

MEETING MINUTES
LIGNITE RESEARCH COUNCIL
May 21, 2003
Doublewood Inn, Bismarck, ND

MEMBERS (or their authorized alternates) PRESENT:

Randy Christmann, North Dakota Senate
John Dwyer, Lignite Research Council
Layton Freborg, North Dakota Senate
Paul Govig, North Dakota Department of Commerce
Mark Hager, International Brotherhood of Electrical Workers
Mike Hummel, BNI Coal, Ltd.
Carlyle Hillstrom, North Dakota Farm Bureau
Dennis James, The North American Coal Corporation
Mike Jones, Energy & Environmental Research Center
Doug Kane, MDU Resources Group
Luther Kvernen, Minnkota Power Cooperative
Vernon Laning, Basin Electric Power Cooperative
Ed Murphy, North Dakota Geological Survey
John O'Laughlin, Dakota Westmoreland Corporation
John Pelerine, Great River Energy
Jan Rudolf, Otter Tail Power Company
Martin Schock, North Dakota Department of Health
Vicky Steiner, Coal Conversion Counties Association
Susan Wefald, North Dakota Public Service Commission

OTHERS PRESENT:

Dave Allard, Lignite Energy Council
Steve Benson, Energy & Environmental Research Center
Alan E. Bland, Western Research Institute
Mike Briggs, The Falkirk Mining Company
Clyde Bush, Basin Electric Power Cooperative
Jeff Burgess, Lignite Vision 21 Program
Lauren Donovan, The Bismarck Tribune
Karlene Fine, North Dakota Industrial Commission
Vicki Gilmore, Lignite Energy Council
Mike Holmes, Energy & Environmental Research Center
Harvey Ness, Lignite Research Council
Mark Ness, Great River Energy
Tony Rude, Lignite Vision 21 Program
Duane Steen, Montana-Dakota Utilities Co.
Jerry Vaninetti, Great Northern Power Development
Rich Voss, Great Northern Power Development
Richard Weinstein, The Falkirk Mining Company
Jill Zola, Energy & Environmental Research Center

Lignite Research Council (LRC) chairman John Dwyer called the LRC meeting to order on May 21, 2003 at the Doublewood Inn, Bismarck, North Dakota.

Approval of November 26, 2002 LRC Meeting Minutes

Dwyer asked for a motion to approve the minutes of the November 26, 2002 LRC meeting. Vern Laning so moved; seconded by Doug Kane. Motion carried.

Legislative Report

Dwyer spoke briefly about four bills from the 2003 North Dakota Legislative Session: HB 1015 (re: full funding of the Lignite R&D Program - \$16.3 million); HB 1180 (re: excludes the Lignite R&D Program from competitive bidding for contractors' services); HB 1339 (re: the resolution of electricity transmission export constraints is an Industrial Commission priority); and SB 2311 (re: creation of Oil & Gas Research Council patterned after the LRC). He said that the Lignite Energy Council (LEC) achieved its three primary goals for this Legislative Session: Full funding of lignite R&D, prevention of any adverse costs to the lignite industry by defeating or successfully amending any adverse bills, and enacting lignite incentives and favorable proposals that the LEC introduced or supported.

Financial Summary as of March 31, 2003

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 March 31, 2003, available funding balances from the Lignite Research Fund (LRF) for the 2001-2003 biennium were as follows: \$215,856 for administration of the Program; \$0 for non-matching funds for lignite marketing feasibility studies (LMFS); \$154,568 in uncommitted funds for small research projects; a continuing balance of \$155,000 for the joint program with the U. S. Department of Energy, Electric Power Research Institute and other entities; and \$6,798,152 for demonstration projects.

Lignite Research, Development and Marketing Program Updates

Ness said that there are currently 16 active projects, totaling \$23.6 million in NDIC funds. These projects include: one lignite marketing feasibility study (concerning Partners for Affordable Energy); 12 small research projects (including five mercury-related projects); and three active demonstration projects that were committed to for the 2001-2003 biennium. Two of the three demonstration projects are Lignite Vision 21 (LV21) Program-related. The non-LV21 project's funds were committed prior to the 2001-2003 biennium. This is project FY98-XXVIII-80 ("Construction of a Forced Oxidation Plant for Gypsum Production"), for the purpose of constructing a gypsum plant at Great River Energy's Coal Creek Station for the manufacturing of wallboard. The two LV21-related projects are Montana-Dakota Utilities Company/Westmoreland Coal Company's Lignite Vision 21 project for Gascoyne, ND, and Great Northern Power Development's Lignite Vision 21 feasibility project for Stark County in North Dakota.

Lignite Vision 21 Program Update

Updates about the LV21 Program's environmental strategies and transmission issues were presented by Jeff Burgess, LV21 Program manager of environmental services, and Tony Rude, LV21 Program Manager of Transmission Services. There are currently two applicants under contract with the NDIC for LV21 demonstration projects: Montana-Dakota Utilities Co./Westmoreland (contract approved May 2, 2001), and Great Northern Power Development (contract approved September 7, 2001). Great River Energy withdrew from the LV21 Program on December 31, 2002 and reimbursed NDIC \$500,000, as per its contract with NDIC.

LRC Recommendation to NDIC re: Transfer Funds from Demonstration Projects Area to Small Research Projects Area

Ness said that the funding need from today's five proposals totals \$755,029. There is currently \$154,568 available in uncommitted funds for small research projects.

It was moved by Doug Kane and seconded by Martin Schock that the LRC recommend to the NDIC that \$600,461 be transferred from the \$6,798,152 in the demonstration projects funds area of the budget to the small research projects funding area of the budget. Motion carried.

Grant Round XLIX (49) Grant Application LRC-XLIX-A: “Mercury Control Technologies for Electric Utilities Burning Lignite Coal – Phase II”; Submitted by: Energy & Environmental Research Center; Project Manager: John Pavlish; Request for: \$200,000; Total Project Costs: \$1,100,000; Time Frame: 2 Years.

Ness said that the goal of the proposed project is to demonstrate a low-cost mercury control suitable for lignite-fired power plants. Ness said that the three technical peer reviewers gave the proposal an average weighted score of 216.7 out of 250 points. (The weighted scores were 223 out of 250 points from reviewer 03-01, 224 out of 250 points from reviewer 03-02, and 203 out of 250 points from reviewer 03-03.) All three technical peer reviewers recommended that the project be funded.

As technical advisor, Ness said that his recommendation is to fund the proposal at a level not to exceed \$200,000.

Ness said that Basin Electric Power Cooperative, Minnkota Power Cooperative, Great River Energy, Otter Tail Power and Montana Power Company are conflict-of-interest parties for this proposal.

Mike Holmes of Energy & Environmental Research Center gave a slide presentation in support of the proposal.

Grant Round XLIX (49) Grant Application LRC-XLIX-B: “Impact of SCR Catalyst on Mercury Oxidation in Lignite-Fired Combustion Systems”; Submitted by: Energy & Environmental Research Center; Project Manager: Jason Laumb; Request for: \$30,000; Total Project Costs: \$100,000; Project Duration: 10 Months.

Ness said that the proposed project would conduct flue gas sampling measurements to determine the mercury oxidation across a selective catalytic reduction (SCR) catalyst ordinarily used for NO_x reduction. He said that the testing will be conducted at the lignite-fired Coyote Station, utilizing an existing project (FY00-XXXVI-100 – “Evaluation of Potential SCR Catalyst Blinding During Coal Conversion”) by adding mercury sampling and analysis to the test program.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 180 out of 250 points. (The weighted scores were 217 out of 250 points from reviewer 03-04, 178 out of 250 points from reviewer 03-05, and 145 out of 250 points from reviewer 03-06.) The first technical peer reviewer recommended that the project be funded; the other two recommended that funding be considered.

As technical advisor, Ness said that his recommendation is to fund the proposal at a level not to exceed \$30,000.

Ness said that Basin Electric Power Cooperative, Minnkota Power Cooperative, Great River Energy, Otter Tail Power, and Montana Power Company are conflict-of-interest parties for this proposal.

Dr. Steve Benson of Energy & Environmental Research Center gave a slide presentation in support of the proposal.

Grant Round XLIX (49) Grant Application LRC-XLIX-C: “Pilot- and Full-Scale Demonstration of Advanced Mercury Control Technologies for Lignite-Fired Power Plants”; Submitted by: Energy & Environmental Research Center; Project Manager: Dr. Steve Benson; Request for: \$150,000; Total Project Costs: \$1,300,000; Project Duration: 2 Years.

Ness said that the proposed project's objectives are to further develop and evaluate previously identified advanced and innovative processes for controlling lignite-derived elemental mercury emissions from North Dakota power plants. Performance objectives are 50% to 90% mercury reduction at costs of one-half to three-fourths of current estimates.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 179 out of 250 points. (The weighted scores were 167 out of 250 points from reviewer 03-07, 186 out of 250 points from reviewer 03-08, and 184 out of 250 points from reviewer 03-09.) The first technical peer reviewer recommended that the project not be funded; the second and third reviewers recommended that the project be funded.

As technical advisor, Ness said that his recommendation is to fund the proposal at a level not to exceed \$150,000.

Ness said that the following are conflict-of-interest parties for this proposal: Basin Electric Power Cooperative, Great River Energy, Minnkota Power Cooperative, Otter Tail Power Company, Montana-Dakota Utilities Co., BNI Coal, Ltd., Westmoreland Coal Company, and The North American Coal Corporation.

Dr. Steve Benson of the Energy & Environmental Research Center gave a slide presentation in support of the proposal.

Grant Round XLIX (49) Grant Application LRC-XLIX-D: "Lignite Fuel Enhancement: Incremental Moisture Reduction Program – Phase II"; Submitted by: Great River Energy, The Falkirk Mining Company, and The Coteau Properties Company; Project Manager: Mark Ness; Request for: \$235,626; Total Project Costs: \$471,251; Project Duration: 7 Months.

Ness said that Great River Energy is conducting a Lignite Fuel Enhancement Incremental Moisture Reduction Program. He said that the program would develop a process that increases the quality value of North Dakota lignite by economically reducing the amount of moisture, sulfur, mercury and ash content. The process would use waste heat from the power production process.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 170.3 out of 250 points. (The weighted scores were 126 out of 250 points from reviewer 03-10, 178 out of 250 points from reviewer 03-11, and 207 out of 250 points from reviewer 03-12.) The first and third technical peer reviewers recommended that the project be funded; the second recommended that funding be considered.

As technical advisor, Ness said that his recommendation is to fund the proposal at a level not to exceed \$235,626.

Ness said that the conflict-of-interest parties for this proposal are Great River Energy, The Falkirk Mining Company and The Coteau Properties Company.

Mark Ness of Great River Energy gave a slide presentation in support of the proposal.

Grant Round XLIX (49) Grant Application LRC-XLIX-E: "Thermal Pre-Combustion Mercury Removal Process for Low Rank Coal-Fired Power Plants"; Submitted by: Montana-Dakota Utilities; Project Manager: Duane Steen; Request for: \$139,403; Total Project Costs: \$956,962; Project Duration: 18 Months.

Ness said that the goal of the proposed project is to evaluate the potential of scaling up the pre-combustion, thermal removal technology to the removal of mercury from low-rank coals, both the subbituminous and lignite.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 181.7 out of 250 points.

(The weighted scores were 159 out of 250 points from reviewer 03-13, 216 out of 250 points from reviewer 03-14, and 170 out of 250 points from reviewer 03-15.) The first technical peer reviewer recommended that funding be considered; the second and third recommended that the project be funded.

As technical advisor, Ness said that his recommendation is to fund the proposal. He said that NDIC would be providing 1/3 of non-U. S. Department of Energy (DOE) funds. DOE would be providing 50% of the overall funding. NDIC/LRC would receive average value if at least 1/3 of the work were done on North Dakota lignite.

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

Al Bland of Western Research Institute gave a slide presentation in support of the proposal.

Grant Round XLIX (49) Grant Application LRC-XLIX-F: “Lignite Vision 21 Feasibility Project Phase II – Permitting, Business Development & Engineering”; Submitted by: Great Northern Power Development, L. P.; Project Manager: Rich Voss; Request for: \$687,500; Total Project Costs: \$1,375,000; Project Duration: 18 Months.

Ness said that this grant application is the second phase in a planned series by Great Northern Power Development (GNPD) to develop a new 500 MW lignite-fired power plant in North Dakota. This grant application applies for matching funding to further the necessary business development, transmission, permitting and design work to move the project into the partnering, financing and pre-construction phases to allow the power plant to come on-line within five years.

Ness said that the three technical peer reviewers gave the proposal an average weighted score of 193.7 out of 250 points. (The weighted scores were 222 out of 250 points from reviewer 03-16, 187 out of 250 points from reviewer 03-17, and 172 out of 250 points from reviewer 03-18.) The first and third technical peer reviewers recommended that the project be funded; the second recommended that funding be considered.

As technical advisor, Ness said that his recommendation is to fund the proposal. He said that GNPD appears committed to develop a 500 MW power plant in North Dakota. Subject to the overall comments and recommendation of Technical Peer Reviewer 03-17, and subject to the following contingencies, Ness said that he recommends that the proposal be funded at a level not to exceed \$687,500. The contingencies are:

1. Approval of the detailed scope of work, budget and milestone chart by the Industrial Commission Technical Representative;
2. Approval of progress reports:
 - a. Progress reports should be submitted on the basis of activities and tasks; and
 - b. Reports should be submitted no less than quarterly;
3. Funds must only be used for the development and use of North Dakota lignite:
 - a. Activities and studies should promote economic, efficient and clean use of North Dakota lignite that can create jobs and economic growth in North Dakota; and
 - b. Activities and studies must evaluate North Dakota lignite-fueled generation options;
4. Studies and activities to maximize efficient use of available state and industry funds and avoid duplication:
 - a. To the extent practical and consistent with timely completion and to the mutual benefit of the parties while protecting each party’s confidentiality, environmental, generation and transmission studies should be done in cooperation with other entities; and
 - b. The state should not fund duplicative studies by approved multiple LV21 applicants.

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

Jerry Vaninetti of Great Northern Power Development L. P. gave a slide presentation in support of the proposal.

Ballot Results

Dwyer announced that the LRC voted as follows to recommend that the NDIC approve funding of the Grant Round XLIX requests:

LRC-XLIX-A (“Mercury Control Technologies for Electric Utilities Burning Lignite Coal – Phase II“): **Fund:** 19 votes. **Do Not Fund:** 0 votes.

LRC-XLIX-B (“Impact of SCR Catalyst on Mercury Oxidation in Lignite-Fired Combustion Systems“): **Fund:** 19 votes. **Do Not Fund:** 0 votes.

LRC-XLIX-C (“Pilot- and Full-Scale Demonstration of Advanced Mercury Control Technologies for Lignite-Fired Power Plants“): **Fund:** 19 votes. **Do Not Fund:** 0 votes.

LRC-XLIX-D (“Lignite Fuel Enhancement: Incremental Moisture Reduction Program – Phase II“): **Fund:** 19 votes. **Do Not Fund:** 0 votes.

LRC-XLIX-E (“Thermal Pre-Combustion Mercury Removal Process for Low Rank Coal-Fired Power Plants“): **Fund:** 17 votes. **Do Not Fund:** 2 votes.

LRC-XLIX-F (“Lignite Vision 21 Feasibility Project Phase II – Permitting, Business Development & Engineering“). **Fund:** 17 votes. **Do Not Fund:** 2 votes.

The LRC’s recommendations for these six Grant Round XLIX requests will be considered by the NDIC at its meeting on June 18, 2003.

Grant Application Deadline; LRC’s Next Meeting

Dwyer said that October 1st is the remaining grant application deadline date for 2003. The LRC’s next meeting will be held on November 25, 2003, at the Doublewood Inn, Bismarck, ND.

Other Business

Dwyer invited LRC members to attend the Lignite Energy Council-sponsored Legislative/State Agency Tour of Coal Country, which is scheduled for June 25, 2003.

Recommendation re: Non-Matching Funds for Lignite Marketing Feasibility Studies

Kane made a motion that the LRC give the LRC Executive Committee the authority to recommend to the NDIC how the \$1.3 million in non-matching funds for lignite marketing feasibility studies be allocated during the biennium. Seconded by Senator Randy Christmann. Motion carried.

Adjournment

There being no further business, Dwyer asked for a motion to adjourn the LRC meeting. Mike Jones so moved; seconded by Vicky Steiner. Motion carried.

Vicki Gilmore, Recording Secretary.