

MEETING MINUTES
LIGNITE RESEARCH COUNCIL
November 25, 2008
Best Western Doublewood Inn, Bismarck, ND

MEMBERS (or their authorized alternates) PRESENT:

Kevin Cramer, North Dakota Public Service Commission
Carroll Dewing, The Falkirk Mining Company
Tom Durham, Westmoreland Coal Company
John W. Dwyer, Lignite Energy Council; Lignite Research Council Chairman
Bob Fagerstrom, Dakota Gasification Company
Layton Freborg, North Dakota Senate
Joe Friedlander, The Coteau Properties Company
Shane Goettle, North Dakota Department of Commerce
Carlyle Hillstrom, North Dakota Farm Bureau
Mike Hummel, BNI Coal, Ltd.
Luther Kvernen, Minnkota Power Cooperative, Inc.
Ed Murphy, North Dakota Geological Survey
Terry O'Clair, North Dakota Department of Health
John Phillips, ND Coal Conversion Counties Association
Al Rudeck, Minnesota Power
Dave Smith, SaskPower
Andrea Stomberg, Montana-Dakota Utilities Co.
Jenny Tennant, U. S. Department of Energy – National Energy Technology Laboratory
Mark K. Thompson, Basin Electric Power Cooperative
Rich Voss, Great Northern Power Development
John Weeda, Great River Energy

OTHERS PRESENT:

Dave Allard, Lignite Energy Council
Andrea Blowers, Basin Electric Power Cooperative
Jeff Burgess, Lignite Research Council
Jim Deutsch, North Dakota Public Service Commission
Karlene Fine, North Dakota Industrial Commission
Vicki Gilmore, Lignite Energy Council
Curtis Jabs, Basin Electric Power Cooperative
Jim J. Sheldon, Basin Electric Power Cooperative
Vicky Steiner, ND Coal Conversion Counties Association and ND Association of Oil and Gas-Producing Counties
Don Tonn, Babcock & Wilcox

Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order at 12:06 p.m. (Central Time) November 25, 2008, at the Best Western Doublewood Inn, Bismarck, ND.

Approval of May 20, 2008 LRC Meeting Minutes:

Dwyer asked for a motion to approve the minutes of the May 20, 2008 LRC meeting. Al Rudeck so moved; seconded by Carroll Dewing. Motion carried.

Program Financial Summary:

Karlene Fine, executive director and secretary of the North Dakota Industrial Commission (NDIC), briefly summarized the Lignite Research Program's (Program) \$3,725,000 approved annual budget allocations for the '07-'09 biennium and the Program's proposed annual budget allocation of \$4,350,000 for the '09-'11 biennium.

Available funding for the 2007-2009 biennium (as of 11/25/08) is \$230,712 for administration of the Program; \$438,000 for litigation; \$1,000,000 for non-matching feasibility studies (Lignite Energy Council Lignite Vision 21 Program, transmission, litigation, etc.); \$694,725 for small research projects; \$0 for marketing projects; and \$3,194,214 for demonstration projects (the \$3,194,214 does not include the commitment of \$8,725,000 over future biennia for the final phases of the Lignite Vision 21 Program projects: Coal-to-Liquids and Spiritwood Energy; it does include NDIC borrowing up to \$2 million to meet cash-flow needs.)

Jeff Burgess, technical advisor for the NDIC and the LRC, summarized the Lignite Research, Development and Marketing Program (Program) financial information. From 1987 to present, there have been 128 small research projects (\$16.8 M from NDIC for the 128 projects; \$104 M total project costs; \$1 in state funds to \$6 total investment); 19 demonstration projects excluding Lignite Vision 21 Program (LV21P) projects (\$18.5 M from NDIC for the 19 projects; \$356 M total project costs; \$1 in state funds to \$19 total); and eight LV21P projects (\$22.2 M from NDIC; more than \$240 M total project costs.)

He said that the current technical advisor activities involve 26 projects (\$29 M from NDIC; \$508 M total project costs). There is one marketing project (\$2.4 M from NDIC; \$4.8 M total project cost); 14 small research projects (\$4.9 M from NDIC; \$43.4 M total project costs); and 11 demonstration projects: (\$4.2 M from NDIC for eight non-LV21P projects; \$228 M total project costs); (\$19.3 M for three LV21P projects; more than \$235 M total project costs).

Project Updates:

Burgess gave a brief review of the 26 active projects: one Lignite Energy Council LV21P project, three separate LV21P projects, eight mercury-related projects, three lignite gasification-related projects, five CO₂ CCS-related projects, one NO_x-related project, one regional lignite energy marketing project (Partners for Affordable Energy), one lignite demonstration for agricultural production (Red Trail Energy project), two coal combustion products projects, and one air toxics metals project (CATM). He also gave a brief review of Lignite Vision 21 Program projects as well as R&D program priorities.

Grant Round LXV (65) Grant Application LRC-LXV-A: "CO₂ Capture Demonstration Project"; Submitted by: Basin Electric Power Cooperative; Project Manager: James J. Sheldon; Request for: \$2,700,000; Total Project Costs: \$5,400,000; Project Duration: 6 Months. (Demonstration Project):

Burgess said that with this project, Basin Electric Power Cooperative (BEPC) proposes to conduct a Front End Engineering and Design (FEED) study involving the application of Powerspan's technology to remove 90% of the carbon dioxide (CO₂) from a 120 MW flue gas slipstream of Unit 1 of the Antelope Valley Station. The FEED study will provide BEPC with the necessary information (engineering detail, schedule, and cost estimate (+/- 15%)) to evaluate the economic viability of the project.

Burgess said that the three technical peer reviewers gave the proposal an average weighted score of 187 out of 250 points. (The weighted scores were 201 out of 250 points from reviewer 08-13, 196 out of 250 points from reviewer 08-14 and 163 out of 250 points from reviewer 08-15.) Technical peer reviewer 08-13 recommended that the project be funded; technical peer reviewers 08-14 and 08-15 recommended that project funding may be considered.

As technical advisor, Burgess recommended that the project be funded (Demonstration project funds). He said that the demonstration of cost-effective, environmentally sound capture and storage of CO₂ is critical to the future of the lignite industry. It is necessary and appropriate for increased public-private investment in carbon capture and storage research, development, demonstration, and deployment of technologies in order to achieve greenhouse gas management objectives already being established, or being contemplated, by various governmental bodies. Should the Lignite Research Council recommend funding for this project, the following contingency should be considered:

- Applicant submittal of a detailed scope of work with a corresponding milestone chart and detailed budget is a prerequisite to receiving NDIC funds.

Burgess said that BEPC is a conflict-of-interest party for this proposal.

James J. Sheldon of BEPC gave a presentation in support of the proposal.

Grant Round LXV (65) Grant Application LRC-LXV-B: “Long-term Assessment of Selective Catalytic Reduction Reactor Slip Stream Performance for Utilities Burning Lignite Coal”; Submitted by: Saskatchewan Power Corporation (SaskPower); Project Manager: David W. Smith, Ph.D.; Request for: \$200,000; Total Project Costs: \$1,05,000; Project Duration: 33 Months. (Demonstration Project):

Burgess said that with this project, Saskatchewan Power Corporation (SaskPower) proposes to conduct testing of selective catalytic reduction (SCR) technology to remove nitrogen oxides (NO_x) from the flue gas of SaskPower’s Poplar River Power Station Unit 1, which burns Fort Union Lignite.

Burgess said that the three technical peer reviewers gave the proposal an average weighted score of 210 out of 250 points. (The weighted scores were 214 out of 250 points from reviewer 08-16, 197 out of 250 points from reviewer 08-17 and 218 out of 250 points from reviewer 08-18.) All three technical peer reviewers recommended that the project be funded.

As technical advisor, Burgess recommended that the project be funded (Demonstration project funds). He said that the demonstration of cost-effective, NO_x emissions reduction technologies is critical to the future of the lignite industry. The NO_x control technologies that have been installed to date in Fort Union pulverized coal electrical generating stations will not be adequate to address future environmental requirements.

Burgess said that SaskPower is the conflict-of-interest party for this proposal.

Dave Smith of SaskPower and Don Tonn of Babcock & Wilcox gave presentations in support of the proposal.

LRC Executive Committee’s Nominating Committee Report re: LRC Executive Committee Chairman, LRC Executive Committee Vice Chairman, and other LRC Executive Committee Members:

Senator Layton Freborg, the LRC Executive Committee’s Nominating Committee chairman, gave the committee’s report regarding its suggestions for the election of LRC Executive Committee chairman, LRC Executive Committee vice chairman, and the other LRC Executive Committee members for the January 1, 2009 – December 31, 2010 term. Senator Freborg said that the proposed nominees are: For LRC Executive Committee Chairman/LRC Chairman: John W. Dwyer, Lignite Energy Council; for LRC Executive Committee Vice Chairman/LRC Vice Chairman: Randel Christmann, State Senator; and for the other members of the LRC Executive Committee: David Loer, Minnkota Power Cooperative (alternate for David Loer: Luther Kvernen, Minnkota Power Cooperative), Charlie Bullinger, Great River Energy, Gary Loop, Dakota Gasification Company (alternate for Gary Loop: Bob Fagerstrom, Dakota Gasification Company), Ed Murphy, ND Geological Survey, and Layton Freborg, State Senator.

Ballot Results re: Grant Round LXV (65) Proposals:

Dwyer announced the results of the LRC's confidential ballots concerning recommendations for NDIC funding of the two Grant Round LXV (65) proposals:

Grant Round LXV (65) Grant Application LRC-LXV-A: “CO2 Capture Demonstration Project”; Submitted by: Basin Electric Power Cooperative; Project Manager: James J. Sheldon; Request for: \$2,700,000; Total Project Costs: \$5,400,000; Project Duration: 6 Months (Demonstration Project).

Fund: 18 votes (2 with contingencies). **Do Not Fund:** 2 votes. **Abstained from Voting:** 1.

Grant Round LXV (65) Grant Application LRC-LXV-B: “Long-term Assessment of Selective Catalytic Reduction Reactor Slip Stream Performance for Utilities Burning Lignite Coal”; Submitted by: Saskatchewan Power Corporation (SaskPower); Project Manager: David W. Smith, Ph.D.; Request for: \$200,000; Total Project Costs: \$1,050,000; Project Duration: 33 Months. (Demonstration Project)

Fund: 21 votes. **Do Not Fund:** 0 votes.

Vote for LRC Executive Committee (term: January 1, 2009 – December 31, 2010):

Dwyer called for a floor vote regarding the LRC Executive Committee members (term: January 1, 2009 – December 31, 2010). Kevin Cramer made a motion that nominations cease, and that the ballot of names selected by the LRC Executive Committee's Nominating Committee be approved. The motion was seconded by Rich Voss; motion carried. The LRC members elected the following to serve on the LRC Executive Committee for the January 1, 2009 – December 31, 2010 term: LRC Executive Committee Chairman/LRC Chairman: John W. Dwyer; LRC Executive Committee Vice Chairman/LRC Vice Chairman: Senator Randel Christmann; and other members of the LRC Executive Committee: David Loer (Luther Kvernen, alternate), Charlie Bullinger, Gary Loop (Bob Fagerstrom, alternate), Ed Murphy and Senator Layton Freborg.

Consideration of LRC Program Rule Revisions:

Fine discussed proposed LRC Program rules revisions. She said that written and public comments will be accepted regarding the rules revisions. Rules become effective in the month following the Legislative Council Administrative Rules Committee's approval.

NDIC Meeting – December 12, 2008:

The LRC's recommendation concerning the Grant Round LXV (65) requests will be considered by the NDIC on December 12, 2008.

Grant Application Deadline Dates for 2009; 2009 LRC Meeting Dates:

April 1st and October 1st are the grant application deadline dates for 2009. LRC meetings will be held at 12:00 p.m. (Central Time) May 19, 2009 and November 17, 2009, both at the Best Western Doublewood Inn, Bismarck.

Adjournment:

There being no further business, Dwyer requested a motion to adjourn the LRC meeting. Mike Hummel so moved; seconded by Tom Durham. Motion carried. The meeting adjourned at 2:50 p.m.

Vicki Gilmore, Recording Secretary
