CALL TO ORDER

Tim Hennessy, called the meeting to order at 10:31 am.

Commissioners Present by Phone: Mike Ness, Jim Traynor, Tim Hennessy, Kevin Melicher, Tommy Kenville

Commissioners Absent: Casey Ryan

Guests Present in Person: Justin Dever, Christopher Kalash

Guests Present by Phone: Michael Moore, UND; Brian Kalk, Wesley Peck, Charles Gorecki, Ed Steadman of EERC

CONSENT AGENDA

Hennessy asked if there were any additions or corrections that needed to be made to the draft minutes from the August 18, 2017 minutes that were emailed to the members of the Commission on September 9, 2017. None were needed.

Mike Ness moved to approve. Kevin Melicher seconded. The motion carried on a voice vote.

Kalash asked to make an addition to Commission Business regarding contracting for technical review services for Research ND grant applications.

Kalash reviewed items on the consent agenda

   Change Requests

   • Budget change - CORE Base Realignment - Beyond Visual Line of Sight Radar for Unmanned Aerial Systems
   • Change of PI – Research ND - Stingray: Integrating Beyond Visual Line Of Sight (BVLOS) Communications Capability into UAS
   • Timeline extension – Venture Grant Phase I - New Sustainable Concrete for North Dakota

   Disbursement Requests

   • CORE – Center for Biobased Materials Science and Technology (BiMat) $150,000
   • Venture Grant Phase I - Unmanned Aircraft System (UAS) Support to Environmental Assessments for Industry Applications $49,988
   • Venture Grant Phase I - New Sustainable Concrete for North Dakota $37,625
   • Venture Grant Phase I – New Renewable Polymers from Plant/Vegetable Oils $49,994.50

Tommy Kenville, stated that his company is a subcontractor on some of the projects that involve BVLOS. Therefore, in some cases he may choose to abstain from voting if there is a conflict.

Kevin Melicher moved to approve the consent agenda items. Mike Ness seconded the motion. The motion carried on a voice vote.
COMMISSION BUSINESS

Kalash presented the Commission Business.

Change Request for timeline extensions

- Venture Grant Phase I - Development of novel anti-microbial materials for clinical and food processing applications - PEA (phenylethylamine) has had great results in reducing bacteria growth. PEA could not be infused into the tubing material with the success they had hoped. Flushing standard tubing with PEA has reduced pathogens at high rates. EAA (ethylacetoacetate), mentioned in interim report #2, reduced the amount of biofilm to a larger extent than PEA had in any of their experiments. They would like to use the additional time requested to perform more experiments that are needed for another patent. They anticipate that they can submit the provisional patent in October and November and will then have a full year before we have to submit the final patent.

Tommy Kenville moved to approve timeline extension request. Jim Traynor seconded the motion. The motion carried on a voice vote.

- Venture Grant Phase I - An innovative approach to heal nonunion bone defects in humans – The work has progressed well. The additional time would be used for further work on production of the blocks, coating them and characterizing tissue growth in the interlocking block assemblies, development of protocol for the use of block assemblies for filling non-union bone defects, completion of market analysis and discussions with potential industry collaborators

Jim Traynor moved to approve the timeline extension request. Tommy Kenville seconded the motion. The motion carried on a voice vote.

- Discussion about timeline for applying for Venture Grant Phase II (VPII) funds –
  - Kalash explained the suggested changes would assure that there is no gap in work if a startup or spinoff is formed from a Venture Grant Phase I (VPI). This conversation was initiated because there is a VPI at UND that asked about being able to apply for VPII after 6 months of good progress and the formation of a startup. This is where this conversation originated. The proposed language was shared and discussed.
  - In response to a question from Tommy Kenville. Kalash stated the two Phase I/II grants have been approved by the Commission. Those were ideal for a new technology that already had a startup or spinoff that was ready to be the partner. This is for a VPI that launches and wants to seize the opportunity to form a business and apply for VPII before the VPI grant time period ends.
  - Tim Hennessey stated that this seems like a common sense fix to policy to make this program work the way it is supposed to.

Mike Ness moved to approve the Research ND Policy change. Kevin Melicher seconded the motion. The motion carried on a voice vote.

- Contract Technical Reviews for Research ND grants
  - Kalash reviewed with the Commission the fact that Solix was the previous provider of technical review services and no longer provides such services. Because of the amount of money spent on technical review services, state procurement rules required an RFP to find a new provider. Three proposals were received. After scoring the proposals, TreMonti Consulting LLC was the winner.
  - Justin Dever shared that TreMonti’s bid was $975 per proposal. The previous contractor was doing this work for $1600 per proposal.
  - In response to a question from Tim Hennessy, Kalash said that there were three good proposals. The cost on this proposal put TreMonti above the other two. All were qualified.
  - Dever stated the winning company is based in Virginia.
In response to a question from Kevin Melicher, Kalash said the feel of the reviews will be very much the same. There will still be three reviewers for each proposal and they will receive a "Fund," "Possibly Fund," or "Do Not Fund" recommendation. The RFP outlined that the same categories are expected considered as with the previous contractor.

In response to a question from Tim Hennessy, Kalash stated that there is standard state contracting language in the draft contract. It allows for the Commerce to terminate the contract if TreMonti is not fulfilling its obligations.

Kevin Melicher moved to give the Department of Commerce the authority to contract with TreMonti Consulting LLC for up to $25,000 to provide technical review services for Research ND proposals. Tommy Kenville seconded the motion. The motion carried on a voice vote.

The Energy and Environmental Research Center (EERC) was asked to present at this time due to the fact that they were scheduled to present at 11:00 am.

**PRESENTATION BY EERC**

Justin Dever stated that the legislature provided $500,000 for a specific grant for EERC. The requirement was that the grant must be utilized for economic development and diversification of the North Dakota economy and may be provided only to the extent the energy and environmental research center provides one dollar of matching funds from private or other public sources for each one dollar. The Department of Commerce determined that it wanted to use the expertise of the COE Commission to determine proposals received fit those requirements. Funds are available to EERC from the Federal Department of Energy (DOE) and those funds need to be committed by the end of September. If the proposal is funded, it will support Subtask 1.4 of the DOE proposal.

Subtask 1.4 activities will support the Goals 1 and 2 of the DOE Carbon Storage Program by generating new information to support 1) the development of future best practice manuals (BPMs) focused on well management activities and monitoring, verification, and accounting (MVA) and 2) industry’s ability to predict CO2 storage capacity in geologic formations to within ±30%. Specifically, the techno-economic assessment will yield information for possible future BPMs that enables industry and regulatory decision makers to develop cost-effective plans for broad deployment and management of commercial-scale CO2 injection wells and MVA technologies in the context of the CO2 life cycle associated with CO2-based EOR. The efforts focused on improved processing of SASSA data will result in an improvement to SASSA technology which can be applied toward future BMPs on MVA. The ROZ activities will improve the understanding of the role that ROZs can play in CO2 storage, particularly with respect to their storage capacity. The three activities in this subtask also specifically address two of the three strategic goals enumerated in the Phase II and Phase III DOE–EERC Cooperative Agreement, namely, 1) to advance foundational science and 2) to inform data-driven policies that enhance U.S. economic growth and job creation, energy security, and environmental quality. The proposed activities also directly support the objective of facilitating the continued use of domestic fossil fuels as a mainstay of U.S. energy production by making fossil energy systems nonpolluting and more efficient, capturing and storing greenhouse gases, and integrating fossil and renewable energy sources.

Brian Kalk introduced Wesley Peck, Charles Gorecki, and Ed Steadman of EERC.

Wesley Peck presented for EERC. This project will study the use of CO2 captured from coal fired powerplants and use it for enhanced oil recovery (EOR). This could take place in both conventional and non-conventional oil production. They will conduct business scenario analysis on what would be the most economical way to do this. One potential example would be a scenario that involves vertical integration of traditionally disparate industries (e.g., oilfield operators and power generation companies). Another example would be a centralized CO2 distribution and/or recycling operation (i.e., hub-and-spoke) servicing multiple CO2 EOR fields and incorporating multiple operators and/or CO2 suppliers.
In response to a question from Tommy Kenville, Peck said that he sees the new jobs added in the northwestern part of the state, not necessarily in the area of the oil production. Charles Gorecki added that they believe this will happen in the northeast and southwest parts of the Bakken region.

In response to a question from Mike Ness, Gorecki said that there is a lot of CO2 capture happening now, particularly at the Milton R Young plant. It could be a couple years before the jobs come, but we hope to have the analysis on how many jobs would be created within a year. Kalk added that the value proposition making CO2 valuable and usable rather than just being a byproduct of electricity produced by burning lignite coal.

Mike Ness and Tim Hennessy both voiced support for the project. It is good to see opportunities for these two industries to be working together.

In response to a question from Tim Hennessy, Gorecki said there is definitely a possibility of using CO2 EOR in the non-conventional Bakken wells also. If the technology is developed for conventional wells, it will be easier to move it into non-conventional wells in the future.

In response to a question from Jim Traynor, Gorecki said that obstacles include an uncertain regulatory environment and an uncertain policy environment. We are trying to give scientific data that can help support good policy and regulatory development. The data that comes from this study can help policy makers in their decision making process.

**Mike Ness moved that the Centers of Excellence Commission recommends the approval of this proposal from EERC. Jim Traynor seconded the motion. The motion carried on a voice vote.**

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**ADMINISTRATIVELY APPROVED ITEMS**

Chris Kalash updated the commission on the administratively approved items:

- First Disbursements
  - Research ND - Converting UAS-Acquired Thermal Images into Heat Loss Cost Assessments for Infrastructure Assessment $174,325
  - Venture Grant Phase I - Development of Low-Cost Portable Embedded Device for Welding Quality Monitoring $50,000

**OTHER INFORMATION**

Chris Kalash presented the other information.

- Fund Status
  - Chris Kalash provided an update on the fund status for Research North Dakota, the Centers of Excellence, and Centers of Research Excellence, and answered questions from the Commissioners.
    - Jim Traynor mentioned that he met with the CEO and CFO from TrackR while they were in Fargo. They made an offer to a potential employee and looked at office space
  - The agreement for AltaAir: Prevention and Treatment of Pressure Ulcer Using a Smart Seating System was signed with the $178,000 budget that the commission approved. The partners did not lower their match.

Chris Kalash reviewed interim and final reports that were received:

- Research ND Interim Reports
- Evaluation of Commercially Produced Ice Nuclei
- Coherent Backscattering of Cloud Particles
- Venture Grant Phase I Interim Reports
  - Ultra High Density Power Conversion Systems using Gallium Nitride Power Devices
  - An Integrated Software Package for Data Processing, Modeling and Simulation of Unconventional Reservoirs
  - 2,3-Butanediol Production via Fermentation, an Alternative Route to Chemical Synthesis, Using Synthesis Gas from Lignite Coal Gasification
- Research ND Final Report
  - Cooperative Airspace Techniques and Visualization (CATV) Testing for Enabling UAS Operations
    - Tommy Kenville added that Harris Corporation provides all technology for all the FAA towers in the country. All progress toward flying BVLOS is great for the industry in North Dakota.
- Venture Grant Phase I Final Reports
  - Assessing the feasibility of a start up business centered on high performance spider silk production
  - Development of Next Generation Agricultural Soil Amendments

ADJOURNMENT

Tim Hennessy adjourned the meeting at 11:58 am.

Tim Hennessy, Acting Chairman  
Date

Christopher Kalash, Recording Secretary  
11/15/2017  
Date