

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

*November 17, 2015*

*Ramada Bismarck Hotel (Judicial Room), Bismarck, ND*

**LIGNITE RESEARCH COUNCIL MEMBERS (or their authorized alternates) PRESENT:**

John Dwyer – LEC (Retired)  
Jay Skabo - Montana-Dakota Utilities  
Wade Boeshans – BNI Coal  
Todd Simmons – Minnesota Power  
Ned Kruger – ND Geological Survey  
Dave Glatt- NDDOH  
Bill Kuehn – ND Farm Bureau  
Dave Smith - SaskPower  
Steve Benson- EERC  
John Phillips – North Dakota Coal Conversion Counties Association  
Dave Sauer – Dakota Gasification Company  
Brad Zimmerman – Otter Tail Power Company  
Jason Bohrer – Lignite Research Council; chairman of the Lignite Research Council  
Mike Jones – LEC  
Rep. Jeff Delzer – North Dakota House of Representatives  
Matt Greek – Basin Electric Power Cooperative  
Charlie Bullinger – Great River Energy  
Craig Bleth – Minnkota Power  
Randy Christmann - ND Public Service Commission  
Rich Voss- Great Northern Project Development  
Paul Lucy – North Dakota Department of Commerce  
Jay Kost – Falkirk Mine  
Carroll Dewing – The Coteau Properties Company  
Brad Zimmerman – Otter Tail Power Co.

**OTHERS PRESENT:**

Laney DeGraw- LEC  
Jim Deutch – North Dakota Public Service Commission  
Mark Hager- I.B.E.W  
Kay LaCoe – LEC  
Mike Holmes – EERC  
Josh Stanislouski – EERC  
Bill Sawyer – Minnesota Power/ ALLETE  
Mike McGroddy – 8 Rivers  
Jim Sheldon – Basin Electric  
Bill Williams – LP Amina  
Will Latta – LP Amina  
Matthew Target – LP Amina  
Jessica Holdman – Bismarck Tribune  
Tyler Hamman – LEC  
Karlene Fine- NDIC

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Lignite Research Council (LRC) Chairman, Jason Bohrer, called the LRC meeting to order at 1:33 p.m. (CDT) on November 17, 2015, at the Ramada Hotel, Bismarck, North Dakota.

## **Approval of November 18, 2014 LRC Meeting Minutes:**

Bohrer asked for a motion to approve the minutes of the November 18, 2014 LRC meeting. Charlie Bullinger so moved; seconded by Randy Christmann. Motion carried.

## **Program Financial Summary:**

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

Fine stated that the budget is a preliminary budget for the 2015-2017 biennium. She said the Program's available funding (as of 11/17/15) includes: \$750,000 for administration of the Program; \$1,500,000 for litigation (Minnesota); \$3,000,000 for non-matching Lignite Marketing Feasibility Study (LMFS) projects; \$1,500,000 for Small Research Projects; \$1,200,000 for Marketing Projects; and \$4,404,000 for Demonstration Projects with also an one time general fund appropriation of \$5,000,000.

## **Program's Project Updates:**

Jones, Technical Advisor to the NDIC and the LRC, gave updates about active R&D projects (six carbon capture and storage projects, two gasification projects, two demonstration projects, two Lignite Vision 21 Program (LV21) projects, two metal emissions projects, two education/public relations projects, three NOx projects, and one marketing. He also gave a non-confidential update about the Enhance, Preserve and Protect project, which included Environmental Tasks, Litigation, R&D tasks and LV21 tasks.

**Grant Round LXXIX (79) Grant Application LRC-LXXIX-C:** "Annual Lignite Energy Council Education Program" Submitted by Lignite Energy Council (LEC) Request for: \$100,000; Total Project Costs: \$211,000 Principal Investigator: Lignite Energy Council

Fine said this application requests funding for one year to continue the annual Lignite Education Seminar and the expansion of the Lignite Education Seminar to an all-encompassing Education Program. The requested funding will be used for the four-day teacher's seminar as well as a two-day North Dakota Energy Tour for college professors and administrators. The LEC has identified some additional opportunities to enhance the Seminar--one example is the development of the "Electricity from Lignite Go-Box" which would be available for school districts to check-out and use in the classroom. The LEC noted in the application that they will be focusing more attention on updating and broadening their library of educational videos that showcase various aspects of the lignite industry such as mining and reclamation or converting lignite into electricity or synthetic natural gas.

Fine said that the two technical peer reviewers for this proposal gave the proposal an average weighted score of 187.5 out of 250 points. The weighted score was 202 out of 250 points from reviewer 01-01, and 177 out of 250 points from reviewer 01-02. Technical peer reviewers 01-01 recommended that the project be funded, and 01-02 recommended funding as well. As Technical Advisor to the NDIC, Fine recommended that the project be funded, subject to the following contingency: Matching funding received and Technical Advisor participants in advisory group.

Fine said that the Lignite Energy Council & members of the Lignite Energy Council are the conflict-of-interest parties for proposal LRC-LXXIX-C.

Kay LaCoe, with the Lignite Energy Council, gave a presentation in support of proposal LRC-LXXIX-C.

**Grant Round LXXIX (79) Grant Application LRC-LXXIX-E:** "Pathway to Low-Carbon Lignite Utilization" Submitted by: The Energy & Environmental Research Center (EERC); Request for: \$1,480,000; Total Project Costs: \$3,180,000; Principal Investigator: Michael Holmes

Jones said that the project will focus on answering key questions on technical issues with the next generation on lignite based, low carbon options for energy generation systems. This specific project work is a key step

on the path to develop the revolutionary technology which is referred to as the Allam Cycle. While the end goal is focused on the development of a mature lignite-based Allam Cycle, the work identified during this phase can largely be applied to other supercritical CO<sub>2</sub> (sCO<sub>2</sub>) power cycles

Jones said that the three technical peer reviewers for this proposal gave the proposal an average weighted score of 221 out of 250 points. The weighted score was 230 out of 250 points from reviewer 16-07, 223 out of 250 points from reviewer 15-05, and 204 out of 250 points from reviewer 15-06. Technical peer reviewers 15-07, 16-08 and 16-09 all recommended to fund the project.

As Technical Advisor to the NDIC and LRC, Jones recommended that the project be funded, contingent on the following: Matching funding received, questions on in-kind contributions are acceptable to the Technical Advisor and Technical Advisor participate in advisory group.

Jones said that BNI Coal, Minnesota Power, Basin, Dakota Gasification and EERC are conflicts of interest for proposal LRC-LXXIX-E.

Mike Holmes with the Energy & Environmental Research Center did a presentation in support of proposal LRC-LXXIX-E.

**Grant Round LXXIX (79) Grant Application LRC-LXXIX-A:** "LP Amina Beneplus Commercial Demonstration Project Feasibility Study" Submitted by: LP Amina.; Request for: \$ \$209,000; Total Project Costs: \$700,000; Principal Investigator: William R. Williams, PhD

Jones stated that this project will focus on determining the feasibility of applying the LP Amina Beneplus technology to ND Lignite coal. This technology results in a value added liquid from coal and a beneficiated lignite coal product. The project will also consider the viability of using the beneficiated coal in an existing lignite-based boiler. The liquids produced will be evaluated by Tesoro as an input to existing refinery operations.

### **Motion for Closed Confidential Session**

Bohrer asked for a motion to close the meeting prior to the confidential session regarding Grant Application LRC-LXXIX-A, Grant Application LRC-LXXIX-E and EPP updates. It was moved by Todd Simmons and seconded by Carroll Dewing that the Lignite Research Council meeting be closed pursuant to 54-17.5-06. Motion carried.

Jones said that the technical peer reviewers for this proposal gave the proposal an average weighted score of 182.5 out of 250 points. The weighted score was 191 out of 250 points from reviewer 16-01, 167 out of 250 points from reviewer 16-01A, and 193 out of 250 points from reviewer 16-02, and 179 out of 250 points from reviewer 16-03. Technical peer reviewers 16-01 and 16-03 recommended that the project be funded, while technical peer reviewers 16-01a and 16-02 recommended that funding to be considered

As Technical Advisor to the NDIC and LRC, Jones recommended that the project be funded, contingent on the following: Matching funding received, Technical advisor participates in Advisory group, and If fatal flaws are identified, LP Amina agrees to stop work at that time.

Jones said that Basin Electric and North American Coal are conflicts of interest for proposal LRC-LXXIX-A.

**Grant Round LXXIX (79) LRC-LXXIX (79)-D:** "Continued Funding for Regional Lignite Energy Marketing Program" Submitted by: Lignite Energy Council; Request for: \$1,800,000 (\$600,000 annually); Total Project Costs: \$3,600,000; Principal Investigator: Lignite Energy Council

Fine said that the purpose of the project is to improve the overall public image of coal-based electricity, build a support base on behalf of coal-based electricity in order to prevent or mitigate public policies adverse to the use of coal and to promote coal use as a low-cost, efficient and environmentally compatible energy source for the region. Through the Coalition for a Secure Energy Future provide multiple avenues for a diverse group of supporters to continue supporting coal-based electricity and political candidates who support coal-based

electricity. Tactics which will be used include: paid media; earned media; website; media relations; grassroots communications; conducting studies and public opinion pools, hosting face-to-face meetings and working with other supporters to provide for a large, unified voice.

Fine said that the two technical peer reviewers for this proposal gave the proposal an average weighted score of 186 out of 250 points. The weighted score was 205 out of 250 points from reviewer 01-01, and 167 out of 250 points from reviewer 01-02. Technical peer reviewers 01-01 recommended that the project be funded, and 01-02 recommended funding to be considered. As Technical Advisor to the NDIC, Fine recommended that the project be funded, subject to the funding be contingent on annual updates, at a minimum, being presented to the Lignite Research Council and to the Industrial Commission.

#### **Enhance, Preserve and Protect updates**

Jones gave update on the EPP with speaking about the environmental task of the regional haze that involves NOx and SOx modeling, in addition to the CO2 regulation with new plants and existing facilities.

Jones also spoke on Waters of the United States (WOTUS) ruling, Jones made note that comments that the LEC made were put forward to the EmPower commission, in addition to the LEC's comments the North Dakota Chamber of Commerce and the Industrial Commission were also given. The Ozone regulations were established at 70 ppb. The Coal Ash Rule stated the coal ash is non-hazardous. During the litigation portion, Jones noted that the Minnesota Lawsuit was ruled in our favor.

Jones made comments on the R&D tasks about the NOx, new cycles such as the Allam Cycle, and the Health Impacts, which we are a part of a study looks at linear no-threshold models, this is a model used by the EPA that states pollutants need to be down to 0. In addition to those comments CO2 regulations, Canadian Clean Power Coalition membership, and the supercritical CO2 impact on Bakken Shale.

Jones spoke about the active LV21 projects with Great Northern Project Development that is about BGL to H2/CO2 and also about Spirtwood which is up and running.

#### **Motion to Open Session following closed confidential session:**

Bohrer asked for a motion to open the meeting following the confidential session. John Dwyer so moved; seconded by Carroll Dewing. Motion carried.

#### **Election of LRC Chairman, Vice Chairman and LRC Executive Committee:**

Bohrer introduced the slate of candidates, with Bohrер being reelected as Chairman, Randel Christmann as Vice Chairman and Nicole Kivistio, John Weeda, Dave Sauer, Ed Murphy and Jay Kost voted in as LRC Executive Committee Members.

The slated committee was passed unanimously by the Lignite Research Council.

#### **Next LRC Meeting & NDIC meeting to consider LRC's recommendations, 2016 Grant Round deadlines:**

Bohrer announced that the next LRC meetings are scheduled for May 19, 2016 and November 17, 2016.

The application deadline dates for submitting proposals to the NDIC for the next grant rounds are: April 1, 2016 and October 1, 2016.

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#### **Ballot Results:**

Bohrer announced the results of the LRC's confidential ballots concerning the LRC's recommendations to the NDIC regarding the three Grant Round LXXVIX (79) proposals as follows:

- Grant Round LXXIX (79) Grant Application LXXIX-A "LP Amina Beneplus Commercial Demonstration Project Feasibility Study"

**Fund: 23 votes**

**Do Not Fund: 0 votes**

- Grant Round LXXIX (79) Grant Application LXXIX -C: “Annual Lignite Energy Council Education Program”

**Fund: 21 votes**

**Do Not Fund: 1 votes**

**Abstain: 1 vote**

- Grant Round LXXIX (79) Grant Application LXXIX-D: “Continued Funding for Regional Lignite Energy Marketing Program”

**Fund: 21 votes**

**Do Not Fund: 0 votes**

**Abstain: 2 vote**

-Grant Round LXXIX (79) Grant Application LXXIX-E "Pathway to Low-Carbon Lignite Utilization"

**Fund: 23 votes**

**Do Not Fund: 0 votes**

**Adjournment:**

There being no further business, Bohrer requested a motion for adjournment of the LRC meeting. John Dwyer so moved; seconded by Jay Skabo. Motion carried.

*Laney DeGraw, recording secretary*

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