

Minutes of the
RENEWABLE ENERGY COUNCIL
Friday, August 6, 2010 – 10:00 am (CST)
Dept. of Commerce, Century Center – Icelandic Room
1600 East Century Avenue, Bismarck

CALL TO ORDER

Shane Goettle, Chairman, called the Renewable Energy Council meeting to order at 10:03 am.

Members Present: Shane Goettle, Mark Nisbet, Al Christianson, Randy Schneider, and Terry Goerger.

Members Absent: Eric Mack and Rod Holth.

Others Present:

Andrea Pfennig, Department of Commerce
Karlene Fine, Industrial Commission
Joleen Leier, Department of Commerce
Carolyn Nyberg, EERC
Connie Ova, JMS/Stusman Dev. Corp.
Sandra Broekema, GRE/DSA
Don Hochhalter, Wanzek Construction
Dr. Yong Hou, Clean Republic LLC
Dr. Jing Shi, North Dakota State University
Justin Yankton, Spirit Lake Nation
Clarise Brown Shield, Spirit Lake Nation
Frank Black Cloud, Spirit Lake Nation
Sam Blahnik, Baker Tilly Virchow Krause

WELCOME

Chairman Shane Goettle welcomed everyone to the Renewable Energy Council meeting.

APPROVAL OF MINUTES

April 7, 2010 meeting minutes were reviewed.

Schneider addressed one change to be made to the minutes. The following two sentences on page 3 should be deleted: “Schneider asked if they are undertaking the burn test to allow you to move up the rins food (energy) chain? Helgaas replied, yes that is correct.”

Al Christianson moved to approve the minutes with the noted change. Mark Nisbet seconded the motion. Motion passed.

PRESENTATION OF FINANCIAL SUMMARIES

There is currently \$1,919,794.18 available for this grant round and subsequent grant rounds as of June 30, 2010.

Fine clarified Cash Balance of \$4,618,869.18 as of February 28, 2010 should actually be as of “August 6, 2010”.

**CONSIDERATION OF GRANT
ROUND 9 APPLICATIONS**

R009-A: “Dakota Spirit AgEnergy Cellulosic Biorefinery”; Submitted by Great River Energy; Principal Investigator: Sandra Broekema; Project Duration: 12 months; Total Project Costs: \$1,250,000; Request for: \$500,000

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund (198 and 238) and Do Not Fund (131). Average Weighted Score was 189 out of 250. Commerce’s recommendation is to strongly consider funding this project. Proposed Contingencies: (1) Receipt of a more detailed management plan and (2) Portion of funding to be disbursed upon receipt of financial feasibility model, value of molasses, and information on feedstock logistics.

Sandra Broekema presented.

Goettle requested Broekema update them on prior projects. Broekema stated this would be addressed in her presentation.

In response to a question from Nisbet, Broekema expanded on their intentions for Blue Flint. They are hopeful that Blue Flint Ethanol will be the operator of the plant once it gets constructed. We’re also hoping to leverage a lot of their hedging strategies, marketing of the ethanol. There is a lot

of leverage to be had with just adding some additional products into their business.

Goettle commented that the operator piece is really a key partner.

In response to a question from Goerger, Broekema stated they are looking at Dakota Spirit Ag Energy as a single business unit at this point. Whoever operates it is going to need to hire staff locally to manage the operations. Because of some of the corporate functions at Blue Flint, that is where a lot of value can be leveraged across this new unit.

In response to a question from Schneider, Broekema explained that they custom bale a variety of crop residues. They actually sell into SE Asia. They operate a fleet of bailers, trucks, and loaders. They understand how the relationships need to be handled.

In response to a question from Schneider, Broekema explained Inbicon is just starting to burn the lignin in their cofire this summer and fall because they are now creating lignin in sufficient quantities at the demonstration plant in order to do that. They will share that information. Broekema hopes to observe some of this.

In response to a question from Nisbet, Broekema stated they anticipate farmers don't want the bales being stored on their land. We're looking at few hub storage areas within a 20-mile radius.

In response to a question from Schneider, Broekema explained there is no difference between winter and spring wheat. They are interested in barley straw because of Cargil and will possibly open up to corn stover as well.

Goettle commented that there might be some value from the operational standpoint by running corn stover through plant after you bail it in the spring and the wheat straw in the fall. Broekema indicated it will actually give us leverage on our equipment and assets from the storage and collection aspect. We will have five parallel lines in the plant so we can run wheat straw and corn stover simultaneously. Once it comes out in the intermediate format, it can all be fed into the back end of the system.

In response to a question from Schneider, Broekema stated that the relationship between Fagen and Inbicon is nonexclusive. Fagen announced that they're very interested in second generation and their approach will be nontechnology specific at this point. Blue Flint uses ICM technology. There may be some additional leverage with some spare parts and all that if we can duplicate that back end. There may be additional interest, but not sure at this point.

Schneider commented that this is a race of three. He expressed his support of this project. Has the federal dollars process been moving well? Broekema said they stated they are not picking technology winners and losers. We're taking collaborative approach with all key stakeholders. We're taking it one step at a time. A grant would help expedite the development phase.

In response to a question from Goettle, Broekema explained that they cofire about 1/3 lignin at Spiritwood, 2/3 retail market. The retail market may include backhauling to Coal Creek or Stanton. We haven't ruled that out, they haven't done the economics for rail or truck.

In response to a question from Nisbet, Broekema stated she reviewed the market of molasses in the beginning.

In response to a question from Schneider, Broekema stated they produce about 188,000 tons of C5 molasses per year on a wet basis, 118,000 tons on a 10 percent moisture.

Goettle reviewed the recommended contingencies. Broekema asked if there was a particular management format you would like to see? Goettle stated he was satisfied with what has been presented today.

Goettle asked Broekema if she had any concerns with the 2nd contingency. She stated that it works for them.

Goettle proposed removing 1st contingency based on information received today.

In response to a question from Schneider, Broekema stated they've talked to the Farmer's Union, Dakota Pride, Farm Bureau Association.

Schneider recommended the Grain Growers Association.

In response to a question from Nisbet, Broekema stated they do get a 1 to 1 reduction in carbon when cofiring.

It was moved by Nisbet to delete the 1st contingency and adopt the 2nd contingency. Motion seconded by Schneider. Motion passed.

**R009-C: “Promoting Standardization of Combustion Characteristics for Biofuels”;
Submitted by: EERC; Principal Investigator: C. Nyberg; Project Duration: 15 months; Total Project Costs: \$110,000; Request for: \$50,000**

Pfennig gave an overview of the project.

Nyberg clarified verbiage is Standard Reference Materials (not methods) (SRM).

The overall reviewers’ recommendations follow: Funding May Be Considered (155), Fund (209), and Do Not Fund (140). Average Weighted Score was 168 out of 250. Commerce’s recommendation is Funding May Be Considered. Suggested contingency is: Match from EPRI must be confirmed prior to contract.

More than half would be native materials.

Carolyn Nyberg presented.

Nyberg asked what the Council’s interpretation of biofuels was. She will clarify today and try to clear up some confusion that is out there.

Schneider asked Nyberg to share what ten biomass sources she was thinking about. Nyberg stated she has a slide that she will cover. What five ND wheat straw, corn stover, switch grass, lignin, and wood samples.

Goettle suggested value of barley to be on that list. Are your funding partners requiring any? EPRI was fine with initial list. Metso deals with wood waste.

Presorted garbage is also used elsewhere.

In response to a question from Goerger, Nyberg explained that Thermal Dynamic Modeling is going to evaluate components and give propensity if slagging could happen. Nyberg stated you would input numbers based on analysis alone. This gives you an indicator.

In response to a question from Goettle, Nyberg stated right now nothing is in the works of NIST finding standardized materials. If you have a large quantity of material, it has initialized characterization; they will run characteristics on it.

Nyberg stated they have found it difficult to find SRMs for her laboratory. Other laboratories are having difficulty as well.

In response to a question from Goerger, Nyberg stated she believes she will be able to start the process on promotion of standardization to get it passed. She believes she does have enough information to get it passed. They need funds to push this forward, can’t rely on volunteers.

In response to a question from Goerger, Nyberg stated she feels this study is enough to push forward.

In response to a question from Schneider, Nyberg stated she is open to other possibilities of coproducts that potentially could be gleaned from another possible revenue stream, such as cofiring DDGs? Schneider stated he felt they should consider DDGs.

There was discussion as to whether or not the Council wants to insist on the products or rely on the applicant to pick the best products. The Council felt they didn’t want to lock in specific products, but they should consider suggestions. Products from North Dakota are important to the Council.

Christianson moved to include the following contingencies: (1) Match from EPRI must be confirmed prior to contract and (2) At least five North Dakota dominate fuel candidate selections. Georger seconded motion. Motion passed.

R009-H: “Redesigning the Residential Wind Turbine (RWT) for Rural Areas with

Abundant Wind Resources”; Submitted by: Clean Republic, LLC; Principal Investigator: Y. Hou; Project Duration: 2 years; Total Project Costs: \$372,653; Request for: \$186,000

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund (184) and Do Not Fund (104 and 67). Average Weighted Score was 118 out of 250. Contingencies: (1) A more detailed budget provided and (2) A more detailed scope of work including plans for subsequent phases be provided. Commerce did not recommend funding.

Dr. Yong Hou and Dr. Jing Shi presented.

Goettle clarified that they are trying to take the North Dakota wind resource and determine the relationship between wind resources at the various tower levels and come up with the best economic height; not necessarily the best wind resource harnessing height.

Goettle clarified they are looking at three years for product development (that is what they are asking the Council for help with). Then, under the business of Clean Republic, you would start moving this product in 2013 with a few units then ramping up in a few years. Hou stated that was correct.

In response to a question from Goettle, Hou stated they did organize Clean Republic as a North Dakota Company.

In response to a question from Goettle, Hou stated they would seek certification in the third year.

In response to a question from Schneider, Hou stated the wind tower doesn’t produce more electricity, but it allows production to start at a lower wind speed.

The Council discussed the proposed contingencies noted above and asked if any of those would be a barrier. Hou stated they would adjust those.

The Council felt the proposed budget of \$500 per meeting sounded high. Hou stated they were anticipating 7-8 people per meeting. He stated the expenses were for travel per diem; they will try to reduce this budget.

The Council questioned the budget for travel to the conference. They asked what value that would bring to the project for them? Hou stated this is an annual conference. They would see new developments. What value would this be for you? Hou stated research and development; they could renovate the design. Also would be able to tell people what is available. The Council asked if they were looking at a booth. Hou stated not the first year, possibly the second year. The first year they would attend with the intention to exchange ideas and meet people.

Terry Goerger moved to include the following contingencies: (1) A more detailed budget provided and (2) A more detailed scope of work including plans for subsequent phases be provided. Al Christianson seconded the motion. Motion passed.

R009-B: “Spirit Lake Nation Wind Farm; Submitted by Spirit Lake Tribal Nation; Principal Investigator”: Baker Tilly Virchow Krause, LLP; Project Duration: 2 years; Total Project Costs: \$240,000; Request for: \$120,000

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund (156) and Funding May be Considered (136 and 179). Average Weighted Score was 157 out of 250. Commerce’s recommendation is that funding may be considered. Suggested contingencies: (1) A more detailed budget be provided and (2) A more detailed management plan be provided.

Sam Blahnik and Frank Black Cloud presented.

Goettle stated that the most intriguing or exciting thing for him with this kind of project and proximity to Lake Region, what I see missing from the table, is there a possibility that what you are doing here, could be used in part with wind turbines, could they send their students out to your farm and train? That is an area we would get more comfortable funding an initiative like that. Training could be a potential fit. Black Cloud stated they would be open to using this for teaching.

In response to a question from Schneider, Blahnik stated that they have had conversations with GE

regarding testing new technology at their site. Dr. Bauer is meeting with different suppliers. GE is interested in the opportunity because of the fluctuation of weather in North Dakota.

There was an error on the initial report regarding job creation. The correct information for a 27.2 megawatt farm would be anticipated creation of 7 full-time jobs during Phase 1 and 177 jobs during construction.

Goettle stated the Council's challenges. What would interest me the most is if you had a proposal geared towards the education side; that it will be deployed for training purposes.

Blahnik stated there was discussion with GE. They don't have a North American test site in the US. They would be interested in partnering with the Tribe as a test facility. Blahnik said they are willing to work with Lake Region for teaching.

Goettle explained the Council's job is to screen proposals, then forward them on to the Industrial Commission. Goettle told them there is more work to do here. If you can get GE to commit to a testing facility on this farm would be great. Manufacturing is another possibility.

In response to a question from Goettle, Black Cloud stated there has been discussion with working with GE and making the material to go on the blade. There is a large building that is available that could be used.

Schneider asked about the relationship between this farm, Little Hoop, and Lake Region. Schneider feels this is a perfect opportunity to take the classroom outside and have a living classroom. Schneider suggested that if the tower hasn't been built at Lake Region yet, maybe those funds could be designated to this project.

Members strongly suggested Spirit Lake rework the proposal and include the educational aspect. The Council would like to see them back again with the new proposal.

Black Cloud asked how soon the Council would you like to see them back. Goettle stated it all depends when you get an agreement with Lake Region or GE.

In response to a question from Nisbet, Black Cloud stated that from where this site is, there has only been one siting of a Whooping Crane outside of the reservation. Spirit Lake has their own Fish & Wildlife agency continually looking into this and is documenting sitings.

Goettle talked about the Lake Region State College relationship. He would like to see a satellite training program on utility scale farm, operations & maintenance training, and bulk purchase discount for college turbines. Goettle stated if the first two points are locked down into agreement with Lake Region and it is creating training opportunity for students, he would then be more comfortable taking this project to the Industrial Commission if it is approved by the Council.

Al Christianson moved to include contingencies noted above. Randy Schneider seconded motion. Motion passed.

CONFLICT OF INTEREST

R009-A: "Dakota Spirit AgEnergy Cellulosic Biorefinery"

- Al Christianson

R009-B: "Spirit Lake Nation Wind Farm"

- None

R009-C: "Promoting Standardization of Combustion Characteristics for Biofuels"

- Al Christianson

R009-H: "Redesigning the Residential Wind Turbine (RWT) for Rural Areas with Abundant Wind Resources"

- None

COMPLETION OF BALLOTS

R009-A: "Dakota Spirit AgEnergy Cellulosic Biorefinery"; Submitted by Great River Energy.

Fund: 5 Do Not Fund: 0

R009-B: "Spirit Lake Nation Wind Farm; Submitted by Spirit Lake Tribal Nation.

Fund: 0 Do Not Fund: 5

R009-C: "Promoting Standardization of Combustion Characteristics for Biofuels"; Submitted by EERC.

Fund: 5 Do Not Fund: 0

**R009-H: “Redesigning the Residential Wind Turbine (RWT) for Rural Areas with Abundant Wind Resources”; Submitted by: Clean Republic, LLC.
Fund: 0 Do Not Fund: 5**

ADMINISTRATIVE BUSINESS

Renewable Energy Development Program Policies
REC – 2.02 Eligible and Ineligible Projects –
verbiage in policy was discussed.

Any project proposing education, research and/or development of new technologies, or marketing of renewable energy resources, materials or products is eligible for a contract under this Program.

Terry Georger moved to adopt verbiage change as noted above. Al Christianson seconded the motion. Roll call vote was taken. Motion passed.

Discussion of Funding Conferences
Discussed pros and cons of funding (hosting) conferences.

Council members expressed concern utilizing funds for this purpose.

Discussed changing verbiage in the Renewable Energy Development Program Policies –

Al Christianson moved to add “f. Sponsoring of conference” under REC – 2.02 Eligible and ineligible project; under “The following activities or uses are ineligible for funding under this Program:” section. Randy Schneider seconded the motion. Roll call vote was taken. Motion passed.

Discussion of Number of Reviewers in Relation to Grant Request

Should the number of reviewers change dependent on the dollar amount of request? The Council discussed possibilities.

Al Christianson moved that if the request is below \$25,000, only two reviewers are needed.

Mark Nisbet seconded the motion. Roll call vote was taken. Motion passed.

Extension for Contract R008-019
Fine explained that they submitted a request to extend the contract two months.

Mark Nisbet moved to accept the extension request. Al Christianson seconded the motion. Motion passed.

Other Business
The next meeting will be 12/16/10.

ADJOURNMENT

It was moved by Al Christianson to adjourn the meeting. The motion was seconded by Mark Nisbet. The meeting was adjourned at 2:28 pm.

Shane Goettle Date
Chairman

Joleen Leier Date
Acting Recorder