

Minutes of the  
**RENEWABLE ENERGY COUNCIL**  
Tuesday, April 20, 2021  
9:00 a.m. (CST)  
TEAMS Meeting via conference/video call

**Members Present**

James Leiman  
Gerald Bachmeier  
Al Christianson  
Terry Goerger  
Tony Grindberg  
Rodney Holth  
Justin Chapman

**Staff Present**

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

**Guests Present**

Josh Crowell  
Ann Crowell  
Tom Brokaw  
Will Gosnold  
Nicholas Drystad - Cincotta  
Shabaz Khan  
Junior Nasah  
Hossein Salehfar  
Jake Klein  
James Rickson

**WELCOME AND OPENING COMMENTS**

Chairman James Leiman, called the Renewable Energy Council meeting to order at 9:00 a.m., welcoming members, along with the newest member to join the council, Justin Chapman.

**APPROVAL OF MINUTES**

**It was moved by Grindberg and seconded by Christianson to approve the February 9, 2021 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 February 28, 2021, the uncommitted funds for the current biennium are \$2,666,038.22

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

**REPORT ON GRANT ROUND 46 APPLICATIONS**

Four applications were received, with two applications pulled by the applicants, one due to not receiving DOE funding, and the other due to organizational changes. Four were sent to Technical Reviewers for peer review, but two will be reviewed for today's consideration.

**CONSIDERATION OF SPECIAL GRANT ROUND 46 REQUESTS**

Three applications were received, with two applications withdrawn by the applicants; one due to not receiving DOE funding, and the other was due to organizational changes.

**R-046 – B “Electrostatic Lubrication Filtration of Wind Turbine Oil Reservoirs”**

Principal Investigator: Nicholas Drystad-Cincotta

Project Duration: 16 months

Requesting: \$288,234

Total Project Cost: \$584,814

Russo gave an overview of the project and stated the applicant is contributing a 51% cash match of \$298,380.

**Project's Objective**

To extend development of ELF's product that maintains lubricant cleanliness within ISO 9000 standards to extend the usable life, prolong gearbox lifespan, and avoid turbine shutdowns in the wind industry. This project will allow for the conducting of field demonstrations, the creation and testing of 2 units for performance optimization and meet industry needs.

**Reviewers' Ratings**

- Fund – 174
- Fund – 180
- Funding May Be Considered – 135
- Average Weighted Score – 162.31 out of 250

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**Achievability**

All reviewers stated objectives are very or exceptionally clear with respect to being in line with the council's goals. However, two reviewers noted a lack of clarity regarding sensing technology.

**Methodology**

The reviewers scores were average to above average rating. However, they noted a lack of detail on the technology and commercialization.

**Scientific/Technical Contribution**

Two reviewers felt the scientific/technical contribution was small. One reviewer raised concern about the technology's efficiency.

**Knowledge/Awareness**

One reviewer gave awareness of current research in the area of better than average while the other two scored it as limited.

**Project Management**

All reviewers felt the project management plan was adequate or better.

**Value of Budget**

All reviewers felt the budget was of average or very high value.

**Overall Comments from Reviewers**

- One reviewer felt that the project addresses a good topic and that making a stronger case for its commercial value would strengthen the proposal.
- One reviewer was skeptical due to the 100% efficiency reported without a careful description of the experiments done to achieve that number.

**Technical Advisor Recommendations**

- Fund
- Two areas of concern that were noted, were details about the technology as well as the budget costs.
- The main benefit to the project is reduced maintenance and maintenance cost for the wind industry.
- If successful, the project could provide significant benefits by:
  - Reducing maintenance cost of wind turbines
  - Reduced downtime of wind turbines
  - The potential to use this technology in other energy industries

**Suggested Contingencies if Funded**

- None

**R-046 – D “Geothermal Development Consortium”**

Submitted by: UND College of Engineering and Mines

Principal Investigator: Will Gosnold

Project Duration: 24 months

Requesting: \$432,895

Total Project Cost: \$865,791

Russo gave an overview of the project and stated the applicant is contributing a 50% cash match of \$432,896.

**Project's Objective**

To establish a geothermal energy industry in North Dakota that will add a sustainable, renewable, and ecologically sound sector to the state's economy.

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**Reviewers' Ratings**

- Fund – 206
- Fund – 188
- Fund - 216
- Average Weighted Score – 196.33 out of 250

**Achievability**

All reviewers felt the project was clear or very clear with respect to being in line with the council's goals. One reviewer did have concerns about stage 2. The applicant provided insight into stage 2 and new information that had come about since their submission.

**Methodology**

The reviewers felt the methodology was well above average.

**Scientific/Technical Contribution**

All reviewers felt the scientific/technical contribution was very or extremely significant. One reviewer states that stage 2 lacks depth of a technical analysis. The applicant responded that some of the assumptions made by the reviewer in this case are not necessarily true for all the Williston Basin.

**Knowledge/Awareness**

The reviewer gave awareness of current research in the area scores of adequate to exceptional.

**Project Management**

All reviewers felt the project management plan was very or exceptionally good.

**Value of Budget**

All reviewers felt the budget was of average to very high value.

**Overall Comments from Reviewers**

- One reviewer believes the project should be funded and that the outreach portion included in the proposal is important in creating momentum for the industry.
- One reviewer feels the project could be very beneficial in better understanding the geothermal potential of the region.
- One reviewer believes the project has potential for geothermal development in the area but raises concerns again on stage 2.

**Technical Advisor Recommendations**

- Fund
- The only significant concern that was raised revolved around stage 2.
- I believe this was addressed by the applicant in their responses well and will not hinder the project from reaching completion.
- The main benefit to the project is that it can help launch a relatively new industry to the state that can benefit multiple energy sectors.
- If successful, the project could provide significant benefits by:
  - Job creation and new jobs for oil field workers and oil field support industries
  - Provides a new environmentally friendly energy resource
  - Demonstrates how to get a large energy resource from a sedimentary basin for power and heat.

**Suggested Contingencies if Funded**

- None

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**Member discussion:**

**Project R-46 – B “Electrostatic Lubrication Filtration of Wind Turbine Oil Reservoirs”**

In response to the question, we have not discussed intellectual property (I.P.) but do have intentions to do so, as we work with the Center for Innovation on the UND campus. Senior Design engineering students work on projects that are brought to the university and this represents a way to receive the talent pool and affordable labor to draw from. In this project with ELF, we do not have any process development or electro property development, but if the project evolves, our current agreements with ELF outline where the electro property development will go.

In response to the question, the remote sensing technology does monitor temperature as well as the moisture concentration. Depending on the field that is gone into, we use a separate sensor that measures the relative humidity and the water concentration in the oil. This process is relatively affordable.

Commission member Bachmeier questioned the project’s mention of a build of a 10,000 square foot manufacturing facility in North Dakota, asking the circumstances if the project is funded, and the manufacturing facility is not built in North Dakota, would a claw back provision be implemented?

Andrea Pfennig commented that an approved REC policy is in place, stating that if technology is sold out of state, a claw back provision would apply. If the technology is developed with a patent in place, the council will need a contingency to be put in place and completed with the Attorney General’s office.

Chairman Leiman questioned the need for this policy be applied to I.P. Pfennig commented that this project’s scope of work does not contain the use of funding to build a manufacturing facility. Bachmeier reiterated that he would like to make sure the money invested in North Dakota stays in North Dakota with the future jobs.

Pfennig commented on the threshold of a million dollars, stating that if a company has received a million dollars, then they have reached REC policy threshold. Other subsequent claw back provisions could be put into place once the threshold is reached.

**Project R – 46 – D “Geothermal Development Consortium”**

In response to the question, this process has been demonstrated with a company in the demonstration process, replacing their engines with our engines. We believe we will get buy in when people see how well this works.

In response to the question, legal issues will be handled by Michelle Phillips and while legal issues are a small footprint, we should not have much trouble with subsurface water drilling. We will be pulling water out and reinjecting it into the same formation, at some distance from it, it will be so far away, that it will not carry cold water over to the production well and engineers will be analyzing with software production models. We also have been in contact with the Industrial Commission about mineral rights and ownership. We were told that water is to be considered the State of ND.

**COMPLETION OF BALLOTS**

**R-046- B – “Electrostatic Lubrication Filtration of Wind Turbine Oil Reservoirs”**

**Project Duration: 16 months**

**Requesting: \$286,234**

**Total Project Costs: \$ 584,614**

**Fund : 6      Do Not Fund: 0      Abstain: 0**

**R-046- D – “Geothermal Development Consortium”**

**Project Duration: 18 months**

**Requesting: \$432,895**

**Total Project Costs: \$865,791**

**Fund : 6      Do Not Fund: 0      Abstain: 0      4**

