

MEETING MINUTES
LIGNITE RESEARCH COUNCIL
November 18, 2004
Doublewood Inn, Bismarck, ND

MEMBERS (or their authorized alternates) PRESENT:

Steve Benson, Energy & Environmental Research Center
Dick Bergstad, International Brotherhood of Electrical Workers, # 714
Warren Candy, ALLETE / Minnesota Power
Randel Christmann, North Dakota Senate (Dist. 33)
Tom Durham, Westmoreland Coal Company
John Dwyer, Lignite Research Council
Layton Freborg, North Dakota Senate (Dist. 8)
L. David Glatt, ND Department of Health
Carlyle Hillstrom, North Dakota Farm Bureau
Mike Hummel, BNI Coal
Bruce Imsdahl, Montana-Dakota Utilities Co.
Luther Kvernen, Minnkota Power Cooperative
Vernon Laning, Basin Electric Power Cooperative
Al Lukes, Dakota Gasification Company
Ed Murphy, ND Geological Survey
Russ Nelson, Great River Energy
Dean Peterson, The North American Coal Corporation
David L. Porsborg, North Dakota Coal Conversion Counties Association
Bob Stobbs, SaskPower
Susan Wefald, North Dakota Public Service Commission

OTHERS PRESENT:

Dave Allard, Lignite Energy Council
Jeff Burgess, Lignite Vision 21 Program
Jim Deutsch, ND Public Service Commission
Karlene Fine, North Dakota Industrial Commission
Vicki Gilmore, Lignite Energy Council
Michael Jones, Energy & Environmental Research Center
Harvey Ness, Lignite Research Council
Mike Paul, Basin Electric Power Cooperative
David Schmitz, Basin Electric Power Cooperative
Wayne Seames, University of North Dakota – Department of Chemical Engineering
Vicky Steiner, North Dakota Coal Conversion Counties Association

Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order on November 18, 2004 at the Doublewood Inn, Bismarck, North Dakota.

Approval of May 20, 2004 LRC Meeting Minutes

Dwyer asked for a motion to approve the minutes of the May 20, 2004 LRC meeting. Senator Randel Christmann so moved; seconded by Warren Candy. Motion carried.

Financial Summary as of 10/31/04

Harvey Ness, technical advisor for the North Dakota Industrial Commission (NDIC) and the LRC, summarized the Lignite Research, Development and Marketing Program (Program) financial information that is available on the NDIC web site. As of October 31, 2004, available funding balances from the Lignite Research Fund (LRF) for the 2003-2005 biennium were as follows: \$180,016 for administration of the Program; \$268,000 for non-matching funds for lignite marketing feasibility studies (LMFS); \$383,657 in uncommitted funds for small research projects; a balance of \$0 for the joint programs with the U. S. Department of Energy, Electric Power Research Institute and other entities; and \$6,198,186 for demonstration projects. Construction commitments for the Lignite Vision 21 projects will be funded from the demonstration projects line item.

Lignite Research, Development and Marketing Program Updates

Ness said that there are currently 25 Lignite Research, Development and Marketing Program projects: two LMFS projects, 19 small research projects and four demonstration projects. He said that from 1987 to the present, there have been 112 small research projects totaling \$12.4 million in NDIC funds, seven demonstration projects (excluding Lignite Vision 21 Program projects) totaling \$13.7 million in NDIC funds, and two Lignite Vision 21 Program projects totaling \$11.6 million in NDIC funds.

Lignite Vision 21 Program Update

Updates about the LV21 Program’s environmental issues and transmission issues were presented by Jeff Burgess, LV21 Program manager of environmental services. There are currently two applicants under contract with the NDIC for LV21 demonstration projects: Montana-Dakota Utilities Co./Westmoreland and Great Northern Power Development.

Grant Round LII (52) Grant Application LRC-LII-A: “North Dakota Partnership in the Canadian Clean Power Coalition”; Submitted by: Basin Electric Power Cooperative; Principal Investigator: David Schmitz; Request for: \$75,000; Total Project Costs: \$150,000; Project Duration: 14 months.

Ness said that the objective of the proposed project is to participate in the Canadian Clean Power Coalition (CCPC) to identify advanced technologies for future lignite power generation, such as gasification-based Integrated Gasification Combined Cycle (IGCC) and combustion-based advanced steam cycles that provide increased efficiency and reduced pollutant emissions, including carbon dioxide captures. Ness said that the three technical peer reviewers gave the proposal an average weighted score of 196 out of 250 points. (The weighted scores were 181 out of 250 points from reviewer 04-19, 202 out of 250 points from reviewer 04-20, and 205 out of 250 points from reviewer 04-21.) All three technical peer reviewers recommended that the project be funded.

As technical advisor, Ness said that his recommendation is that the proposal be funded at a level not to exceed \$75,000 and subject to the following contingency: Written confirmation of industrial matching cost share funding.

Ness said that the conflict-of-interest parties for this proposal are Basin Electric Power Cooperative, Great Northern Power Development L.P., Great River Energy, Montana-Dakota Utilities Co., Otter Tail Power Company and Westmoreland Coal Company.

David Schmitz of Basin Electric Power Cooperative gave a presentation in support of the proposal.

Grant Round LII (52) Grant Application LRC-LII-B: “Assessment of Mercury Control Options & Ash Behavior in Fluidized-Bed Combustion Systems”; Submitted by: Energy & Environmental Research Center; Principal Investigators: Steven A. Benson, Ph.D. and Michael Jones, Ph.D.; Request for: \$200,000; Total Project Costs: \$1,000,000; Project Duration: 24 months.

Ness said that the proposed project would evaluate mercury control options, performance, and potential impacts on CFBC system performance, such as bed agglomeration, corrosion and ash deposition. Tests will be conducted in a pilot-scale CFBC equipped with baghouse/sprayer absorber and/or an electrostatic precipitator. Ness said that the three technical peer reviewers gave the proposal an average weighted score of 210.3 out of 250 points. (The weighted scores were 202 out of 250 points from reviewer 04-22, 206 out of 250 points from reviewer 04-23, and 223 out of 250 points from reviewer 04-24). Reviewer 04-22 and reviewer 04-24 recommended that the project be funded. Reviewer 04-23 recommended that funding may be considered.

As technical advisor, Ness said that his recommendation is that the proposal be funded at a level not to exceed \$200,000 and subject to the following contingencies: 1) Written confirmation of industrial matching cost share funding, and 2) NDIC funds be expended only on lignite tests.

Ness said that Montana-Dakota Utilities Co. is the conflict-of-interest party for this proposal.

Michael Jones, Ph.D., of Energy & Environmental Research Center (EERC) gave a presentation in support of the proposal.

Grant Round LII (52) Grant Application LRC-LII-C: “Mercury Oxidation via Catalytic Barrier Filters”;
Submitted by: University of North Dakota, Department of Chemical Engineering; Principal Investigator:
Wayne S. Seames, Ph.D.; Request for: \$15,000; Total Project Costs: \$245,000; Project Duration: 30 months..

Ness said that the proposed project will initiate a Phase II program to continue development of mercury emission control using baghouse fabric filters impregnated with catalytic oxidation materials. The concept would be applicable to utilities using fabric filter baghouse with capture of mercury and fly ash in a single subsystem.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 177.7 out of 250 points. (The weighted scores were 180 out of 250 points from reviewer 04-25, 165 out of 250 points from reviewer 04-26 and 188 out of 250 points from reviewer 04-27). All three reviewers recommended that funding may be considered.

As technical advisor, Ness said that his recommendation is that the proposal be funded in an amount not to exceed \$15,000 with the condition that written confirmation be received of ND industrial matching cost share funding and that NDIC funds be focused on North Dakota lignite.

Ness said that there are no conflict-of-interest parties for this proposal.

Wayne Seames, Ph.D., of the University of North Dakota Department of Chemical Engineering gave a presentation in support of the proposal.

Grant Round LII (52) Grant Application LRC-LII-D: “Center for Air Toxic Metals Affiliates Program”;
Submitted by: Energy & Environmental Research Center; Principal Investigator: John Pavlish; Request for:
\$45,000 (\$15,000/yr.); Total Project Costs: \$3,000,000 (\$1,000,000/yr.); Project Duration: 36 months.

Ness said that the goal of the proposed project is to continue science-based research on toxic trace metals under an EPA-/industry-supported Center for Air Toxic Metals (CATM) Affiliates Program to continue the understanding of the behavior of potential toxic metals in coal-fired utilities, other fossil fuel systems, waste-to-energy systems and waste incinerators. A specific objective of the CATM program is the study of the fate and control of mercury emissions from coal-fired systems.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 192.23 out of 250 points. (The average weighted scores were 221 out of 250 points from reviewer 04-28, 192 out of 250 points from reviewer 04-29, and 164 out of 250 points from reviewer 04-30) Reviewers 04-28 and 04-29 recommended that the project be funded; reviewer 04-30 recommended that the project may be considered.

As technical advisor, Ness said that his recommendation is that the proposal be funded in an amount not to exceed \$45,000 (\$15,000/yr.).

Ness said that the conflict-of-interest parties for this proposal are Basin Electric Power Cooperative and Otter Tail Power Company.

Jones gave a presentation in support of the proposal.

Nomination and Election of Officers for LRC (Chairman and Vice Chairman); Nomination and Election of LRC Executive Committee Members (Seven Members)

Dean Peterson, chairman of the nominating committee, read the following list of LRC Executive Committee nominees. The term for the LRC Executive Committee is November 2004 through November 2006.

LRC Executive Committee Nominees:

Chairman: John Dwyer, Lignite Energy Council

Vice Chairman: Bruce Imsdahl, Montana-Dakota Utilities Co. – (Terry Hildestad, alternate).

Other Members of the LRC Executive Committee: David Loer, Minnkota Power Cooperative (Luther Kvernen, alternate); Randel Christmann, State Senator; Al Lukes, Dakota Gasification Company; Ed Murphy, ND Geological Survey; and Layton Freborg, State Senator.

Dick Bergstad moved that nominations cease for the LRC Chairman and Vice Chairman positions; seconded by Vern Laning. Motion carried. Bergstad made an amended motion that the LRC cast a unanimous ballot approving all of the LRC Executive Committee nominees; seconded by Al Lukes. Motion carried. Warren Candy moved that the LRC approve all of the nominees for the LRC Executive Committee; seconded by Bergstad. Motion carried.

Ballot Results

Dwyer announced that the LRC members voted as follows to recommend that the NDIC approve funding of the four Grant Round LII (52) requests:

LRC-LII-A: “North Dakota Partnership in the Canadian Clean Power Coalition”; Submitted by: Basin Electric Power Cooperative; Principal Investigator: David Schmitz; Request for: \$75,000; Total Project Costs: \$150,000; Project Duration: 14 months.

- Recommend funding: 20 votes.
- Do not fund: 0 votes.

LRC-LII-B: “Assessment of Mercury Control Options & Ash Behavior in Fluidized-Bed Combustion Systems”; Submitted by: Energy & Environmental Research Center; Principal Investigators: Steven A. Benson, Ph.D. and Michael Jones, Ph.D.; Request for: \$200,000; Total Project Costs: \$1,000,000; Project Duration: 24 months.

- Recommend funding: 19 votes.
- Do not fund: 1 vote.

LRC-LII-C: “Mercury Oxidation via Catalytic Barrier Filters”; Submitted by: University of North Dakota, Department of Chemical Engineering; Principal Investigator: Wayne S. Seames, Ph.D.; Request for: \$15,000; Total Project Costs: \$245,000; Project Duration: 30 months..

- Recommend funding: 20 votes.
- Do not fund: 0 votes.

LRC-LII-D: “Center for Air Toxic Metals Affiliates Program”; Submitted by: Energy & Environmental Research Center; Principal Investigator: John Pavlish; Request for: \$45,000; Total Project Costs: \$3,000,000 (3-yr.); Project Duration: 36 months.

- Recommend funding: 20 votes.
- Do not fund: 0 votes.

NDIC Meeting – December 20, 2004

The LRC's recommendations for the four Grant Round LII (52) requests will be considered by the NDIC at its meeting on December 20, 2004.

Program’s Proposed Administrative Budget for 2005-2007 Biennium; Report Regarding Proposed Legislation Establishing a ND Transmission Authority; Governor John Hoeven’s Executive Order 2004-10

Fine handed out copies and briefly discussed three documents:

- 1) *Lignite Research, Development and Marketing Program Proposed Administrative Budget - 2005-2007 Biennium;*
- 2) *Interim Report to the North Dakota Industrial Regarding Proposed Legislation Establishing a North Dakota Transmission Authority* (With attachment: Draft version of a legislative bill the NDIC will introduce for the 59th North Dakota Legislative Assembly. The topic of the bill is creation of a North Dakota transmission authority); and
- 3) *Executive Order 2004-10.* (Governor John Hoeven’s executive order regarding reestablishing the Lignite Research Council to consist of 25 members).

Lukes moved that the LRC recommend that the North Dakota Industrial Commission approve the Lignite Research, Development and Marketing Program Proposed Administrative Budget for the 2005-2007 Biennium at the NDIC’s Dec. 8, 2004 meeting. Seconded by Bergstad. Motion carried.

Fine asked the LRC members to give her their comments by Dec. 2, 2004 regarding the draft version of the transmission authority bill. She said that the comments are to be given to the NDIC by Dec. 6, 2004. The bill is to be given to the Legislative Council by Dec. 9, 2004.

Grant Rounds for 2005

Dwyer said that the grant application deadline dates for 2005 will be April 1 and October 1. LRC meetings are held approximately 45 days following grant application deadline dates.

Other Business

Dwyer said that topics of bills of interest to the Lignite Research Council during the 2005 North Dakota Legislative Assembly will include bonding issues, the R&D Program appropriation, tax incentives for lignite, and renewable energy objectives.

Confidential Session

It was moved by Dean Peterson and seconded by Carlyle Hillstrom that the Lignite Research Council meeting be closed to hear an “Implementation of Regional Lignite Energy Marketing Plan” report which has been determined to be confidential pursuant to NDCC 54-17.5-06. Motion carried.

At the conclusion of the confidential session, Dwyer requested a motion to open the meeting to non-confidential status. Laning so moved; seconded by Mike Hummel. Motion carried.

Adjournment

There being no further business, Dwyer requested a motion to adjourn the LRC meeting. Laning so moved; seconded by Hummel. Motion carried.

Vicki Gilmore, Recording Secretary
