

Minutes of the
RENEWABLE ENERGY COUNCIL
Friday, September 12, 2014 – 1:00 p.m. (CDT)
Icelandic Room
North Dakota Department of Commerce, Bismarck, ND

CALL TO ORDER

Members Present: Al Anderson, Terry Goerger (phone), Randy Schneider, Mark Nisbet, Kyle Bahls, Al Christianson

Members Absent: Rod Holth

Others Present:

Andrea Pfennig, Department of Commerce
Karlene Fine, Industrial Commission
Denise Faber, Department of Commerce
Robert Walters, Naval Research Lab (phone)
Terri Zimmerman, Packet Digital
Deana Wiese, North Dakota Ethanol Council

Al Anderson, Chairman, called the Renewable Energy Council meeting to order.

WELCOME AND OPENING COMMENTS

Anderson welcomed everyone and introduced the newest Council member, Kyle Bahls.

APPROVAL OF MINUTES

July 10, 2014, meeting minutes were reviewed.

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

PRESENTATION OF FINANCIAL SUMMARY

Fine presented the financial summary, which was also posted on the website. Cash balance is \$2,757,612.42 as of July 1, 2013. Uncommitted dollars available for projects as of July 31, 2014 is \$3,420,006.42.

CONSIDERATION OF ROUND 22 GRANT APPLICATION

R022-A: “Solar Power Manager (Phase I)”;
Submitted by Packet Digital; Principal Investigator: Andrew Paulsen; Project Duration: 9 months; Total Project Costs: \$1,010,000; Request for: \$500,000. (A copy of the presentation is available in the files.)

Pfennig gave an overview of the project. The overall reviewers’ recommendations follow: Fund (175) and Funding May Be Considered (130). Average Weighted Score was 152.50 out of 250. Commerce’s recommendation is to fund the project.

Terri Zimmerman (CEO, Packet Digital) presented the project.

Rob Walters (Naval Research Lab) also presented on the project and gave an overview of the Naval Research Lab. The Naval Research Lab is physically located in the DC area.

The overall project consists of three phases. The first phase, which is currently being considered for funding, will be 9 months. Tasks include the architecture and prototype of the power management circuitry, fabrication of flexible solar cells, and development of an Application Specific Integrated Circuit (ASIC) will begin. Phase II of the project is 9 months, and will cover the design and fabrication of a custom ASIC, which will miniaturize the discrete solution developed in Phase I, as well as the second iteration of the solar cells and soaring algorithms. Phase III will be six months, and will complete the project to produce the complete unmanned aircraft system solution.

Schneider asked if what they are developing would allow energy to be made at a faster rate than is being consumed. Walters replied yes.

Nisbet asked which of the four elements is the hardest to be achieved. Walters replied the solar cells are the most difficult.

Zimmerman's added that they are taking on a challenge with the 40% efficiency goal.

Schneider asked if the 40% efficiency can be achieved, will you able to fly uninterrupted? Walters replied that is the goal.

Schneider asked what is the footprint of the aircraft? Walters replied 12 feet x 12 feet. Zimmerman commented the aircraft may be a little bit larger, and they would like to target it for agricultural applications.

Schneider asked who is ultimately responsible for the solar cell development in this project. Zimmerman replied the Naval Research Lab is doing the solar cell development, and Packet Digital is doing the integration and power manager.

Nisbet asked how much of a boost this will have to the industry if this is successful.

Zimmerman believes this is a step into the solar energy field, and could have a dramatic impact. Walter also replied this is a great application for the UAV.

Schneider asked if this technology would be commercially viable. Zimmerman replied yes, they believe it will. The challenge will be with the solar film, and this is something that is in process and underway.

Nisbet asked how involved NDSU and UND will be. Zimmerman replied NDSU will be more involved in the test and analysis, and UND will probably be more involved in the pay load phase.

Anderson commented on ComDel and the project. It is good to work with Packet Digital and ComDel, and ComDel is very leading edge with the unmanned vehicle area. It seems to be a very good match. It touches two key areas in North Dakota in regards to agriculture and energy.

Anderson stated he does have a concern with the length of time to market. Zimmerman replied at least two years in development.

Schneider asked about the size of the marketplace. Zimmerman replied that she can't give a firm number on this.

Anderson stated the number he has seen as far as economic impact is approximately \$91 billion. If North Dakota sees a fraction of this, it would be great for North Dakota.

FINAL REPORT AND DISCUSSION

Comprehensive Statewide Higher-Level Blend Ethanol Marketing presented by Deana Wiese, ND Ethanol Council (A copy of the presentation is available in the files.)

Pfennig asked if the contract restrictions have to do with the blends that can be sold, or the number of hoses.

Schneider replied there were liability issues with the equipment. CHS is now allowing higher blends to be sold at retail outlets. They were precluded from selling certain blended fuels because of who their franchise was with.

Anderson explained issue further. The relationship typically in this area is that retailers are individual stores, and they enter into contracts with the suppliers, who provide the fuel. For the long-term supply they get the canopy and fuel supply. It is all tied back to the contract. The challenge for the suppliers is the blending of fuels.

