

Minutes of the
RENEWABLE ENERGY COUNCIL
Wednesday, April 3, 2013 – 1:00 PM (CST)
ND Dept. of Commerce, Icelandic Room
1600 E. Century Avenue, Suite 2, Bismarck, ND

CALL TO ORDER

Members Present: Al Anderson, Rod Holth, Mark Nisbet, Al Christianson, Randy Schneider, and Terry Goerger (via teleconference).

Members Absent: Eric Mack.

Others Present:

Andrea Pfennig, Department of Commerce
Karlene Fine, Industrial Commission
Joleen Leier, Department of Commerce
Michael Shope, Clean Republic
Alex Johnson, Solargy Lights
Yong Hou, Clean Republic
Chad Ulven, c2renew corp.
Michael Ehresmann, c2renew corp.
David Lehman, NDSU
Kari Warberg Block, NDSU
Corey Kratcha, c2renew corp.

Al Anderson, Chairman, called the Renewable Energy Council meeting to order at 1:00 p.m.

WELCOME AND OPENING COMMENTS

Anderson welcomed everyone and thanked everyone for joining him for the meeting.

APPROVAL OF MINUTES

November 14, 2012 meeting minutes were reviewed.

Randy Schneider moved to approve the minutes as presented. Rod Holth seconded the motion. All in favor. Motion passed.

PRESENTATION OF FINANCIAL SUMMARY

Fine presented the financial summary. Currently the Commission has \$963,693.77 available to be committed as of April 3, 2013. We have one additional round in this funding period.

CONSIDERATION OF ROUND 18 GRANT APPLICATIONS

R018-C: “Development of Innovative Modular Lithium Iron Phosphate Battery Packs for Energy Storage”; Submitted by Clean Republic LLC; Principal Investigator: Yong Hou; Project Duration: 2 Years; Total Project Costs: \$443,000; Request for: \$220,000.

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund (199) and Funding May Be Considered (163 and 149). Average Weighted Score was 170 out of 250.

Commerce’s recommendation is that funding may be considered. There are no suggested contingencies.

Michael Shope presented for Clean Republic.

Yong Hou spoke about temperature management.

Alex Johnson of Solargy Lights spoke about hybrid systems in North Dakota.

Holth asked, “To field test this, do you actually hooked these batteries up to products?” Johnson stated, “Yes.”

Nisbet asked, “How big is the battery to go in your products, and how many cloudy calm days could you cycle through?” Johnson stated, “The current ones we’re working with now are 200 amp or 24 Volt systems (two 12 Volt batteries); about the

same size as an industrial truck battery. Discharge cycles currently are about 2-3 years. If no wind at all the battery bank will last about five days and that takes it down to a 50% discharge. Lithium takes the discharge almost all the way down to zero.”

Holth asked “Have you visited with Dakota Wind Towers in Cooperstown?” Johnson stated, “Yes.”

Schneider asked, “When you Google on the internet, there are thousands of pages that come up with batteries; what is so different with yours? Also, you talk about a sales opportunity of \$1 million that seems like peanuts compared to what you have.” Shope explained, “There are 2 sectors. The baby cells are manufactured. We’re not proposing to manufacture in a different way. We are looking at better ways to put the cells together for different purposes. We can configure these packages for specific needs. That’s where all the opportunity is. The \$1 million is for startup.”

Anderson asked, “Once you get your new system developed, is that marketable?” Hou stated, “Yes.”

Johnson stated, “We want to create a system that is very modular that has that cold weather performance built into it.”

Schneider asked, “If he (Johnson) can’t use the battery because it’s too expensive, what are you going to do to lower the cost?” Shope stated, “If we can boost the lower temperature performance, then we are competing with the price of lead acid.”

Holth asked, “Are the discharge cycles your biggest advantages?” Shope stated, “Yes.”

Hou stated, “You may pay 10-15 percent more for these batteries, but you have 10 times the lifespan than a lead acid battery.”

Anderson asked, “If you receive the grant money totaling \$443,000 and if you are successful you would have designed a battery pack that Dr. Johnson could use to operate his facility, you could then manufacture them?” Hou stated, “Yes.”

Anderson asked, “Since two of you are professors at UND, does that have any impact at all on the IP side? If you get a patent, will all of it stay with your company or will it be shared?” Hou stated,

“I’m just an adjunct professor, so none of my work at the company would be a part of UND.”

Johnson stated, “Most of mine would be at Solargy, but I have received some support from my department. I have had use of research laboratories at the university and there is a little connection at NDSU as well.

R018-A: “Biocomposite Development for Industrial and Consumer Products”; Submitted by c2renew Corporation, Earth-Kind, NDSU; Principal Investigator: Chad Ulven; Project Duration: 2 Years; Total Project Costs: \$300,000; Request for: \$150,000.

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund 206 and Funding May Be Considered (130 and 170). Average weighted score was 169 out of 250. Commerce’s recommendation is to funding may be considered. No suggested contingencies.

Chad Ulven presented.

Nisbet asked Anderson, “Is this getting where you see the legislators want to see us going?” Anderson stated, “With the changes we try to roll into Research North Dakota and directionally it is all about trying to commercialize, trying to help spin off businesses, trying to link the university system with businesses.”

Anderson asked, “Long-term, where do you see c2renew?” Ulven stated, “We would like to see us operating here in North Dakota and providing high-tech jobs for students that come out of the universities.”

Schneider asked, “Am I wrong in saying you’ve taken technology you’ve developed and are applying it to different products?” Ulven stated, “Yes, different products and different agencies. We need to be lower cost and perform just as well; and in some ways bring some multifunctionality. It is also green, which is a benefit.”

Schneider asked, “How many units of the Bobcat belt covers that you produced will be purchased in a year?” Ulven stated, “They will purchase 35,000 lbs. per year, which is approximately 45,000-50,000 units.

Ulven commented on the continued relationship with NDSU. He said they will continue to work with NDSU to build the spec sheets to do the testing. We will contract with one of my colleagues and his students will run a lot of the materials testing so we can fill out our data sheets for these different companies.

Anderson asked Lehman, "As far as injection molders, besides melet, is there anybody else in the state right now?" Lehman stated, "You have them and Terhorst in Minot are the two bigger ones. Then you have some companies that independently do plastics. You have Streamliner in Williston and Roto Molding by John Deere in Valley City. There are companies that work with plastics. If you can start up a company like this in Fargo and can offer product at a lower cost, a lot of manufacturers could start sourcing their plastic from here. If that happens, you could have a cluster develop in Fargo."

Schneider asked if they made contact with the automotive industry. Chad stated, "Yes, I'm just wrapping up project with Hyundai. This is a research project not a company project. The volume of material that they would need immediately would put us in a downward spiral. That is why the company is focusing on the agriculture industry. That is a strategic growth for us; it is more manageable for us."

OTHER BUSINESS

Legislative Update –

Fine reported that funding for the REC program successfully passed through the Senate. We are waiting to see if the House will approve the funding, among those appearing in support were the EmPower Commission members and Water Coalition.

Other Business –

Pfennig stated that in the REC Policies it doesn't state that a company applying for money has to be a North Dakota company. How does the Committee feel about that? We have gotten an application from South Dakota. It was stated by council members that the companies applying for REC funding should be a North Dakota company or

should be partnered with a substantial company in North Dakota.

The Council suggested that Pfennig put together the wording and they will review the policies at the next meeting. A few suggestions to include are that there needs to be a financial threshold and substantial amount of the research needs to be done in the state of North Dakota, not out of state.

CONFLICT OF INTEREST

R018-C: "Development of Innovative Modular Lithium Iron Phosphate Battery Packs for Energy Storage"

- None

R018-A: "Biocomposite Development for Industrial and Consumer Products"

- Terry Goerger

COMPLETION OF BALLOTS

R018-C: "Development of Innovative Modular Lithium Iron Phosphate Battery Packs for Energy Storage"; Submitted by Clean Republic LLC.

Fund: 3 Do Not Fund: 3

R018-A: "Biocomposite Development for Industrial and Consumer Products"; Submitted by c2renew Corporation, Earth-Kind, NDSU.

Fund: 6 Do Not Fund: 0

ADJOURNMENT

Randy Schneider moved to adjourn the meeting. Mark Nisbet seconded the motion. Motion passed. The meeting was adjourned at 3:34 p.m.

Alan R. Anderson Date
Chairman

Joleen Leier Date
Acting Recorder