

**Iowa Energy Center Board
Meeting Minutes Nov 7, 2018
3:00 p.m.**

Iowa Energy Center Board Members Present:

Stuart Anderson	Dan Nickey	Nathan Young
Geri Huser	Valerie Newhouse	Gul Kremer
Joel Schmidt	Timothy Whipple	Robert Berntsen

Iowa Economic Development Authority Staff Present:

Brian Selinger	Ryan Young	Leslie Leager
Amber Buckingham	Kristin Hanks-Bents	Kanan Kappelman
Stephanie Weisenbach	Terry Roberson	Rick Groom
Betty Hessing		

Others Present:

Brenda Biddle

Welcome and Introductions

Roll Call

Board Chair called the meeting of the Iowa Energy Center Board to order at 3:00 p.m.

A quorum of the Board was established with the following Board members present: Stuart Anderson, Geri Huser, Joel Schmidt, Dan Nickey, Valerie Newhouse, Timothy Whipple, Nathan Young, Gul Kremer, and Robert Berntsen.

Approval of August 14, 2018 Meeting Minutes

Geri Huser: Moved that the Board approve the August 14, 2018 meeting minutes.

Dan Nickey: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Public Comment Period

No comments.

Grant Program Update

Presentation provided (Attachment A)

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Why is the Energize Northeast Iowa Education grant is listed as 0% complete/unknown?
 - This grant has been extended to 12/31. We know that they are near completion since we have received a mid-term progress report but we have reported them as 0% complete since we have not received a claim from them

Administrative Rules – Grant Program

Presentation provided (Attachment B & C)

2017 Iowa Acts, chapter 169 created a new section of Iowa Code, section 15.120, which transferred the Iowa Energy Center from Iowa State University to the Economic Development Authority and directed the Energy Center board to oversee programs established by the Energy Center, including grant programs. Section 15 120 requires the Energy Center board to adopt rules for the administration of the programs it oversees

The proposed new chapter will govern the administration of the grant program. These rules create definitions, establish funding and award terms, and define eligible applicants as well as eligible and ineligible costs. These rules also describe the application process and the administration of the grant program.

These rules were developed with the input from the grant sub-committee.

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Regarding 404.5 (2) Letter i. IEC grant funds shall not be used as cost share to a federal grant award. Other than the waiting time (it could take up to 1 year to hear if a federal grant is approved), were there other reasons why this rule was changed?
 - The primary reason for this change was the time it takes to be notified of an approved federal grant. The grant sub-committee did not want to hold monies for years waiting for a decision to be made. With a defined sunset of the program, the need to allocate the grant monies to Iowa projects in a timely manner was the biggest driving force behind this decision.
- Regarding 404.5 (2) Letter i. Is it possible to provide cost share if the PIs have already been awarded a federal grant award?
 - This should have been brought up in the grant sub-committee.
 - To pull this off the agenda and make further changes would significantly back up the release of the grant dollars. Lets move forward with the intended action There are still additional opportunities to change this language in the administrative rules process if we receive comments from the public and/or the board decides to make a change later in the process. If we do not move forward and take action it will move the program back several months.

Adoption of Administrative Rules ARC 3842C

Geri Huser: Moved that the Board approve the Notice of Intended Action for Administrative Rules for Energy Center Grants Program

Timothy Whipple: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Administrative Rules – AERLP

Presentation provided (Attachment D & E)

2017 Iowa Acts, chapter 169 amended Iowa Code section 476.46 and transferred the administration of the Alternate Energy Revolving Loan Program (AERLP) to the Iowa Energy Center created under section 15.120 Iowa Code section 15.120 requires the Energy Center Board to adopt rules for the administration of the programs it administers.

The proposed new chapter will govern the administration of the AERLP. These rules create definitions, establish terms for loans, define eligible and ineligible borrowers as well as eligible and ineligible costs, and set forth the requirements for eligible projects. These rules also describe the application process and the administration of the loan program.

These rules were developed with input from the AERLP sub-committee

There have been several changes since the October 16, 2018 meeting with the sub-committee. Two sentences were struck because the language did not appropriately capture what was in the program proposals and were replaced with the following language:

- 405.3 (1) Eligible borrowers. The project shall be wholly owned by the borrower. Eligible borrowers include:
- 405.4 (3) The project shall be wholly owned by the borrower.
- 405.4 (4) The borrower must be the owner, contract purchaser or lessee of the real property where the project is located.
- 405.3 (1) b. Businesses registered and domiciled in Iowa. For businesses organized as limited liability companies, each member of the limited liability company must be domiciled in Iowa and be an eligible borrower.
- 405.3 (1) c. Water and waste water utilities subject to Iowa code chapter 388, rural water districts subject to Iowa code chapters 357A and 504, and sanitary districts subject to Iowa code chapter 358.
- 405.7 (8) Reporting and compliance. A start-up report is due to the authority within thirty days of the date that the project is placed in service. The report shall include but is not limited to documentation of installed costs of the project, one or more photographs, a sample invoice, and a description of any unexpected problems encountered during construction or installation of the project. The authority reserves the right to conduct a site visit of all awarded projects to ensure the projects were built as proposed and to provide verification of ongoing operation. The authority will monitor all loans to ensure that loan proceeds have been spent as identified in the contract and that all other sources of financing have been committed to the project. Borrowers shall be required to notify the authority of any change in ownership. Any loan made pursuant to this program shall become due for payment upon sale of the project for which the loan was made.

Approval of Staff to Draft Administrative Rules according the Grant Committee Report

Stuart Anderson: Moved that the Board approve filing of Notice of Intended Action for AERLP rules chapter.

Dan Nickey: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Financials / Audit – Update

Presentation provided (Attachment F & G)

Items of note:

Expenses this quarter

- Salaries: running more consistent.
- Supplies: purchased a software program subscription.
- Revolving Loan Program: repayment of \$305.00 due to an overpayment of a loan.

Summary of IEC Board Questions/Comments & IEDA Staff Response

- How many FTEs does the payments for salary support? What will the process be after the review is completed?
 - Currently supporting 2.5 FTE. Budgeted amount is 3.5 FTE when needed.
- Any updates concerning the audit?
 - Completed first AERLP financial report. The auditors did not find any issues
 - There has been a change in the State Auditors and ISU has recently found additional boxes of information. Auditors are getting back to the audit and should complete their review after the first of the year.
 - The State Auditor has completed our end of the audit and are satisfied with the results of the confirmations that were sent out.
- With the change in the State Auditor, do you foresee that delaying this program?
 - No. The only possible delay would be how quickly they wrap up the state-wide Financial Report which is set to be released in the first week of December.

Other Business

Iowa Energy Office – Update

- IEDA has provided the Biomass Action Plan and the Energy Plan Progress Report to the board. These resources are online as well.
- IEDA is currently working on the Energy Storage Action Plan and will provide this to the board once it has been completed.
- 2018 Iowa Legislative session Senate File 2311 tasked IEDA, DOT, and the utilities to develop an electric vehicle infrastructure Report. On October 22, 2108, IEDA hosted a collaborative EV Workshop with 50 various stakeholders to give them an opportunity to brainstorm barriers and solutions regarding this topic. IUB also held a similar workshop which further educated our team and allowed us to gather additional information. IEDA will take all of this information to create a framework for this report which will be submitted to the General Assemble by June 2019.
- Board Members are invited to attend the reception following our meeting.
- Next Board Meeting is January 9, 2019.

Adjournment

Move to Adjourn

Geri Huser: Moved that the board adjourn the November 7, 2018 quarterly meeting.

Stuart Anderson: Seconded the motion

Yes: 9 No: 0 Present: 0

Motion Passed

There being no further business, the Iowa Energy Center Board adjourned the meeting at 3:50 p.m.

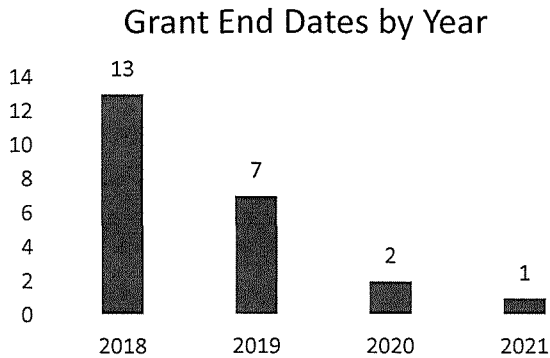
Adrienne Ricehill
IEC Board Administrator

Attachment A

Iowa Energy Center Grant Report Summary

Introduction

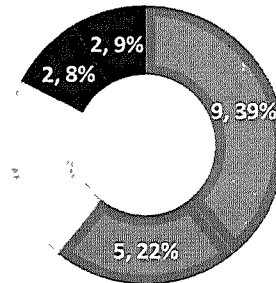
IEDA inherited 23 active grants in October 2017. Most grant projects were well underway at the time of the transition. Below is a chart indicating the completion years for the grants



All grants have transitioned to IEDA contracts and claim procedures. In an effort to enforce the schedules agreed to during the recipients' award negotiations, IEDA is withholding funds if midterm or final reports are outstanding. IEDA also updated the claims procedures to include a progress update with each claim. Below is a chart indicating how far along the grant projects are. Further details are available in the subsequent pages of this report.

PERCENTAGE OF PROJECT COMPLETED

■ 100% ■ 75-99% ■ 50-74% ■ 25-49% ■ 0-25%



Grant Status Report

Grant Name: Batteries: Strong, HighLi+ Ion Conductivity, Li-Impermeable Thin-Ribbon Glassy Solid Electrolytes

Award Amount: \$287,250

Percent Completed: 45%

Project Description: New strong, isotropic, and homogeneous Li+ ion conducting glassy solid electrolytes (GSEs) will be developed in long ribbon micro-sheet form that are impermeable to lithium dendrites (LDs), have extremely high ionic conductivities, are scalable through low-cost manufacturing, and are easily incorporated into low-cost, high energy-density Li battery stacks.

Description of Work Completed: Principal investigator continues work as scheduled. Midterm report is due Q1 2019.

Grant Name: Deoxygenation of Lignin-Derived Species to Aromatics and Olefins

Award Amount: \$94,598

Percent Completed: 85%

Project Description: Proposing a process to deoxygenate byproduct lignin to aromatics and olefins, which are large volume chemicals that are significantly more valuable than fuels.

Description of Work Completed: *Midterm report received.* Experiments determined that MoO₃ might also be active for decarboxylation of aromatic branches. Experiments also further confirmed that aromatic ring hydrogenation does not take place over MoO₃ at the reaction conditions tested.

Grant Name: My Family's Wind Farm

Award Amount: \$20,273

Percent Completed: 100%

Project Description: For this project, we are planning to develop the book that would address farmers' role in energy production — specifically wind energy production. The book would be distributed to all 3rd grade classrooms across Iowa, accompanied by two grade appropriate lesson plans.

Description of Work Completed: *Final report received.* Iowa Agriculture Literacy foundation published their e-book "My Family Wind Farm". The book is also available for teachers to download and self-publish additional copies for their students.

Grant Name: Hydroxycinnamic Acids from Lignin as Platform Molecules for Production of Biobased Materials

Award Amount: \$149,211

Percent Completed: 91%

Project Description: The overall objective for this project is to demonstrate cost-effective production of high-value green octinoxate and vanillin and green epoxies from extracted lignin as part of a fuel production system.

Description of Work Completed: *Midterm report received.* The PI indicates the following reports have been received:

- Have successfully shown extraction of coumaric and ferulic acids from whole corn stover.
- A lab-scale extraction apparatus has been constructed
- Prepared a mixture of coumaric acid and ferulic acid that is comparable to that isolated from the corn stover (approx. 3:1 mixture). The PI then reacted this mixture with epichlorohydrin and formed the epoxy resin. Evaluation of this epoxy resin is underway.

Grant Name: A Closed-Loop Distribution System Restoration Tool for Natural Disaster Recovery

Award Amount: \$30,000

Percent Completed: 60%

Project Description: Develop a distribution restoration decision support tool that will assist utilities in performing distribution restoration after extreme weather events in an optimal and efficient manner.

Description of Work Completed: *Midterm report received.* The PI indicates the following activities have been completed:

- Developed a deep neural network-based outage prediction using real outage data
- Developed a stochastic MILP formulation to co-optimize recovery logistics and operations.
- We have developed a deterministic formulation to co-optimize recovery logistics and operations.
- We have developed a stochastic infrastructure hardening method.

Grant Name: Sustainable Schools Americorps

Award Amount: \$27,566

Percent Completed: 95%

Project Description: Sustainable Schools AmeriCorps members will have 10 full-time members who will serve as Sustainability Coordinators in five school districts across the state. AmeriCorps members will be responsible for a 2-3% reduction in each school district's energy use.

Description of Work Completed: Principal Investigator indicates work is proceeding as scheduled. As this was a one-year contract, there was no mid-term report due. Final report due 11/30/2018.

Grant Name: Resilience Enhancement of Electrical Power Systems and Associated Infrastructures

Award Amount: \$124,508

Percent Completed: 100%

Project Description: Provide a risk-informed approach for pre-event asset hardening and post-event system restoration to enhance the resilience of electric power distribution systems in the face of extreme weather events, such as hurricanes, tornados, snow storms, and microbursts.

Description of Work Completed: *Final Report Received.* Preliminary work on three areas have been conducted:

- Risk analysis of the power distribution and power transmission lines under extreme weather events.
- Design of the micro-grids as a method to enhance the resilience of the power grids under extreme weather events.
- Application of agent-based models to assess response between different agents after disruptions.

Grant Name: Renewable Energy Course

Award Amount: \$49,723

Percent Completed: 100%

Project Description: The proposed project is to develop a course to train undergraduate and graduate students in fundamentals of renewable energy

Description of Work Completed: *Final report received.* To support the student learning experience various projects are included in the course. Four project topics have been developed in this project: *Sustainable Equipment, A Mobile Emergency Power Generator and Supply Suite, Visualizing the Sustainability of New Materials with e-Labels and Sustainability Opens New Job Markets*

Grant Name: Energize Northeast Iowa

Award Amount: \$37,600

Percent Completed: Unknown

Project Description: Provide high school students the fundamental knowledge in energy efficiency and the emerging field of renewable energy.

Description of Work Completed: *Midterm report received.* Initial curriculum layout and topics developed: Renewable 101, Solar Thermal, Geothermal, Solar Photovoltaics, and Wind Energy. Eight teacher trainings were scheduled through May of 2018. NICC has been developing an open education resource page to host the developed materials.

Grant Name: Manufacturing of Advanced Alnico Magnets for Energy Efficiency Traction Drive Motors and Generators

Award Amount: \$65,000

Percent Completed: 60%

Project Description: This project will satisfy the unrealized goal of testing the performance of at least one set of new powder processed alnico magnets, in a complete energy efficient advanced drive motor.

Description of Work Completed: ISU indicates that this project is 90% complete, however IEDA has not received a midterm report to verify this information. Grant recipient has been informed that requests for reimbursement will be held until report has been received Grant recipient indicates that they are working to provide reports.

Grant Name: Measurement-Based Hierarchical Framework for Time-Varying Stochastic Load Modeling

Award Amount: \$60,890

Percent Completed: 60%

Project Description: Develop a hierarchical load modeling structure to build time-varying, stochastic, customer behavior-driven and DR-enabled load models by leveraging practical utility data and laboratory experiments.

Description of Work Completed: *Midterm report received.* The PI indicates the following activities have been completed:

- Completed Machine Learning-based Power Electronic Load Modeling
- Completed Microgrid Modeling: Peer Reviewed Article Accepted
- Completed Demand Response Modeling: Peer Reviewed Article Accepted
- Data Collection: Real Data Obtained from Cedar Falls Utilities, Maquoketa Valley Electric Cooperative, and Algona Municipal Utilities including SCADA data, smart meter data, and feeder models

Grant Name: Cost Effective 6.5% Silicon Steel Laminate for Electric Machines

Award Amount: \$99,832

Percent Completed: 50%

Project Description: The proposed effort is a comprehensive research and development, including 1) new rare earth free traction motor (design, construction and evaluation), 2) cost effective high Silicon content electric steel laminate, and 3) non-rare earth permanent magnet developed under the DOE ARP Ae REACT program.

Description of Work Completed: *Midterm report received* The project progressed as planned. All key milestones have been met. However, there are two adjustments to the approach: 1) The size of the MnBi permanent magnet to be used in GEN-I prototype is 17 grams. 2) The fabrication of bulk magnet is simplified to cold-iso-press followed by annealing. The original warm-compaction process has been abandoned due to its limited productivity and high cost.

Grant Name: Flexible Service Contracting for Risk Management within Integrated Transmission and Distribution

Award Amount: \$67,272

Percent Completed: 45%

Project Description: The overall objective of this project is to investigate the ability of Demand Response Aggregators (DRAs) making use of innovative types of "swing" contracts to facilitate the efficient provision of flexible services by distribution resources in integrated transmission and distribution (T&D) systems in order to achieve a robust management of T&D system risks and uncertainties.

Description of Work Completed: *Midterm report received.* The PI indicates the following activities have been completed:

- Developed used test system to conduct systematic performance studies.
- Performance evaluation of a new *Transactive Energy System (TES)* design implemented by a non-profit DSO functioning as a DER aggregator within an ITD system.
- Evaluation of a new market-clearing optimization method for a swing contract day-ahead market (DAM) design with dynamic reserves that permits swing contract offers.
- Extension of the distribution system component of our ITD Test System to include additional types of household appliances with smart price-responsive controllers.
- Extension of the wholesale power market component of our ITD Test System to permit participation of energy storage units (e.g., DSOs operating at T-D interfaces as virtual batteries)

Grant Name: RAPID: Autothermal Pyrolysis of Lignocellulose Wastes to Sugars and other Biobased Products

Award Amount: \$600,000

Percent Completed: Unknown

Project Description: The goal of the project is to develop pyrolysis-based Modular Energy Production Systems for the conversion of wastes and distributed lignocellulosic feedstocks into fuels, chemicals and other products.

Description of Work Completed: IEDA has yet to receive a claim or progress report for this project. We have reached out to the PI and their team to gather any relevant information.

Grant Name: Electrosynthesis with High Efficiency for Renewable and Scalable Liquid Fuel Production

Award Amount: \$14,737

Percent Completed: 53%

Project Description: Propose to 1) engineer the conductive and soluble alkaline polymer ionomer that creates the intimate electrolyte-electrode interface, 2) introduce the nano-scale Fe₂O₃ nitrogen-reduction catalyst with ultrahigh coulombic efficiency and high performance, and 3) design nano-structure electrode with facile mass transport and device durability.

Description of Work Completed: *Midterm report received* The team has passed the second and third round quarterly reviews with from ARPAE. The ISU team has screened the typical electrode-preparing methods with alkaline polymer electrolyte and Fe₂O₃-based catalysts and are currently working to design and prepare N₂ reduction electrodes.

Grant Name: Bridging Energy Science Education and Careers with Innovative Technologies

Award Amount: \$67,778

Percent Completed: 86%

Project Description: The proposed two-year project addresses this critical need to improve energy literacy in Iowa and provide middle school students experiences that enable them to understand energy concepts as well as environmental implications.

Description of Work Completed: Grant recipient indicates that this project is 86% complete, however IEDA has not received a midterm report to verify this information. The program manager has received confirmation that the PI is working on the report. Requests for reimbursement will be held until report has been received.

Grant Name: Developing a Landscape of Building Energy Use & Emissions in the city of Des Moines, IA

Award Amount: \$98,557

Percent Completed: 100%

Project Description: The goal of the project is to develop a metropolitan landscape of building energy use for the city of Des Moines and build a prototype MRV system for building energy use by combing GIS building footprint data, the Assessor's parcel data, remote sensing data, and a building model.

Description of Work Completed: Grant recipient indicates that this project is 100% complete, however IEDA has not received a final report to verify this information. The grant recipient has been informed that requests for reimbursement will be held until the final report has been received and IEDA verifies that the terms of the agreement have been met. Grant recipient indicates that they are working to provide reports.

Grant Name: Development of Agricultural-Based Phase Change Materials for Building Applications

Award Amount: \$142,136

Percent Completed: 100%

Project Description: Project aims at introducing new agricultural-based phase change materials (PCMs), specifically designed for improving the energy efficiency and conservation of concrete materials.

Description of Work Completed: Grant recipient indicates that this project is 100% complete, however IEDA has not received a final report to verify this information. The grant recipient has been informed that requests for reimbursement will be held until the final report has been received and IEDA verifies that the terms of the agreement have been met. Grant recipient indicates that they are working to provide reports.

Grant Name: Forced and Natural Turbulence Allowing Studies of Turbulent Anisotropic Conditions

Award Amount: \$78,106

Percent Completed: 100%

Project Description: The goal of the project is to conduct essential testing and develop operational management of data from our recently completed twin-tower "outdoor wind energy laboratory" facility.

Description of Work Completed: Grant recipient indicates that this project is 100% complete, however IEDA has not received a final report to verify this information. The grant recipient has been informed that requests for reimbursement will be held until the final report has been received and IEDA verifies that the terms of the agreement have been met. Grant recipient indicates that they are working to provide reports.

Grant Name: In-Field Building Material Thermal Conductivity and R-Value Measurement

Award Amount: \$80,000

Percent Completed: 100%

Project Description: The project aims to develop a portable device which is capable of measuring the thermal conductivity of various building materials, and evaluating their R-value based on in-situ thickness measurement using ultrasonic thickness gauge with a measurement accuracy of ± 0.1 mm.

Description of Work Completed: *Final Report Received.* The team created a non-contact and non-destructive technique for thermal conductivity measurement by using an infrared camera and laser heating equipment. A focused laser beam is used as a heating source to heat up an area of the sample and the temperature field on surface is captured by an infrared camera. Fifteen papers have been published in highly visible journals. All papers acknowledge the Iowa energy center's support.

Grant Name: Organizing the 2017 North American Wind Energy Academy Symposium at ISU

Award Amount: \$14,916

Percent Completed: 100%

Project Description: The goal of the project is to host an international symposium at Iowa State University that covers different facets of wind energy including education. This biennial symposium is organized by the North American Wind Energy Academy (NAWEA) and is supported in part by the Department of Energy

Description of Work Completed: *Final report received.* The recently concluded North American Wind Energy Academy (NAWEA) symposium hosted by Iowa State University attracted 97 participants from academia, national laboratories, and industry. In addition to 72 technical presentations, the event featured 3 plenary talks, 2 keynote speeches, a student poster competition, several wind technical and program committee meetings, and 4 workshops on various wind energy technologies. The symposium was held in Scheman Building at the Iowa State Center, which ran from Sep 26 through Sep 29, 2017.

Grant Name: Building Materials for Energy Efficiency: Adaptable Education Modules

Award Amount: \$64,990

Percent Completed: 55%

Project Description: The goal of the project is to develop a set of interdisciplinary, adaptable educational modules for a diverse group of the state's undergraduate and graduate university students, as well as students at Iowa's community colleges, with the goal of better equipping them with the knowledge and skills needed for their professional careers in the building energy sector

Description of Work Completed: ISU indicates this project is 55% complete, however IEDA has not received a midterm report to verify this information. Grant recipient has been informed that requests for reimbursement will be held until report has been received. Grant recipient indicates that they are working to provide reports.

Grant Name: High Rate Ammonia Synthesis by Intermediate Temperature Solid-State Alkaline Electrolyzer

Award Amount: \$120,000

Percent Completed: 29%

Project Description: The target for the project is to develop a novel, cost-effective ITSAE system (ITSAES) which is able to efficiently produce highly-pure ammonia from water and air at the temperature range of 150-250°C and pressure of 5-10 bar by using renewable or harvest electricity.

Description of Work Completed: *Midterm report received.* PI indicates that the following activities have been completed:

- Project has passed Phase I and Phase II quarterly review with ARPAE and have not received any yellow or red warnings
- Prepared catalysts with different sizes by wet-chemistry method
- Identified the optimal sizes towards the NPR activity and the highest selectivity by combining in-situ and off-situ characterizations.
- Work progresses on all other subtasks, with most tasks over 30% complete.

Attachment B

ACTION

REPORT

IOWA ENERGY CENTER BOARD

NOVEMBER 2018

From: Legal

Subject: Approve filing of Notice of Intended Action for administrative rules for Alternate Energy Revolving Loan Program (AERLP)

2017 Iowa Acts, chapter 169 amended Iowa Code section 476.46 and transferred the administration of the Alternate Energy Revolving Loan Program (AERLP) to the Iowa energy center created under section 15.120. Iowa Code section 15.120 requires the Energy Center board to adopt rules for the administration of the programs it administers.

The proposed new chapter will govern the administration of the AERLP. These rules create definitions, establish terms for loans, define eligible and ineligible borrowers as well as eligible and ineligible costs, and set forth the requirements for eligible projects. These rules also describe the application process and the administration of the loan program.

Proposed Motion: Approve filing of Notice of Intended Action for AERLP rules chapter

Submitted By: Kristin Hanks-Bents, Assistant Legal Counsel

Attachments: Proposed Notice of Intended Action

Attachment C

404.1 Definitions.

“*Activity*” means one or more specific activities, projects or programs associated with Iowa Energy Center grant funds.

“*Annual allocation*” means the annual dollar amount the Board allocates to the Iowa energy center for energy center grant activities.

“*Authority*” means the economic development authority created in Iowa Code section 15.105.

“*Board*” means the governing board of the Iowa energy center established pursuant to Iowa Code section 15.120(2).

“*Co-Investigator*” means a person who shares the responsibility of conducting grant activities with the principal investigator of a project.

“*Funding announcement*” means a publicly available document that contains the official information for a grant including the application deadline, goals of the activity, eligibility requirements, reporting requirements, availability of funds and instructions on applying for the grant.

“*Iowa energy center*” or “*IEC*” means the Iowa energy center created within the economic development authority pursuant to Iowa Code section 15.120.

“*Principal investigator*” means a person with the primary responsibility for conducting research.

“*Recipient*” means the organization that was awarded the Iowa energy center grant.

“*Sub investigator*” means a person carrying out grant activities at the direction of the principal investigator and receiving funds from the award to the recipient.

“*Subrecipient*” means an organization contracting with and receiving funds from a recipient to carry out IEC grant activities.

261-404.2 Policies and Procedures Handbook. The authority will prepare a policies and procedures handbook for approval by the Board. The board will review the policies and procedures handbook on an annual basis. The policies and procedures will include the annual allocation to each grant activity.

261-404.3 Eligibility.

404.3(1) Eligible applicants. Eligible applicants include Iowa businesses, colleges and universities, and private nonprofit agencies and foundations.

404.3(2) Applications with subrecipients. Any eligible applicant may submit an application that includes one or more subrecipients. The amount of an award that a subrecipient can receive is set forth in the policies and procedures.

404.3(3) Joint applications Any eligible applicant may apply individually or jointly with another eligible applicant or other eligible applicants.

404.3(4) Restrictions on applicants. A principal investigator will be allowed to submit one application per funding announcement. An applicant who has submitted an application as the principal investigator for a funding announcement may also be named as a co-investigator on additional applications submitted for the same funding announcement, provided they are not the principal investigator on any additional applications.

261-404.5 Funding and award terms.

404.4(1) For each fiscal year that funds are available, the board will determine the amount of funds available to be awarded as grants in that fiscal year.

404.4 (2) If any funds are allocated to a specific grant activity but are not awarded after a funding cycle, the board may reallocate those funds to a different grant activity.

404.4 (3) The board may reallocate any recaptured funds to a different grant activity.

404.4 (4) The maximum grant award is \$1,000,000 per application. The minimum grant award is \$10,000 per application.

404.4 (5) The initial duration of a grant agreement will be no longer than three years. However, a recipient may apply for a no-cost extension of an agreement. If the approval of a no-cost extension would cause the duration of the grant agreement to exceed five years, the no-cost extension shall not be granted.

404.4 (6) Requirements for IEC grant awards include but are not limited to:

- a. Applicants must demonstrate a benefit for ratepayers.
- b. Applicants must demonstrate that they are an eligible candidate.
- c. Applicants shall demonstrate the capacity for grants administration.
- d. Applicants who have received previous Iowa energy center awards shall have demonstrated acceptable past performance, including the timely expenditure of funds.
- e. Applications shall demonstrate the feasibility of completing the proposed activities with the funds requested.
- f. Applications shall identify and describe any other sources of funding the proposed activities.

404.4 (9) *Ineligible Projects* The following types of projects are ineligible for an award.

- a. Relocation of a business.
- b. Expansion of a business.
- c. Funding for existing training programs.
- d. Private asset development.
- e. Pipeline, transmission, and distribution line construction
- f. First generation ethanol.
- g. Cellulosic ethanol.

261-404.5 Expenses.

404.5(1) Eligible expenses. Only expenditures directly related to the implementation of the funded grant activity will be reimbursed. Examples of eligible expenses can be found in the policies and procedures handbook. Vehicle purchases are eligible only when the purchase of the vehicle is an integral part of the funded grant activity and must be approved by the board at the time the award is made.

404 5(2) Ineligible expenses include but are not limited to:

- a. Purchase or rental of buildings.
- b. Office equipment.
- c. Furniture and fixtures.
- d. Intangible assets.
- e. International travel.
- f. Insurance.
- g. Phone expenses.
- h. Indirect costs shall not exceed more than 20% of a grant award.
- i. IEC grant funds shall not be used as cost share to a federal grant award.

j. Vehicle purchases or other vehicle-related expenses are not eligible if the purchase or expense supports the proposed grant activity but is not an integral part of the proposed grant activity. If a vehicle purchase is an integral part of a grant activity but a recipient fails to obtain board approval prior to the purchase, then the vehicle purchase is ineligible.

261-404.6 Application Process and Review.

404.6(1) The board will issue for grant applications at least once per fiscal year, provided funds are available.

404.6(2) Application forms will be available at iowagrants.gov.

404.6(3) Applications will only be accepted during the established application period, as identified by the Iowa energy center on its website.

404.6(4) The Iowa energy center will review applications and make funding decisions after each funding announcement. Review criteria typically include, but are not limited to:

a. Demonstrated need for further research, development, training or pilots.

b. The proposed project provides a benefit to ratepayers

c. The application has a well-developed budget that is relevant to the project and that provides documentation of planned project expenses.

d. Dissemination plan

404.6(5) Applicants must first submit a pre-application. The authority will review the pre-application for eligibility and recommend pre-applications to the grant committee. The grant committee will review the pre-applications and determine which pre-applications warrant submission of full applications.

404.6(6) An application may not be submitted to the Iowa energy center until a preapplication has been submitted to the Iowa energy center and the grant committee has approved submission of the application. The authority will review applications for completeness, eligibility, and technical and financial merit. The authority may engage an outside technical review panel to complete technical review of applications. The authority will prepare recommendations for the grant committee. The grant committee will review the applications and staff recommendations and make recommendations to the Board. Upon review of the recommendations of the grant committee, the board shall approve, defer, or deny the applications.

261-404.8 Administration.

404.7(1) *Notice of approval* The authority will notify successful applicants in writing of an approved request for funding. Notification will include the terms or conditions under which approval is granted.

404.7(2) *Agreement.* After notifying the recipient of an award, the authority will issue an agreement. The agreement shall be between the recipient and the authority.

404.7(3) *Transmittal.* The recipient must execute and return the agreement to the authority within 45 days of the transmittal of the final agreement from the authority. Failure to do so may be cause for the board to terminate the award.

404.7(4) *Disbursement of funds.* Recipients shall submit requests for grant funds in the manner prescribed by the authority. Disbursements shall be made on a reimbursement basis. No advance disbursements shall be allowed. Disbursements may be withheld if applicable performance reports have not been received and approved. Individual requests for funds shall be made in an amount equal to or greater than \$500 per request, except for the final draw of funds.

404.7(5) *Record keeping and retention.* Recipients shall retain all financial records, supporting documents and all other records pertinent to the grant for five years after agreement closeout.

404.7(6) *Performance reports and reviews.* Recipients shall submit performance reports to the authority as described in the policies and procedures handbook. The authority may perform annual project reviews and site inspections as necessary to ensure program compliance.

404.7(7) *Agreement amendments.*

a Any substantive change to a funded IEC project, including time extensions, budget revisions, and alterations to proposed activities will be considered an agreement amendment. The recipient shall request an amendment in writing. No amendment shall be valid until approved by the board, except as provided in 404.8(7)"b" and confirmed in writing by the authority.

b. *Staff approvals.*

(1) Staff may approve one no-cost extension provided that the extension complies with subrule 404.4(5). Additional no-cost extensions shall be presented to the board for approval.

(2) *Budget modifications.* Any substantial modification of a project budget shall require board approval. Staff may approve budget modifications that are not substantial. For purposes of this paragraph (2), "substantial modification" means either \$10,000 or 10 percent of the total grant award, whichever is less.

404.7(8) Agreement closeout. Upon agreement expiration or project completion, the authority shall initiate project closeout procedures.

404.7(9) Compliance with state and local laws and rules Recipients shall comply with these rules, with any provisions of the Iowa Code governing activities performed under this program, and with any applicable local rules.

404.7(10) Noncompliance. At any time during a project, the IEC may, for cause, find that a recipient is not in compliance with the requirements of this program. At the board's discretion, remedies may include penalties up to and including the return of grant funds to the IEC. Findings of noncompliance may include the use of Iowa energy center funds for activities not described in the application, failure to complete approved activities in a timely manner, failure to comply with any applicable state or federal rules, regulations, or laws, or the lack of a continuing capacity of the recipient to carry out the approved project in a timely manner.

404.8 Implementation statement.

The rules in this chapter are intended to implement Iowa Code section 15 120.

Attachment D

ACTION

**REPORT
IOWA ENERGY CENTER BOARD
NOVEMBER 2018**

From: Legal

Subject: Approve filing of Notice of Intended Action for administrative rules for Alternate Energy Revolving Loan Program (AERLP)

2017 Iowa Acts, chapter 169 amended Iowa Code section 476.46 and transferred the administration of the Alternate Energy Revolving Loan Program (AERLP) to the Iowa energy center created under section 15.120. Iowa Code section 15.120 requires the Energy Center board to adopt rules for the administration of the programs it administers.

The proposed new chapter will govern the administration of the AERLP. These rules create definitions, establish terms for loans, define eligible and ineligible borrowers as well as eligible and ineligible costs, and set forth the requirements for eligible projects. These rules also describe the application process and the administration of the loan program.

Proposed Motion: Approve filing of Notice of Intended Action for AERLP rules chapter

Submitted By: Kristin Hanks-Bents, Assistant Legal Counsel

Attachments: Proposed Notice of Intended Action

Attachment E

405.1 Definitions.

“*Authority*” means the economic development authority created in Iowa Code section 15.105.

“*Board*” means the governing board of the Iowa energy center established pursuant to Iowa Code section 15.120(2).

“*Iowa energy center*” or “*IEC*” means the Iowa energy center created within the economic development authority pursuant to Iowa Code section 15.120.

“*Project*” means an alternate energy production facility as defined in Iowa code section 476.42 or a small hydro facility as defined in Iowa code section 476.42.

405.2 Loan amounts and terms.

405.5(1) The minimum loan amount is \$25,000 per project.

405.5(2) The board shall not lend more than 50% of eligible project costs as defined in rule 405.5

405.5(3) A project shall be eligible for not more than one million dollars in loans outstanding at any time under this program.

405.5(4) A borrower shall be eligible for not more than one million dollars in loans outstanding at any time under this program.

405.5(5) The board shall not issue a loan that exceeds the value of the collateral provided.

405.5(6) Security for loans. The board will accept security for a loan The following forms of collateral will be accepted:

- a. Real property;
- b. Dedicated certificate of deposit;
- c. Irrevocable letter of credit;
- d. Corporate guarantee;
- e. Other forms of collateral if approved by the board, and, only if the other forms of collateral are inadequate.

405.5(7) *Term.* The duration of the loan shall be for the lesser of twenty years, the estimated useful life of the project that is financed by the loan, the terms of any other loans used to finance the project, or the estimated return on investment for the project, whichever is shorter.

405.3 Borrowers

405.3(1) *Eligible borrowers.* The project shall be wholly owned by the borrower Eligible borrowers include:

- a. Persons whose primary residence is in Iowa.
- b. Businesses registered and domiciled in Iowa. For businesses organized as limited liability companies, each member of the limited liability company must be domiciled in Iowa and be an eligible borrower.
- c. Water and waste water utilities subject to Iowa code chapter 388, rural water districts subject to Iowa code chapters 357A and 504, and sanitary districts subject to Iowa code chapter 358.

405.3(2) *Ineligible borrowers.* Ineligible borrowers include:

- a. An organization that is lending to a project and also owns the project or is a member of an organization that owns the project.

- b. An individual or an organization with a history of defaulted loans or compliance violations with other state programs or rules.
- c. Regents institutions.
- d. Community colleges.
- e. State agencies.
- f. Cities, but not water or waste water utilities subject to Iowa code chapter 388.
- g. Counties.
- h. School districts.
- i. Non-profit organizations.
- j. Gas and electric utilities subject to Iowa code chapter 388 or rural electric cooperatives subject to Iowa code chapter 476.1

405.4 Eligible Projects. A proposed project must meet the following criteria to be eligible for a loan under this program:

405.4(1) The project must be located in Iowa;

405.4(2) The project must be an alternate energy production facility as defined in Iowa code section 476.42 or a small hydro facility as defined in Iowa code section 476.42.

405.4(3) The project shall be wholly owned by the borrower.

405.4(4) The borrower must be the owner, contract purchaser or lessee of the real property where the project is located.

405.5 Eligible and ineligible costs

405.5(1) *Eligible costs* Examples of eligible costs include:

- a. Real and personal property comprising a project;
- b. Materials and equipment required for necessary site preparation, construction and installation of a project;
- c. Labor for site preparation, construction and installation of a project. Only labor that is performed by a third party such as an independent contractor will be considered an eligible cost.

405.5(2) *Ineligible costs* Examples of ineligible costs include:

- a. Feasibility studies;
- b. Permits;
- c. Administrative costs not associated with site preparation, construction, and installation of a project;
- d. Costs incurred prior to the board's approval of a loan;
- e. Interconnection costs;
- f. Costs associated with maintenance, operation or repair of a project; and
- g. Other costs that the board determines to be ineligible.

405.6 Application Process

405.6(1) Application forms shall be available at iowagrants.gov.

405.6(2) Applications will be accepted during an established application period, as determined by the board from time to time and as funds are available.

405.6(3) If an applicant intends to finance more than one project, the applicant shall include all proposed projects in a single loan application.

405.6(4) Authority staff will review applications for completeness, eligibility, and whether the proposed project meets the financial and technical requirements of the Iowa energy center. The board may engage an outside technical review panel to complete technical reviews of applications.

405.6(5) Authority staff will recommend applications to the loan committee. The Iowa energy center may request additional information from applicants to process the loan application. The loan committee will review the applications and staff recommendations and then make recommendations to the board. The board will approve, defer, or deny applications for loans. Authority staff may negotiate the amount, term, and other conditions of the loan prior to award.

405.6(6) The board will accept loan applications on a rolling basis. The board will make funding decisions at least once a quarter.

405.6(7) If, during any application period determined by the board, the demand for loans exceeds the funding available, the following competitive scoring criteria will be used:

- a. Applications for projects that employ novel, emerging or underutilized technology will be scored favorably.
- b. Applications for projects that increase geographic diversity for the loan program portfolio will be scored favorably.
- c. Applications for projects that provide a quicker return on investment and a shorter loan term will be scored favorably.
- d. Applications for projects that produce more renewable energy relative to the amount of the loan will be scored favorably.

405.7 Administration

405.7(1) *Notice of approval* The authority will notify successful applicants in writing of an approved request for funding. Such a notification may include the terms or conditions under which approval is granted.

405.7(2) *Contract*. After notifying the borrower of an award, the authority will offer a contract to the borrower. The contract shall be between the Iowa energy center and the borrower. An award shall not constitute a binding contract.

405.7(3) *Transmittal* The borrower must execute and return the contract to the authority within 45 days of the transmittal of the final contract from the authority. Failure to do so may be cause for the board to terminate the award.

405.7(4) *Disbursement of funds*. Borrowers shall submit requests for disbursement of funds on the forms provided by the authority

405.7(5) *Amendment*. Any substantive change to a project shall require an amendment to the contract. A substantive change to a project includes but is not limited to the loan amount, term and scope of work. The borrower shall request the amendment in writing. No amendment shall be valid until approved by the board. The authority may execute non-substantive or corrective changes to the contract without board approval.

405.7(6) *Closeout* Upon contract expiration or project completion, the authority shall initiate project closeout procedures.

405.7(7) *Record keeping and retention*. Borrowers shall retain all financial records, supporting documents and all other records pertinent to the loan for three years after the contract is closed or the loan is put in default and is not cured.

405.7(8) Reporting and compliance A start-up report is due to the authority within thirty days of the date that the project is placed in service. The report shall include but is not limited to documentation of installed costs of the project, one or more photographs, a sample invoice, and a description of any unexpected problems encountered during construction or installation of the project. The authority reserves the right to conduct a site visit of all awarded projects to ensure the projects were built as proposed and to provide verification of ongoing operation. The authority will monitor all loans to ensure that loan proceeds have been spent as identified in the contract and that all other sources of financing have been committed to the project. Borrowers shall be required to notify the authority of any change in ownership. Any loan made pursuant to this program shall become due for payment upon sale of the project for which the loan was made.

405.7(9) Default.

a. At any time during the construction of a project or the repayment of the loan, the authority may find that a borrower is in default under the terms of the loan contract. The authority will take prompt, appropriate, and aggressive debt collection action to recover any funds misspent by borrowers.

b. If the authority determines that a borrower is in default, the authority may seek recovery of the loan plus interest or other penalties as authorized pursuant to Iowa code section 476.46, negotiate alternative payment schedules, suspend or discontinue collection efforts and take action as the authority deems necessary.

c. The authority shall attempt to collect the amount owed. Negotiated settlements, write-offs or discontinuance of collection efforts is subject to final review and approval of the board.

d. If the authority refers defaulted contracts to outside counsel for collection, then the terms of the contract between the authority and the outside counsel regarding the scope of counsel's authorization to accept settlements shall apply.

261-405.8 Implementation statement These rules are intended to implement Iowa Code section 15.120 and 476.46.

Attachment F

IEDA

Iowa Energy Center Financial Status Report
 FY2019 (July 1, 2018 thru October 31, 2018)

IEC - MAIN ACCOUNT

FUNDING AVAILABLE	Admin	ISU Projects	New Projects	Total
Cash Balance Forward from Previous FY (ISU)	500,000	2,511,745	9,701,970	12,713,715
FY18 Allocation	0	0	4,250,000	4,250,000
T.O.S Interest YTD	0	0	60,000	60,000
Other Revenue YTD	0	0	0	0
Deappropriations/Transfers	0	0	0	0
TOTAL	500,000	2,511,745	14,011,970	17,023,715

EXPENSES	Admin	ISU Projects	New Projects	Total
Administration YTD	72,713	0	0	72,713
Project Payouts YTD	0	0	0	0
TOTAL EXPENSES YTD	72,713	0	0	72,713

OBLIGATIONS	Admin	ISU Projects	New Projects	Total
Obligations C/F	0	2,511,745	0	2,511,745
Current Year Obligations	0	0	0	0
Current Year Rescissions	0	0	0	0
Current Year Payouts	0	0	0	0
Balance of Current Year Admin	427,287	0	0	427,287
NET OBLIGATIONS YTD	427,287	2,511,745	0	2,939,032

EST. BALANCE AVAILABLE	0	0	14,011,970	14,011,970
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IEDA

Iowa Energy Center Financial Status Report
 FY2019 (July 1, 2018 thru October 31, 2018)

IEC - MAIN ACCOUNT

REVENUE	Total Budget	Current Month	YTD Cumulative
Balance Forward from Previous FY	8,403,715	0	8,403,715
FY19 Transfer from IUB	4,250,000	0	0
T.O.S Interest	60,000	0	26,404
Other Revenue	0	0	0
TOTAL REVENUE	12,713,715	0	8,430,119

EXPENSES	Total Budget	Current Month	YTD Cumulative
Salary & Fringe	351,675	0	60,768
Travel (In-State & Out of State)	30,000	0	1,486
Supplies	12,325	0	8,000
Telephone/Communications	6,000	0	0
Rent	10,000	0	0
Advertising/Marketing	30,000	0	0
I.T	40,000	0	0
Misc	20,000	0	2,459
ISU Grants	2,511,745	0	0
Project expenditures TBD dependent upon program development and finalization of rules	9,701,970	0	0
TOTAL EXPENSES YTD	12,713,715	0	72,713

Attachment G

IEDA

Iowa Energy Center Financial Status Report
 FY2019 (July 1, 2018 thru October 31, 2018)

IEC - ALTERNATIVE ENERGY REVOLVING LOAN PROGRAM

FUNDING AVAILABLE	Admin/Mktg	Projects	Notes Rec
Beginning Balance	60,000	9,748,665	10,010,994
Principal Repayments YTD	0	1,229,813	1,229,813
T.O.S Interest	0	0	0
Other Revenue	0	0	0
TOTAL	60,000	10,978,478	8,781,181

ADMINISTRATION/PAYOUTS	Admin/Mktg	Projects	Notes Rec
Administration YTD	305	0	0
Project Payouts YTD	0	0	0
TOTAL EXPENSES YTD	305	0	0

OBLIGATIONS	Admin/Mktg	Projects	Notes Rec
Obligations C/F	0	0	0
Current Year Obligations	0	0	0
Current Year Rescissions	0	0	0
Current Year Payouts	0	0	0
Balance of Current Year Admin	59,695	0	0
Current Year Write-Offs	0	0	0
NET OBLIGATIONS YTD	59,695.00	0	0

EST. ENDING YEAR BALANCE YTD	0	10,978,478	8,781,181
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IEDA

Iowa Energy Center Financial Status Report
FY2019 (July 1, 2018 thru October 31, 2018)

IEC - ALTERNATIVE ENERGY REVOLVING LOAN PROGRAM

REVENUE	Total Budget	Current Month	YTD Cumulative
Balance Forward from Previous FY	7,098,665	0	7,098,665
Principal Repayments	2,650,000	0	1,229,813
T.O.S Interest	60,000	0	21,401
Other Revenue	0	0	0
TOTAL REVENUE	9,808,665	0	8,349,879

EXPENSES	Total Budget	Current Month	YTD Cumulative
Salary & Fringe	30,000	0	0
Advertising/Marketing	15,000	0	0
Misc.	15,000	0	305
Project expenditures TBD dependent upon program development and finalization of rules	9,748,665	0	0
TOTAL EXPENSES YTD	9,808,665	0	305