CENTERS OF EXCELLENCE COMMISSION

Meeting Minutes
May 19, 2017
NDSU, Research 1
1735 NDSU Research Park Drive
Fargo, ND 58102
Room 148-154

CALL TO ORDER

Mark Nisbet, Chairman, called the meeting to order at 10:00am.

Commissioners Present in Person: Mark Nisbet, Kevin Melicher, Greg Stemen, Tim Hennessy

Commissioners Present by Skype: Danita Bye (alternate Commissioner)

Commissioners Absent: Mike Ness, Jim Traynor

Guests Present in Person: Jay Schuler, Justin Dever, Christopher Kalash, Rachael Flagstad, Matthew Noah, Bashir Khoda, Chad Ulven, Surojit Gupta, Hadi Jabbari, Matt Dunlevy, Michael Moore, Jolyne Tschetter

APPROVAL OF MEETING MINUTES

The COE Commission meeting minutes from the April 7, 2017 meeting were reviewed. Kevin Melicher moved to approve the meeting minutes. Tim Hennessy seconded the motion. The motion carried on a voice vote.

CONSENT AGENDA

Chris Kalash provided an overview of the consent agenda items.

- Change Requests
  - New Sustainable Concrete for North Dakota – Budget Change
  - UAS Research, Education & Training Enhancement Grant – Change Principal Investigator

- Disbursement Requests
  - CORE Base Realignment – First Disbursement – Beyond Visual Line of Sight Radar for Unmanned Aerial Systems
  - Research ND – Final Disbursement – Cooperative Airspace Techniques and Visualization (CATV) Testing for Enabling UAS Operations
  - Payment of Solix Invoice for applications that are presented at this meeting

Greg Stemen moved to approve the consent agenda items. Danita Bye seconded the motion. The motion carried on a voice vote.

ADMINISTRATIVELY APPROVED ITEMS

Chris Kalash presented the administratively approved items.

- First Disbursements
  - Assessing the Clinical Feasibility and FDA Approval Pathway for a New Antimicrobial Bone Filling Putty
  - Ultra High Density Power Conversion Systems Using Gallium Nitride Power Devices

- Change Requests – Minor Budget Modification
  - Cooperative Airspace Techniques and Visualization (CATV) Testing for Enabling UAS Operations
  - Development of Next Generation Agricultural Soil Amendments
COMMISSION BUSINESS

Chris Kalash presented the commission business items.

- Center for Sensors, Communications and Control – COE – Change Request – Timeline Extension and Add Partners and Projects
  - The center’s partners are Cogi and TrackR (formerly PhoneHalo). The current end date is July 31, 2017. However, they are working on existing tasks that will not be completed by the current end date. The tasks and money that has already been disbursed to the center could keep the center working and in operation through October 31, 2017. Cogi and TrackR have agreed to pursue new projects with CSCC. Those projects will begin on August 1, 2017. As the current projects are completed, staff will transition to the new projects. There is a 20-month timeline that will begin on August 1, 2017 with the new projects. The extension request is to June 30, 2019. They expect the work to be completed by March 31, 2019, but added time in the event it is needed. TrackR is committing $160,000 cash and $480,000 cash reserve. Cogi is committing $119,998 cash and $360,000 cash reserve. This center launched in June 2011. Their original end date was July 31, 2014. In November 2012, they received a one-year timeline extension to July 31, 2015. In April 2015, they received a two-year timeline extension to July 31, 2017.
  - Matt Noah described to the Commission there are currently four people working on the project plus an undergraduate student. TrackR and Cogi are located in Santa Barbara, CA. Cogi has one employee in Fargo and TrackR has plans for additional engineering, fulfillment, and customer service employees in Fargo. Matt Noah had a recorded phone conversation between TrackR’s CEO, Jim Traynor, and himself in which TrackR’s CEO states their plans for two to four employees in North Dakota.
  - Justin Dever explained there is $559,950 that has not yet been disbursed by the Commission to the center. The dollars the center currently has will get them through to October 31, 2017 for the current project. If the extension is not approved, the funds could be transferred to the Research ND fund. However, after June 30, 2017, the Commission no longer has the authority to transfer the funds.
  - In response to Jay Schuler, Matt Noah stated the Centers of Excellence owns the copy right on the software. The software the company writes, they own. The software that is jointly written is jointly owned. The center has a good relationship with the companies and they’re doing vital work. He believes they will bring jobs to North Dakota.
  - Tim Hennessy made a motion to approve the timeline extension. Greg Stemen seconded the motion.
  - Greg Stemen added he would like to see tangible results. Kevin Melicher stated he is thinking about voting no on the motion. The center was launched in June 2009 and they have produced 1.25 jobs and the Commission has invested $4.2 million.
  - The motion was rescinded and tabled to the next meeting.
  - Tim Hennessy made a motion to table the timeline extension request. Greg Stemen seconded the motion.
  - Matt Noah requested the timeline extension be approved through October 31, 2017.
  - The motion was rescinded.
  - Tim Hennessy moved to provide a timeline extension through October 31, 2017 and consider the larger timeline extension at the June meeting. Motion carried on a voice vote.
• Research 1 Expansion – COE – Enhancement – Change Request for Timeline Extension
  o The grant was to build the addition onto the building. Dr. Boujdouk had a contingency fund for any
    issues during the construction. He would like to use the remaining funds that were in the
    contingency line to address some issues that have been apparent since the construction was
    complete. They are looking at parking lot repairs, adding signage on the east door, completing
    the atrium rock garden, and purchasing artwork for the reception area. The total request for
    approval is $23,450. This is the total left in their budget.
  o **Greg Stemen made a motion to approve the timeline extension to use the remaining funds.**
    **Kevin Melicher seconded the motion.** The motion carried on a voice vote.

• Micro Cold Spray – Venture Grant Phase I – Change Request for Timeline Extension and Budget
  Modification
  o Rob Sailer asked for a one-year extension at the January 2017 COE Commission meeting for
    software programming of the feeder for the system to increase the gas velocity in the system to
    refine the powder deliver. He was granted six months. Cortec has decided to return the option to
    license, as they are not in a position to physically build the Micro Cold Spray system. A South
    Dakota company is interested and has applied for an SBIR grant with NDSU as the partner. If
    awarded, their intent is to use the SBIR award as the Technology Transfer project between
    NDSU and the company.
  o A new flow controller has been received and the newest powder feeder designs can be tested
    and characterized separately. This will allow them to continue to work on other projects with their
    first prototype feeder, while the new powder feeder improvements are being refined.
  o The largest issue for them was the software. Estimates for the software re-write were in excess of
    $20,000; they budgeted $8,000. They would like to spend approximately $12,000 for the
    software. They found NDSU staff member, Majura Selekwla, who specializes in robotics and
    mechatronics and is an expert Lab VIEW programmer. He will work with the current NDSU
    undergraduate electrical engineering student. They would like to move money to provide summer
    support for the professor. The funding would be used beginning in May, because the project
    would be programming over the summer. There was a programming glitch with the Micro Cold
    Spray feeder.
  o Mark Nisbet asked if this is only a timeline extension with no additional dollars.
    ▪ **Chris Kalash responded** it is a movement of dollars. The money was in a subcontract for
      computer programming and now they would like a student to do it. The student will not be
      able to accomplish it as fast as a subcontractor.
  o **Danita Bye made a motion to approve the timeline extension and budget modification. Tim
    Hennessy seconded the motion.** Motion carried on a voice vote.

• RD&C of Antibody Therapy for Metabolic Stimulation in Animals – Research ND BIO – Change Request
  for Budget Change
  o Dr. Bradley contacted Chris Kalash on May 18, 2017 that he will hold off on the change request to
    refine the request. The item is passed over for this meeting.
• Design and Development of Accelerated Degradation Test Methodology for Hydro-Static System – Research ND – Change Request for Timeline Extension and Budget Modification
  o The basic research tasks and modeling degradation behavior, designing accelerated test methods, and reliability assessment modeling are slightly behind schedule and will require one more year to complete the theoretical modeling. The equipment that was in the budget is not readily available on the market and the design of the hydraulic seal testing equipment would cost more than what was in the budget. The would like to use equipment that Bobcat, their private sector partner, has and move the funds they had budgeted for equipment ($30,734) into two weeks’ summer salary for the PI and 12 months’ salary for the graduate student who will be working on the project; the purchase of lab consumable and conference registration; and travel to conference and visits to company location in Bismarck.
    ▪ Tim Hennessy asked if they knew the equipment would not be available when they started the project.
      ▪ Chris Kalash responded the project pre-dates his time.
      ▪ In response to Mark Nisbet, Chris Kalash stated Bobcat is matching the funds.
    ▪ Tim Hennessy added the only problem he has with this is they are taking money that had been intended for equipment and turning it into salary, instead of posting the position and having a position filled.
    ▪ Greg Stemen stated in general, one of the most common criticisms the Commission sees in reviewers’ comments for proposals is if it is a realistic timeline. Some people assume they can present the proposal with a compacted timeline, get approval, and come back later to ask for an extension.
    ▪ Mark Nisbet asked if the timeline was granted without the $30,000 moving from the equipment to the salary, what would happen?
      ▪ Chris Kalash responded NDSU would not allow them to spend the money on personnel.
    ▪ Danita Bye added one of the questions the Commission should have asked when they were looking to purchase equipment is if they had approached their partner about using their equipment. That is a good question to ask moving forward.
    ▪ Kevin Melicher stated the Commission does have some opportunities now, and this one is probably okay. However, moving forward with budgetary restraints in the next biennium, the Commission needs to tighten some of these things and say no sometimes, or make sure the applicants understand there will not be extensions and the Commission has their full commitment.
  o Kevin Melicher made a motion to approve the timeline extension and budget modification. Tim Hennessy seconded the motion. Motion carried on a voice vote.

• 2,3-Butanediol Production via Fermentation, an Alternative Route to Chemical Synthesis, Using Synthesis Gas from Lignite Coal Gasification – Venture Grant Phase I – Change Request for Timeline Extension
  o They have two primary reasons for the timeline extension needs. They were having difficulty obtaining the needed raw effluent gas from the gasification operations. Their industry collaborator (DGC), after many attempts, faced significant difficulties in collecting, compressing, and transporting the needed gas per required regulations. The attempts were halted and they found another source for the gas. Also, the recovery and purification of 2,3-Butanediol are and continue to depend on the use of needed equipment at the Energy and Environment Research Center, which currently, has limited access and a long lead time. When they were not receiving their material, they most likely lost their place in line. Their request is for one year.
  o Tim Hennessy moved to approve the timeline extension. Greg Stemen seconded the motion. Motion carried on a voice vote.
Currently available mattresses are classified with a discrete qualitative terms such as soft, firm, medium-firm, (un)comfortable, etc. People have to compromise their needs within these available categories. Very little data or resources are available regarding ergonomic sleep research and 3D human body modeling for mattress design and manufacturing domain. In this proposed work, we plan to study the relationship between ergonomical data, material, and manufacturing processes in an effort to increase the effectiveness of mattress. We expect the proposed study will provide new information for achieving better sleep efficiency, sleep quality, and custom fitting in mattress business. By working directly with a mattress manufacturer (Comfort King LLC), we will be able to (1) better understand consumers’ needs as well as (2) translate the technology we develop to address those needs seamlessly back to the manufacturer.

Following five activities will be performed to achieve the desired objective of this proposal:

(i) Study the sleeping posture and digitize the information
(ii) Design the mattress with variable stiffness property
(iii) Design the suitable material for mattress and manufacturing processes
(iv) Develop a custom additive technology based manufacturing system
(v) Manufacturing and validation of custom mattress.

In response to Mark Nisbet, Chad Ulven explained the materials are petrochemical based.

Kevin Melicher questioned that the ads for Comfort King mention the mattresses are coil-based versus foam based. Chad Ulven answered Comfort King has both types. Kevin Melicher also asked if this research will improve Comfort King’s product. Chad Ulven answered yes, it will improve and move the product away from some of the steel coils, as well as bring added capabilities, such as cross-flow of air, and being able to contour the product.

In response to Mark Nisbet, Bashir Khoda explained this technology will make foam in a coil form.

In response to Kevin Melicher, Chad Ulven stated this is a feasibility study that will be completed in one year. They will not have a mattress they will be able to test after year one.

In response to Chris Kalash, Chad Ulven explained Comfort King manufactures in Fargo and Sioux Falls, S.D.

Chad Ulven explained Bashir Khoda had been making orthotics based on the customization process using additive manufacturing. Chad Ulven thought about that and locked at the local mattress manufacturers and wanted to try to do something together. As soon as they visited with Comfort King, they were energetic and on board.

In response to Jay Schuler Chad Ulven explained it would take several hours to print a mattress after they finalize the 3D printing. Bashir Khoda added the ideal situation is for the customer to come to the store, have their pressure points and other information measured, the algorithm will process the data and tell the machine to make the mattress in this form, the printing will begin. The mattress could be customized differently for different sides.
COMMISSION BUSINESS CONTINUED

Chris Kalash continued presenting the Commission Business.

- Development of a Novel Carbon Adsorbent for Removal of Pharmaceuticals, Herbicides and Other Emerging Contaminants from Drinking Water – Venture Grant Phase I – Change Request for Timeline Extension
  - They are requesting an additional six months, to end on June 30, 2018. Undergraduate research assistants have been working on this project since January 2017, but they were unable to hire graduate students in the Spring semester for this project. Two graduate students will work on this project beginning in Summer 2017. There will be no change to the budget.
  - **Kevin Melicher made a motion to approve the timeline extension. Greg Stemen seconded the motion. Motion carried on a voice vote.**

- SmartSeals: Pilot/Operator Navigation Augmentation and Physiological Monitoring Headset – Change Request for Timeline Extension
  - They are asking for a one year timeline extension. They have developed the required hardware for acquisition of cardiac signals from the head. The graduate student in charge of the firmware design was not able to deliver on time and this has slowed the prototype development and testing. They hope to have the hardware and software integration finished by the end of the summer. Upon finishing the prototype development, they’ll test it on subjects. They are hoping the data acquisition and adjustment to the design will be finished by the end of the Fall semester.
  - **Greg Stemen made a motion to approve the timeline extension. Kevin Melicher seconded the motion. Motion carried on a voice vote.**

- Commercialization of Novel Lignin Reinforced Bioplastics by Using Game Changing Additive Manufacturing Practices – Venture Grant Phase II – Change Request for Other Changes
  - In the early stages of the work, they discovered a unique way of making novel graphene-like nanoparticles. Dr. Gupta would like the Commission’s permission to pursue the design and scale of these nanoparticles further, as the design is not explicitly mentioned in the proposal. It will not have any changes in the budget and will not have any change in the scope that is within Task 2 of the proposal. The PI believes this design will make the nanocomposites that they are designing during this work more marketable.
  - Dr. Gupta provided a short presentation on his findings.
  - Chris Kalash added this change request is to ensure the Commission is aware that Dr. Gupta will be pursuing an additional patent, since it was not within the original plan.
  - **Kevin Melicher made a motion to approve the request for other changes. Greg Stemen seconded the motion. Motion carried on a voice vote.**
• Discussion of Technical Review Contract
  o The contract Commerce has with Solix ends at the end of the biennium. In the 2015-2017 biennium, Solix completed 81 reviews for the Commission, and potentially more, depending on the number of applications received today. Commerce will likely need to use Solix, or a different company, again. However, that will mean contracting with them depending on how much Commerce projects will be available in funding and number of applications received. This will affect the need to do an RFP or receive bids. There was a $25,000 set-up cost when the original contract was signed with Solix.
  o Justin Dever added Commerce would like authorization from the Commission to pursue this.
  o Kevin Melicher asked how many companies do this work.
    ▪ Justin Dever responded there are several. However, when Commerce did the RFP in 2013, there was only one company that submitted a bid.
  o Chris Kalash explained two years ago, an extension was exercised. The contract could be extended one time for two years.
  o In response to Kevin Melicher, Justin Dever stated Commerce has had the same cost. A flat fee was paid for the first number of reviews, then the cost is $1,600 per technical review after that.
  o Tim Hennessy asked if Commerce is generally satisfied with their work.
    ▪ Justin Dever responded Commerce is, but it is a determination for the Commission.
  o Justin Dever added Solix is currently under contract until June 30, 2017.
  o Greg Stemen made a motion for Commerce to negotiate moving forward to retain Solix on the $1,600 per review basis, rather than do a new contract. Kevin Melicher seconded the motion. Motion carried on a voice vote.

OTHER INFORMATION

Chris Kalash provided other information to the Commission.

• Chris Kalash and Justin Dever presented the fund status for the Centers of Excellence, Centers of Research Excellence, and Research North Dakota and answered questions from the Commissioners.

• FAST Track Funding Deobligated
  o The CFO of JTL decided to go a different direction. This deobligated $49,868.

• Interim Reports – Research North Dakota
  o Large-scale UAS Data Collection, Processing and Management for Field Crop Management (#2)
  o Determining Crop Harvest Readiness Using UAV and Thermal Infrared Sensors (#3)
  o Applied Research – Wind Turbine Blade Inspection Technology Application (#4)
  o Valuation of Optical Sensors for Detection and Remediation of Crop Stress in North Dakota Precision Agriculture (#4)
  o Aviation Enterprise Resource Planning, Communications and Control (#4)
  o Using UAS Imagery to Identify Weed Infestations in Cropland (#4)

PRESENTATIONS CONTINUED

**Smart Scale Inhibition for Improved Well Performance in Williston Basin, ND** – Hadi Jabbari – Research North Dakota

Pump failures, production losses, and well shutdowns all can result from scale buildup. In the Williston Basin it pays to prevent scale deposition from day one. The University of North Dakota, Petroleum Engineering Department, in conjunction with two industry partners— a) Creedence Energy Services LLC and b) Global New Petro Tech Inc -- is proposing to conduct a comprehensive study on scaling in the Williston Basin, and seeking technological improvements that can provide beneficial and cost-effective alternative methods for dealing with inorganic-scale problems. The overall objective of the proposed work is to perform proof-of-concept testing of improved scale inhibitors as well as undertake preliminary development of the business model and venture structure for the new inhibition products.
In this research project they propose studying the significant aspects of inorganic-scale formation in Williston Basin wells through modeling and simulation, lab experiments, data mining-based analyses as well as conducting a market analysis of new inhibitors and small scale-prediction program that targets both scaling prediction and scale treatments. The successful completion of this research may result in lower production decline rates and less need for workover jobs which, in turn, leads to less fresh water usage and less amounts of liquid waste produced; a key outcome in the State of North Dakota where the Williston Oil boom has already provoked environmental debates.

Danita Bye asked how Creedence, a North Dakota based company, and Global New Petro Tech Inc., a Canadian company, were chosen as industry partners. Hadi Jabbari responded UND has an advisory board with companies who meet with UND two times per year. Creedence is on the board. Global New Petro Tech Inc. had the experience and Hadi Jabbari had worked with them in the past. The majority of the help will be from Creedence.

In response to Greg Stemen, Hadi Jabbari explained there are many companies seeking testing. One good thing about Creedence is that they are a small company and more enthusiastic than larger companies to let the applicants be involved. Creedence has also created other chemicals. Also, in regards to some of the reviewers' comments, he does not consider it to be a Master's degree project.

Mark Nisbet asked if Hadi Jabbari comes up with a great product, will the University own it. Mike Moore assisted Hadi Jabbari, stating yes the University will own it, unless the innovation includes company people. Then, there are some provisions within the agreement for jointly owning the IP.

In response to Kevin Melicher, Hadi Jabbari explained the result of what is being created is an additive. The chemical will be added to the side tract carrier fluid to be carried down the hole to prevent formation.

In response to Danita Bye, Hadi Jabbari stated he does not know anyone personally doing this research, but he has done a literature review. He knows of some research at Hess and Marathon, but not at the same level of detail as he would like to do.

Mark Nisbet mentioned two of the reviewers recommended do not fund. Mark Nisbet asked Hadi Jabbari to speak to that. Hadi Jabbari responded some of Reviewer 3's comments do not seem reasonable.

**Converting UAS-Acquired Thermal Images into Heat Loss Cost Assessments for Infrastructure Assessment** – Grant McGimpsey – Research North Dakota

Matt Dunlevy, President of SkySkopes, and Mike Moore of UND presented the proposal.

The University of North Dakota (UND) and SkySkopes, Inc. (PSP) seek to develop two major capabilities, in order to create a new commercial sector within a large industry. One capability is the demonstration of small UAS as a comparable platform to human-acquired energy audit data at a lower price and with equivalent or stronger data acquisition capability. The other capability is the development of the technological capability to convert thermal imaging of infrastructure into usable cost-data. These capabilities are not currently possible and would represent major technological achievement with immediate economic benefits.

UND and the PSP seek to achieve these overall goals through an iterative flight "batch" process through which UND and the PSP will acquire data and process it incrementally, in order to maximize the benefits of improving data collection and technological development. With its partnership with the state of North Dakota, the PSP will perform flights at all eleven North Dakota University System institutions with different institutions in each batch. Each flight batch will have the same four-step approach to acquire and process data: pre-flight planning, flight operations and data collection, post-flight thermal imagery analysis, and economic costs assessment. The acquired data will be analyzed to convert thermal imagery into specific assessments of heat lost and, following that, the acquired thermal analysis data will be processed into cost assessments that are highly sought-after from energy audit clients.

The development of thermal analysis technology and cost modeling represents a major innovation in the energy audit and infrastructure assessment industry and would likely create a new sector within the industry, as these capabilities do not currently exist with any measure of precision for energy audit clients.
Through this process, the PSP and UND will drive major innovation to benefit the state of North Dakota by developing a high-tech skilled labor economy that will push North Dakota to the forefront of this industry and deepen North Dakota’s prominence on the national scale. The project partners expect the development of these capabilities to generate significant revenue and job creation for North Dakota.

In response to Jay Schuler, Matt Dunlevy stated SkySkopes has 12 pilots, including full-time and part-time pilots. They are trained at UND and at SkySkopes to understand their procedures. This project is on the lower end of the difficulty scale.

Matt Dunlevy added the economic professors involved with the project would be able to quantify the economic savings to the state.

Jay Schuler asked who would own the IP. Mike Moore answered they have agreements with the company that say whoever invents it, owns it. Matt Dunlevy added they have not fully worked out what state royalty percentages would be. However, he is happy to work with the professionals at UND to develop this IP and license it from them.

OTHER INFORMATION CONTINUED

Chris Kalash presented the following information.

- Interim Reports – Venture Grant Phase I
  - Soy Based Road Dust Suppressant Scale Up and Field Testing (#1)
  - New Sustainable Concrete for North Dakota (#1)
  - Development of Micro Cold Spray Print System (#4)
  - Removal and Recovery of Phosphate from Eutrophic Lakes and Wastewater and Use of Recovered Phosphate as a Fertilizer (#5)

- Final Reports – Venture Grant Phase I
  - Development of Glioma Prognosis Kit
  - Graphene-based Near-Infrared Fluorescent Quantum Dots for Biodetection and Bioimaging
  - Technical and Economic Feasibility Analysis of Next Generation Valley City University Heating Plant

- Final Report Venture Grant Phase II
  - Process and Application Research and Development for Soy-based Materials for Industrial Applications

COMMISSION BUSINESS CONTINUED

Potential Discussion and Decisions Related to Research ND Proposals

Justin Dever reviewed the scores.

The Additive Manufacturing for Mattress Comfort Customization proposal's average score was 76.8.

The Smart Scale Inhibition for Improved Well Performance in Williston Basin, ND proposal's average score was 74.4.

The Converting UAS-Acquired Thermal Images into Heat Loss Cost Assessments for Infrastructure Assessment proposal's average score was 88.4.

These scores include the commission scores and the North Dakota priority scores.

Justin Dever added if the Commission funded all three projects, the cost is approximately $773,000.
Mark Nisbet suggested in the past the Commission has started with accepting the proposal with the higher scores. He asked for a motion to approve the UAS application. **Greg Stemen made a motion to approve the Converting UAS-Acquired Thermal Images into Heat Loss Cost Assessments for Infrastructure Assessment Research ND Grant for $441,983. Kevin Melicher seconded the motion. The motion carried on a roll-call vote as follows:**

Mark Nisbet – aye  
Kevin Melicher – aye  
Greg Stemen – aye  
Tim Hennessy – aye  
Danita Bye – aye

**Kevin Melicher made a motion to approve the Additive Manufacturing for Mattress Comfort Customization Research ND Grant for $32,000. Tim Hennessy seconded the motion. The motion carried on a roll-call vote as follows:**

Mark Nisbet – aye  
Kevin Melicher – aye  
Greg Stemen – aye  
Tim Hennessy – aye  
Danita Bye – aye

In regards to the Smart Scale Inhibition for Improved Well Performance in the Williston Basin, ND, Kevin Melicher stated with the amount of oil companies in the state and the amount of money most of them have, one would think the potential is there to attract from private resources. Tim Hennessy added he agreed. Justin Dever mentioned the state has put $10 million into the Oil and Gas Research Fund to fund projects. Danita Bye added there are lots of North Dakota and U.S. companies that are investing in the Bakken, and one of their key partners is in Canada.

**Tim Hennessy made a motion to decline the request for the Smart Scale Inhibition for Improved Well Performance in the Williston Basin, ND Research ND Grant for $299,837.30. Greg Stemen seconded the motion. The motion carried on a roll-call vote as follows:**

Mark Nisbet – aye  
Kevin Melicher – aye  
Greg Stemen – aye  
Tim Hennessy – aye  
Danita Bye – aye

**Other Comments**

Justin Dever thanked Mark Nisbet for his service to the Centers of Excellence Commission, as his term will expire at the end of June.

The members determined the next meeting will be by conference call on June 14, 2017 at 9:00 a.m.
ADJOURNMENT

There being no further business, Greg Stemen made a motion to adjourn the meeting. Tim Hennessy seconded the motion. Chairman Mark Nisbet adjourned the meeting at 2:33 p.m.

Mark Nisbet, Chairman  Date

Rachael Flagstad, Recording Secretary  Date