

Minutes of the
RENEWABLE ENERGY COUNCIL
Tuesday, February 9, 2021
10:00 a.m. (CST)
TEAMS Meeting via conference/video call

Members Present

Shawn Kessel
Gerald Bachmeier
Al Christianson
Terry Goerger
Rodney Holth
Tony Grindberg

Staff Present

Andrea Pfennig, NDIC
Karlene Fine, NDIC
Jonathan Russo, NDDOC
Sherri Frieze, NDDOC

Guests Present

Richard Garmin	Pete Haga
Correy Shevlin	Nicholas Flom
Connie Ova	Joshua Riedy
Casey Houweling	Gray Byers
Adam Dunlap	Mark Askelson
Dana Sande	Dinesh Narayanan
Luiz Stockler	Gasuso Guado
Chuck Pineo	Mark Nisbet
Jason Ehlert	Jim Higgins

WELCOME AND OPENING COMMENTS

Shawn Kessel called the Renewable Energy Council meeting to order at 10:00 a.m. Retired member Mark Nisbet was recognized and thanked for his many years of service to the Council, having served since the program's inception in 2007. He has been replaced by Tony Grindberg, who was welcomed to the Council.

APPROVAL OF MINUTES

It was moved by Christianson and seconded by Holth to approve the October 15, 2020 meeting minutes. The motion carried unanimously.

PRESENTATION OF FINANCIAL STATEMENT

Fine presented the financial report that had been posted on the Industrial Commission/Renewable Energy Program website. As of December 31, 2020, the uncommitted funds for the current biennium is \$3,664,814.82.

It was moved by Al Christianson and seconded by Rod Holth to approve the Financial Statement as presented. The motion carried unanimously.

REPORT ON GRANT ROUND 44 APPLICATIONS

Three applications were received, with one application withdrawn by the applicant. Two were sent to Technical Reviewers for peer review for today's consideration.

CONSIDERATION OF SPECIAL GRANT ROUND 45 REQUESTS

R-045 – A “Spiritwood Greenhouse CO2 Supply; Submitted by Glass Investment Projects, Inc.

Principal Investigator: Richard Garman

Project Duration: 18 months

Requesting: \$500,000.00

Total Project Cost: \$1,884,713.00

Russo gave an overview of the project and stated the applicant is contributing a 73% cash match of \$1,384,713.

Project's Objective

To complete the design and installation of a CO2 collection and distribution system between Dakota Spirit and Glass Investment, which includes developing final engineering designs, procurement and design of the CO2 collection and distribution system.

Reviewers' Ratings

- Fund – 186
- Funding May Be Considered – 147

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- Average Weighted Score – 166.5 out of 250

Achievability

Both reviewers stated objectives are unclear with respect to consistency to REC goals. One reviewer felt there needed to be some clarification as to who will supply the CO₂ and how it will be secured. The applicant addressed supply and storage comments and detailed how both will occur.

Methodology

The reviewers gave the methodology an average and above average rating. One reviewer felt the RMI model was robust but should be accompanied by sensitivity analysis and environmental impact analysis. The applicant spoke to some of the specific results that would be found in an analysis and described expected benefits.

Scientific/Technical Contribution

All reviewers believe the project to be very or extremely significant.

Knowledge/Awareness

Both reviewers gave the PI's awareness of current research in the area scores of limited or very limited. They pointed to the lack of citations and supporting documents to back up claims. However, one reviewer felt this was acceptable based on the expertise of the project manager. The applicant references the similarities in geography and climate in Canada that they discussed in their application.

Project Management

All reviewers said the project management plan is adequate and very good. One reviewer felt the timeline might be too aggressive and the other noted a lack of COVID related contingencies. The applicant states that their timeline is optimistic, but they do have contingency plans in place in case of delays.

Value of Budget

All reviewers recognize the value of the budget to be a high value.

Overall Comments from Reviewers

- One reviewer felt that this project is special in that it will foster a rare, yet highly needed industry synergy: low-cost utilization of fermentation-derived CO₂.
- One reviewer said that the project should be funded but felt there was a lack of detail in describing benefits of the project and the CO₂ gathering systems.

Technical Advisor Recommendations

- While there were some areas of concern identified by the reviewers, the applicant's response more than adequately addressed those concerns.
- The main potential benefit of this project is that it provides an efficient way to collect and distribute CO₂ for use in a commercial greenhouse. Thereby, effectively finding a use for CO₂, a concern in the energy industry, and aiding the state's agriculture sector.
- If successful, this project could provide significant benefits to ND through tax revenue and job creation, diversification by growing crops not traditionally commercially grown, and extending the growing season.

Suggested Contingencies if Funded

- None

R-045 – B “Autonomous Operations within the North Dakota Renewable Energy Sector; Submitted by Evolve Analytics LLC

Principal Investigator: Joshua Riedy

Project Duration: 24 months

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Requesting: \$500,000.00
Total Project Cost: \$2,271,645.00

Russo gave an overview of the project and stated the applicant is contributing a 78% cash match of \$1,771,645.

Project's Objective

Building upon the foundational work, Phase II seeks to create a full suite of artificial intelligence (AI) powered software applications for autonomous drones operated by onsite wind technicians offering significant time, convenience, scalability, and accuracy advantages over existing processes.

Reviewers' Ratings

- Fund – 184
- Fund – 201
- Fund – 250
- Average Weighted Score – 211.7 out of 250

Achievability

All reviewers stated objectives are very or exceptionally clear with respect to consistency to REC goals.

Methodology

The reviewers scores ranged on the methodology from below average to well above average rating. Two reviewers had concerns with a lack of detail on the methodology, one saying it was largely absent.

Scientific/Technical Contribution

Two reviewers felt the scientific/technical contribution was extremely significant and the other rated it significant. The reviewer who rated it as significant felt the contribution to the wind energy sector could be very large.

Knowledge/Awareness

Reviewers gave awareness of current research a range of scores from limited to exceptional.

Project Management

All reviewers said the project management plan is very good.

Value of Budget

All reviewers recognize the value of the budget to be a high value.

Overall Comments from Reviewers

- One reviewer felt that even if this project doesn't succeed in building a fully autonomous system, this could still be valuable in providing a path to full autonomy in the future.
- One reviewer was impressed as how Phase I was completed with a modest budget and would highly recommend funding the project.
- One reviewer said that they would lean towards funding, but would like to see a clearer methodology, a CBA to justify AirSim, and an analysis of competitive efforts in the marketplace.

Technical Advisor Recommendations

- The only significant area of concern is the lack of detail with the methodology. After reading the proposal and the technical reviews, as well as considering the successful completion of the first phase, the issue is not something that will hinder the success of this project.
- The main benefit to the project is that it allows for the daily onsite use of drones for a wide variety of demand applications, specifically in the wind energy sector. Including aspects such as: blade damage, avian mortality assessment, and various other turbine assessments.
- If successful, the project could provide successful benefits to ND by providing a way for faster, more efficient

