeng, Ph.D. – University of North Dakota Institute for Energy Studies

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Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order at 1:30 p.m. (CST) May 17, 2012 at the Best Western Doublewood Inn, Bismarck, ND.

**Approval of November 15, 2011 LRC Meeting Minutes:**

Dwyer asked for a motion to approve the minutes of the November 15, 2011 LRC meeting. Luther Kvernen so moved; seconded by Wade Boeshans. 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 \$11,555,365 in available funding for the 2011-2013 biennium (as of 5/17/12) includes: \$509,846 for administration of the Program; \$96,809 for litigation (Minnesota); \$1,500,000 for non-matching Lignite Marketing Feasibility Study (LMFS) projects; \$650,000 for Small Research Projects; \$498,300 for Marketing Projects; and \$7,404,000 for Demonstration Projects. (The \$7,404,000 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).

**Consideration of a revision to 2011-2013 Lignite Research Program budget allocation:**

Fine discussed consideration of a revision to the 2011-2013 Lignite Research Program budget allocation, transferring \$500,000 from the Program's demonstration projects category over to the small research projects category, and transferring \$500,000 from the Program's non-matching projects category over to the litigation category.

Dwyer called for a motion to approve transferring \$500,000 from the demonstration projects category of the Program's 2011-2013 biennial budget over to the small research projects category, and that \$500,000 from the non-matching projects category be transferred to the litigation category. Paul Govig so moved; seconded by Vicky Steiner. Motion carried.

**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, two gasification projects, five demonstration projects, four Lignite Vision 21 Program (LV21) projects, two metal emissions projects, two education/public relations projects and one NOx project.) He also summarized three of the LV21 Phase IV studies.

**Grant Round LXXIII (73) Grant Application LRC-LXXIII-A: "Demonstration of Multipollutant Reduction Using a Lextran 3-in-1 Wet Scrubber"; Submitted by: Energy & Environmental Research Center (EERC); Request for: \$67,200; Total Project Costs: \$199,050; Project Manager: Jay C. Almlie; Project Duration: 10 Months.**

Jones said that the general objective of the project is to conduct pilot-scale combustion testing of the Lextran 3-in-1 gas cleaning technology using lignite-fired flue gas conditions at the EERC. The work proposed is Phase I. Phase II, field demonstration of the technology, is not included in this proposal.

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 194 out of 250 points. The weighted score was 218 out of 250 points from reviewer 12-01, 178 out of 250 points from reviewer 12-02 and 186 out of 250 points from reviewer 12-03. Technical peer reviewers 12-01 and 12-02 recommended that the project be funded; technical peer reviewer 12-03 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.
- Data provided to the Technical Advisor demonstrating the cost of catalyst including make-up requirements makes this option economically viable.
- Data is provided that there are no environmental/health concerns associated with the catalyst use or its disposal.

Jones said that the EERC and Great River Energy are conflict-of-interest parties for proposal LRC-LXXIII-A.

Mike Holmes of the EERC gave a presentation in support of proposal LRC-LXXIII-A.

**Grant Round LXXIII (73) Grant Application LRC-LXXIII-B: “Novel In-Situ Sorbent Activation Process (SAP) – An Evaluation of North Dakota Lignite and Lignite Byproduct Feasibility to Reduce Mercury in Exhaust Gases Over an Extended Period of Time”; Submitted by: Great River Energy; Request for: \$400,000; Total Project Costs: \$1,045,000; Principal Investigators: Greg Archer, Charlie Bullinger, Ramsay Chang, Diane Stockdill; Project Duration: 12-16 Months.**

Jones said that the overall objective of the proposed project is to test the commercial application of the Electric Power Research Institute (EPRI) patented mercury control technology (SAP) at commercial scale and over a longer duration on North Dakota lignite at Great River Energy’s Coal Creek Station.

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 216 out of 250 points. The weighted score was 214 out of 250 points from reviewer 12-04, 211 out of 250 points from reviewer 12-05 and 223 out of 250 points from reviewer 12-06. All three technical peer reviewers recommended that the project be funded.

As technical advisor to the NDIC and LRC, Jones recommended that the project be funded, contingent on the following:

-Matching funding received from all of the parties.

Jones said that Great River Energy and Prairie Mines & Royalty, Ltd., are conflict-of-interest parties for proposal LRC-LXXIII-B.

Charlie Bullinger gave a presentation in support of the proposal.

**Grant Round LXXIII (73) Grant Application LRC-LXXIII-C: “Geomechanical Study of Harmon Lignite and Surrounding Rocks for Underground Coal Gasification in Western North Dakota”; Submitted by: University of North Dakota Institute for Energy Studies; Request for: \$242,729; Total Project Costs: \$485,712; Principal Investigator: Zhengwen Zeng, Ph.D.; Co-Principal Investigators: Steven A. Benson, Ph.D. and Scott F. Korom, Ph.D.; Project Duration: Two Years.**

Jones said that the central objective of the proposed project is to determine the feasibility of using underground coal gasification (UCG) to access currently un-economic lignite resources in North Dakota.

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 181.3 out of 250 points. The weighted score was 130 out of 250 points from reviewer 12-07, 171 out of 250 points from reviewer 12-08 and 243 out of 250 points from reviewer 12-09. Technical peer reviewers 12-07 and 12-08 recommended that funding may be considered; technical peer reviewer 12-09 recommended that the project be funded.

As technical advisor to the NDIC and LRC, Jones recommended that the project be funded, contingent on the following:

-Matching funding received from all of the parties.

-Proposers address comments by reviewer 12-07.

Jones said that Great Northern Properties is the conflict-of-interest party for proposal LRC-LXXIII-C.

Steve Benson and Zhengwen Zeng gave a presentation in support of the proposal.

**Request for Additional Funding for Previously Approved Project – (EERC Proposal No. 2012-0192: “Add-On to Field Evaluation of Novel Approach for Obtaining Metal and Halogen Emission Data”; Additional Funding Requested: \$153,900; Total Revised Project: \$948,700; Total Revised LRC Funding: \$389,020; New End Date: June 30, 2013):**

Jones said that as technical advisor, his recommendation is approval of the additional funding.

Mike Holmes presented information in support of the request for additional funding.

**Request for Amendment to Contract FY08-LXIII-162 – Removal of the Williston Basin site stipulation and authorization for the pending payments to be utilized in support of the ongoing PCOR Phase III efforts):**

Jones said that as technical advisor, his recommendation is approval of the amendment.

Ed Steadman presented information in support in support of amendment.

**Ballot Results re: LRC’s Recommendations to NDIC Regarding Grant Round LXXIII(73) Proposals LRC-LXXIII-A, LRC-LXXIII-B, LRC-LXXIII-C; Additional Funding Request from EERC for EERC’s Proposal No. 2012-0192: “Add-On to Field Evaluation of Novel Approach for Obtaining Metal and Halogen Emission Data”; and Request for Revision to Contract FY08-LXIII-162.**

Dwyer announced the results of the LRC's confidential ballots concerning the LRC's recommendations to the NDIC regarding the three Grant Round LXXIII(73) proposals, and the two requests, as follows:

**-Grant Round LXXIII (73) Grant Application LRC-LXXIII-A: “Demonstration of Multipollutant Reduction Using a Lextran 3-in-1 Wet Scrubber”; Submitted by: Energy & Environmental Research Center (EERC); Request for: \$67,200 (Small Research); Total Project Costs: \$199,050; Project Manager: Jay C. Almlie; Project Duration: 10 Months. Contingencies: 1) Match funding committed to project; 2) Data provided to Technical Advisor demonstrating the cost of catalyst including make-up requirements makes this option economically viable; and 3) Data is provided that there are no environmental/health concerns associated with the catalyst use or its disposal.:**

**Fund: 18 votes. Do Not Fund: 0 votes.**

**-Grant Round LXXIII (73) Grant Application LRC-LXXIII-B: “Novel In-situ Sorbent Activation Process (SAP) – An Evaluation of North Dakota Lignite and Lignite Byproduct Feasibility to Reduce Mercury in Exhaust Gases Over an Extended Period of Time”; Submitted by: Great River Energy; Request for: \$400,000 (Demonstration Research); Total Project Costs: \$1,045,000; Principal Investigators: Greg Archer, Charlie Bullinger, Ramsay Chang, Diane Stockdill; Project Duration: 12-16 Months. Contingency: Match funding committed to the project.:**

**Fund: 16 votes. Do Not Fund: 1 vote. Abstain: 1**

**-Grant Round LXXIII (73) Grant Application LRC-LXXIII-C: “Geomechanical Study of Harmon Lignite and Surrounding Rocks for Underground Coal Gasification in Western North Dakota;” Submitted by: University of North Dakota Institute for Energy Studies; Request for: \$242,729 (Small Research); Total Project Costs: \$485,712; Principal Investigator: Zhengwen Zeng, Ph.D.; Co-Principal Investigators: Steven A. Benson, Ph.D. and Scott F. Korom, Ph.D.; Project Duration: Two Years.**

**Fund: 15 votes. Do Not Fund: 3 votes.**

**Request for Additional Funding for Previously Approved Project – (EERC Proposal No. 2012-0192: “Add-On to Field Evaluation of Novel Approach for Obtaining Metal and Halogen Emission Data”); Submitted by: EERC; Project Manager: John Pavlish; Additional Funding Requested: \$153,900 (Small Research); Total Revised Project: \$948,700; Total Revised LRC Funding: \$389,020; New End Date: June 30, 2013):**

**Approve: 18 votes. Do Not Approve: 0 votes.**

**-Request for a revision to Contract FY08-LXIII-162 – Removal of the Williston Basin site stipulation and authorization for the pending payments to be utilized in support of the ongoing PCOR Partnership’s Phase III efforts:**

**Approve: 17 votes. Do Not Approve: 1 vote.**

**NDIC Meeting:**

Dwyer said that the LRC's recommendations concerning the Grant Round LXXIII(73) requests will be considered by the NDIC at its meeting on May 21, 2012.

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

The remaining grant application deadline date for 2012 is October 1<sup>st</sup>. The next LRC meeting has been scheduled for Nov. 13, 2012 at the Best Western Doublewood Inn, Bismarck.

**Adjournment:**

There being no further business, Dwyer requested a motion to adjourn the LRC meeting. Kvernen so moved; seconded by Kevin Cramer. Motion carried. The meeting adjourned at 3:10 p.m. May 17, 2012.

Vicki Gilmore, Recording Secretary

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