

**Iowa Energy Center Board
Meeting Minutes November 6, 2019
3:00 p.m.**

Iowa Energy Center Board Members:

Stuart Anderson	Gul Kremer	Jennifer Johnson	Jenae Jenison	Timothy Whipple
Debi Durham	Geri Huser	Rick Olesen	Joel Schmidt	

Iowa Economic Development Authority Staff Present:

Brian Selinger	Amber Buckingham	Shelly Peterson	Terry Roberson	Rick Groom	Tim Waddell	Kanan Kappelman
Adrienne Ricehill	Stephanie Weisenbach	Ryan Young	Kristin Hanks-Bents	MK Anderson	Leslie Leager	

Others Present:

Brenda Biddle	Anne Kimber	Andrew Lewis	Doug Jacobson	Derek Folden
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Welcome and Introductions

Roll Call

Board Chair called the meeting of the Iowa Energy Center Board to order at 3:04 p.m.

A quorum of the Board was established with the following Board members present: Stuart Anderson, Debi Durham, Geri Huser, Jennifer Johnson, Rick Olesen, Joel Schmidt, Timothy Whipple, Gul Kremer and Janae Jenison.

Approval of July 18, 2019 Meeting Minutes

Geri Huser: Moved that the Board approve the July 18, 2019 meeting minutes.

Stuart Anderson: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Public Comment Period

No comments.

Fiscal Update

Presentation provided (Attachment A)

Summary of IEC Board Questions/Comments & IEDA Staff Response

No questions or comments.

Alternate Energy Revolving Loan Program

Presentation – Program Update

Presentation provided (Attachment B)

Summary of IEC Board Questions/Comments & IEDA Staff Response

No questions or comments.

Alternate Energy Revolving Loan Projects

Brent Johnston – 36.6 kW Solar Project

Presentation provided (Attachment C)

Summary of IEC Board Questions/Comments & IEDA Staff Response

No comment or questions.

Brent Johnston – 36.6 kW Solar Project

Yes: 9 No: 0 Present: 0

Motion Passed

KP Pork LLC – 23.68 kW Solar Project

Presentation provided (Attachment D)

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Wasn't the loan committee trying to limit this project's 10-year loan term?
 - The 10-year term discussion centered around a different project which has since withdrawn their application. The KP Pork project was discussed at the second Loan Committee application cycle meeting. The range of return on investment on this project is 5.89 years to 19 years. In comparison, the Brent Johnston – 36.6 kW Solar Project's return on investment is 4 5 years to 10 years.

KP Pork LLC – 23.68 kW Solar Project

Yes: 8 No: 0 Present: 1

Motion Passed

Marathon Power Partners, LLC – 298 kW Solar Plus Battery Storage Project

Presentation provided (Attachment E)

Summary of IEC Board Questions/Comments & IEDA Staff Response

- What did they list for the life of the battery?
 - The life of the battery is higher than expected with little maintenance. It will meet our requirements to be within the loan term.

Marathon Power Partners, LLC – 298 kW Solar Plus Battery Storage Project

Yes: 8 No: 0 Present: 1

Motion Passed

Revolving Loan Program Subcommittee

Discussion

When IEDA inherited the Iowa Energy Center, the programs were designed by Iowa State and followed their policies and procedures. The Revolving Loan Program has set statutory rules outlined in Chapter 476. As a result, the loan terms are not up for negotiation. For example,

the set loan 0% interest rate, the types of projects are limited, and the funding source is separate from the Grant Program. Over the next couple of years, the IEC Board will have close to \$18M to manage. It was suggested during the last Loan Committee meeting that the Board look at the current design of the Loan Program and determine if statutory changes need to be made to help move the program forward with the most impact statewide. How should the State of Iowa use the \$18M over the next three years to move the needle on renewable energy? Should we keep the program the same or make changes?

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Solar projects seem to make up the majority of the loan portfolio and the submitted applications. Within Iowa, solar adoption is widely adopted. I question why we continue approving solar projects at the 0% interest rate. An applicant can go to a bank and obtain a loan for these types of projects. We need to restructure this program statutorily to give this Board direction as the market dictates what needs to happen. For example, IEDA is in the process of launching some innovative anaerobic digester projects. We should be able to use the Loan Program for these types of projects since there is still risk involved in that kind of adoption and we need to figure out how to monetize it. We should also be able to release Requests for Proposals for projects. I think that the Legislature would be surprised at the types of applications we are receiving. I think that we should create a subcommittee and bring forth some ideas to the Legislature. We should be funding projects that are transformative and impactful to the marketplace.
 - There would be additional risk with innovative projects.
 - We can expand the rules to include more innovative projects that fall within the pillars of the Energy Plan.
 - It will give us the flexibility to determine interest rates.
 - Interest-bearing lending doesn't buy-down enough of the risk. We could take half of the \$18M in loan money, revolve it and transfer it to the Grant Program. This is what we would study in the subcommittee.
 - It makes sense to use the Loan Program for projects like anaerobic digestion since there is already a business model.
 - Developing a subcommittee will be beneficial in identifying policies to enhance the program. While the subcommittee is meeting, I encourage the Loan Program to continue the next round of funding to see what types of project proposals we receive.
 - If we make it a more incentive driven program, we might find more innovative projects being brought before the Board.

Appointment of Sub-Committee

Debi Durham: Moved to appoint a subcommittee to study the Revolving Loan Program, evaluate its statutory basis and produce a set of recommendations to the IEC Board to request Legislative changes for the 2021 session.

Rick Olesen: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Board Members to serve on Subcommittee

Timothy Whipple

Debi Durham

Rick Olesen

Grant Program

Grant Program Update

Presentation provided (Attachment F)

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Points are awarded for Administrator discretion. Who is the Administrator? It seems like a lot of points for Administrator discretion.
 - That is the Grant Committee. These points allow the Grant Committee to award additional points during scoring. If there are two similar projects and we feel that one of the projects better meets the criteria.
- How many points are awarded?
 - 8 points. If the Board would like to adjust the amount of points, the Grant Committee is open.
- Is that normal when scoring applications?
 - Yes, based on the feedback that we received from several members of the Grant Committee, it is commonplace to have discretionary points.
 - If there was a key focus area or technology that the Committee wanted to emphasize, the Committee would be able to award these points to allow the project to move forward.
- Does the Committee have a policy to account for individuals who need to recuse themselves from scoring an application?
 - Yes, the individual will recuse themselves from scoring.
- We need to be more transparent in the scoring process.
 - We can take the recommendation back to the Grant Committee and remove the discretionary points if necessary.
- Are the point requirements for the scoring criteria affected if too many individuals recuse themselves from consideration?
 - No, the Committee provides one score for each application.

- To be more transparent, additional points can be added by the Board instead of the Committee.
 - We can take the recommendation to remove the discretionary points back to the Grant Committee.
- In this type of situation, the application should be brought before the Board for discussion.
 - The scoring criteria is made available to applicants ahead of time. If you wait until it is at the Board level, you haven't provided applicants notice of an area where they can potentially obtain additional points. They also don't know what applicants they are competing against until all the applications are submitted. This is something that needs to be considered before making this change. We can take the recommendation back to the Grant Committee for discussion.
- Does the Committee feel that the changes in the scoring criteria will help with getting more diverse applications (for example, geographic location, public/private)?
 - The Committee made changes to the scoring criteria to emphasize Iowa businesses, benefits to Iowa rate payers, collaborative projects, and how closely the projects meet the intent of the program.
 - IEDA is actively marketing the Iowa Energy Center Grant and Loan Programs to encourage innovation and diversity.

Grant Modifications

Presentation provided (Attachment G)

Electrosynthesis with High Efficiency for Renewable and Scalable Liquid Fuel Production

Presentation provided (Attachment H)

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Even though there is a rule that allows IEDA to approve no-cost budget changes you felt that these modifications needed to be brought before Board?
 - Yes, IEDA Legal Council recommended that these grant modifications be brought before the Board for approval.

Grant Modification (Attachment I)

Stuart Anderson: Moved to approve grant modification Electrosynthesis with High Efficiency for Renewable and Scalable Liquid Fuel Production.

Rick Oleson: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Building Materials for Energy Efficiency: Adaptable Education Modules

Presentation provided (Attachment J-K)

Summary of IEC Board Questions/Comments & IEDA Staff Response

No comments or questions.

Grant Modification

Rick Oleson: Moved to approve grant modification Building Materials for Energy Efficiency: Adaptable Education Modules.

Jennifer Johnson: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

Cybersecurity in Iowa's Energy Sector

Presentation provided (Attachment L)

MidAmerican Energy's DC Fast Charging Network

Presentation provided (Attachment M)

Other Business

1. Volkswagen Settlement Update

A. Presentation provided (Attachment N)

2. Director's Update

The State Auditor review of Iowa Energy Center has been completed. Since the report was released this afternoon, IEDA will report the findings along with the recommended action items at the next Board meeting.

Summary of IEC Board Questions/Comments & IEDA Staff Response

- Do you see any problems with waiting till February given that the Legislature will be back in session in January?
 - We do not see any issues since most of the items identified in the report have been addressed through our normal protocols.

- Would IEDA want any support from the Board as it relates to ISU's failure to maintain records during the transition?
 - High level review of the report identified missing files. IEDA only took over the files that were active and we did not continue to pay for the software license that housed these files.
 - If needed, IEDA can hold a special meeting in December to further review the report and present action items.

- The Board should meet before the start of the Legislation to review the audit and take any action if needed.
 - IEDA will discuss possible dates in December.

3. Next Quarterly Board Meeting is February 20, 2020.

Adjournment

Move to Adjourn

Gerı Huser: Moved that the Board adjourn the November 6, 2019 quarterly meeting.

Rick Olesen: Seconded the motion.

Yes: 9 No: 0 Present: 0

Motion Passed

There being no further business, the Iowa Energy Center Board adjourned at 4:24 p.m.

Adrienne Ricehill

IEC Board Administrator

Attachment A

IEDA									
Financial Report									
Iowa Energy Center									
Fiscal Year 2020									
October 31, 2019									
	IEC MAIN ACCT			IEC/AEL LOAN ACCT					
	Admin	Projects	Total Fund	Admin	Projects	Total Fund			
Revenue									OCT 1 2017 NOTES REC
Cash Balance Forward	400,000	11,148,535	11,548,535	0	11,110,230	11,110,230	Notes Rec Bal 7-1-19		6,199,668
FY20 IUB Transfer	0	0	0	0	0	0			0
Principal Repayments YTD	0	0	0	0	1,007,774	1,007,774			(1,007,774)
Interest Revenue	0	48,188	48,188	22,347	22,348	44,695			0
Other Revenue YTD	0	0	0	0	0	0			0
Deappropriations	0	0	0	0	0	0			0
Transfers	0	0	0	0	0	0	Notes Rec Balance		0
Total Revenue YTD	400,000	11,196,723	11,596,723	22,347	12,140,352	12,162,699			5,191,894
Expenses									
Administration YTD	(64,060)	0	(64,060)	(4,658)	0	(4,658)			
Project Payouts YTD	0	(10,086)	(10,086)	0	0	0			
Leg Auth Transfers (18 Acts Ch 1172 Sec 91)			0			0			
Total Expense YTD	(64,060)	(10,086)	(74,146)	(4,658)	0	(4,658)			
Obligations									
Obligations C/F	0	641,037	641,037	0	0	0			
Current Year Obligations	0	2,661,763	2,661,763	0	0	0			
Current Year Rescissions			0			0			
Current Year Payouts	0	(10,086)	(10,086)	0	0	0			
Balance of Current Year Admin	335,940	0	335,940	17,689	0	17,689			
Net Obligations YTD	335,940	3,292,714	3,628,654	17,689	0	17,689			
Balance Available	0	7,893,923	7,893,923	0	12,140,352	12,140,352			



Attachment B

Alternate Energy Revolving Loan Program (AERLP)

Stephanie Weisenbach, Program Manager

November 6, 2019

Iowa Energy Center Board Meeting



Program Status

- Applications due May 31
- Review and due diligence complete at end of August
- Three Loan Committee meetings
- Paused quarterly application cycle
- Three applications for IEC Board consideration today
- Application to open by end of Nov, deadline early January
 - Internal review and due diligence (IEDA and IFA) before Loan Committee
- Loan decisions at February 20, 2020 IEC Board meeting



Application Summary

- Received 7 applications, totaling ~1.5 million in requests
- 3 applications withdrawn due to ineligible aspects
- 1 application withdrawn due to delay in review process
- 3 applications brought to IEC Board for consideration



Review Procedure – Completeness & Eligibility

- Sufficiency of application responses and uploads
- Eligibility – applicant, type of project, costs, matching funds, ownership, collateral
 - Where practical and possible, applicant could modify to comply with eligibility (e.g., requirement on third party labor)



Review Procedure – Technical

- Proposed equipment components: useful life, performance guarantee, product warranties
- Energy generation reports: sources, data points, estimate in comparison to annual energy use
- Proposed size of system in kW and basic calculation
 - Battery storage – reviewed how system sizing was completed
- Reviewed factors impacting return on investment or payback and produced calculations of scenarios to compare with requested term
- For third party sale of electricity, reviewed Power Purchase Agreement, cash flow/ pro forma, LLC operating agreement and lease



Review Procedure - Creditworthiness

- Reviewed pledged collateral
- Contacted state agencies to assess any history of violations
- Looked for federal liens, UCC filings, bankruptcies, legal judgments, legal judgments
- Reviewed financial statements and tax returns
- Individual credit report (sole owner LLC or individual applicant)
- Business credit report for applicant and for businesses pledging corporate guaranty



Loan Committee Review & Recommendations

- Application and review documents shared via Microsoft Teams
 - Staff recommendation summary
 - Creditworthiness review memo
 - Return on investment and loan term memo
 - Review Sheet in IowaGrants.gov
 - Supplemental application documents for optional review
- Three Loan Committee Meetings
 - June 27 status update
 - September 17 & October 7: Application Review and Recommendations

IOWA ENERGY CENTER LOANS PROJECT REPORT

Applicant: Brent Johnson
Project Type: Solar
Project Size: 36.6 kW
Loan Amount: \$25,512
Loan Term: 6 years
Award Date: November 6, 2019

Summary

Brent Johnson is the owner of a farming operation as well as a crop consulting business, Labre Crop Consulting in Manson, IA (Calhoun County). The project will be a 26.25 kW, roof-mounted solar photovoltaic system on two buildings, estimated to annually produce 31,846 kWh of electricity. The Iowa Energy Center Loan Committee recommends a \$25,512 loan with a six-year term through the Alternate Energy Revolving Loan Program (AERLP).

Funding Sources

Financing

Source	Form	% of Eligible Project Cost	Amount
Iowa Energy Center AERLP	6-year term loan	50%	\$25,512
Loan	10-year term loan	50%	\$25,512
Total Eligible Cost			\$51,024

Tax Credits

Name of Credit	Source	Estimate
Business Energy Investment Tax Credit (ITC)	Federal	\$15,307
Solar Energy System Tax Credit	State	\$7,654
Total		\$22,961

Loan Term

IEC loan terms are determined by selecting the *shortest* of the following:

1. The estimated useful life
2. The estimated return on investment, or
3. The term of any other loan used to finance the project

Applicant: Brent Johnson
Project Type: Solar
Project Size: 36.6 kW
Loan Amount: \$25,512
Loan Term: 6 years
Award Date: November 6, 2019

This project's estimated useful life is the highest of the above list. There is another loan being used to finance the project with a ten-year term. Six years was determined to be a realistic return, considering the factors (e.g., annual cost savings, tax credits, and operational costs) that impact return on investment or payback for the applicant.

Collateral

Irrevocable letter of credit for \$25,512. IEC Loan funds will not be disbursed by IEDA until after collateral has been secured.

- An irrevocable letter of credit is an official correspondence from a bank, requested by the applicant. It will assure that the bank will pay the obligation if the borrower fails to pay.

Project Timeline

Project Award:	November 6, 2019
Installation:	Before April 30, 2020
Start-up Report:	Within 30 days of being placed in service

IOWA ENERGY CENTER LOANS PROJECT REPORT

Applicant: KP Pork, LLC
Project Type: Solar
Project Size: 23.68 kW
Loan Amount: \$25,000
Loan Term: 10 years
Award Date: November 6, 2019

Summary

KP Pork, LLC manages a hog farming operation in Fairbank, Iowa (Buchanan County). The project will be a 23.68 kW, fixed ground-mounted solar photovoltaic system estimated to annually produce 31,893 kWh of electricity. The Iowa Energy Center Loan Committee recommends a \$25,000 loan with a ten-year term through the Alternate Energy Revolving Loan Program (AERLP).

Funding Sources

Financing

Source	Form	% of Eligible Project Cost	Amount
Iowa Energy Center AERLP	10-year Loan	47%	\$25,000
Applicant	Cash	53%	\$28,775
Total Eligible Cost			\$53,775

Tax Credits

Name of Credit	Source	Estimate
Investment Tax Credit (ITC)	Federal	\$16,133
Solar Energy System Tax Credit	State	\$8,066
Total		\$24,199

Loan Term

IEC loan terms are determined by selecting the *shortest* of the following:

1. The estimated useful life
2. The estimated return on investment, or
3. The term of any other loan used to finance the project

This project's estimated useful life is the highest of the above list. There is no other loan being used to finance the project; therefore, the estimated return on investment is the shortest and most relevant criteria. Ten years was determined to be a realistic return, considering the factors (e.g., annual cost

Applicant: KP Pork, LLC
Project Type: Solar
Project Size: 23.68 kW
Loan Amount: \$25,000
Loan Term: 10 years
Award Date: November 6, 2019

savings, tax credits, and operational costs) that impact return on investment or payback for the applicant.

Collateral

Irrevocable Letter of Credit for \$25,000. Loan funds will not be disbursed until after collateral has been secured.

- An irrevocable letter of credit is an official correspondence from a bank, requested by the applicant. It will assure that the bank will pay the obligation if the borrower fails to pay.

Project Timeline

Project Award:	November 6, 2019
Installation:	Before April 30, 2020
Start-up Report:	Within 30 days of being placed in service

IOWA ENERGY CENTER LOANS PROJECT REPORT

Applicant: Marathon Power Partners, LLC
Project Type: Solar plus battery energy storage
Project Size: 298 kW
Loan Amount: \$160,900
Loan Term: 15 years
Award Date: November 6, 2019

Summary

Marathon Power Partners, LLC plans to develop, own and operate a solar energy production facility to serve the municipal utility for city of Marathon, Iowa (Buena Vista County). The project will be located at a former baseball field owned by the city and leased to Marathon Power Partners, LLC. It will consist of a 298 kW, ground-mounted solar photovoltaic system estimated to annually produce 426,483 kWh of electricity. Battery storage utilizing zinc air technology is included in the project with the goal of shaving peak load and reducing demand charges for the city and its customers. The applicant has a Power Purchase Agreement with the city of Marathon. The Iowa Energy Center Loan Committee recommends a \$160,900 loan for a fifteen-year term through the Alternate Energy Revolving Loan Program (AERLP).

Funding Sources

Financing

Source	Form	% of Eligible Project Cost	Amount
Iowa Energy Center AERLP	15-year Loan	~35%	\$160,900
Bank Loan	15-year Loan	~28%	\$130,000
Private Equity	Cash Injection from LLC members	~36%	\$163,205
Total Eligible Cost			\$454,105

Tax Credits

Name of Credit	Source	Estimate
Investment Tax Credit (ITC)	Federal	\$147,893 (includes costs ineligible for AERLP)
Solar Energy System Tax Credit	State	\$20,000
Total		\$167,893

Applicant: Marathon Power Partners, LLC
Project Type: Solar plus battery energy storage
Project Size: 298 kW
Loan Amount: \$160,900
Loan Term: 15 years
Award Date: November 6, 2019

Loan Term

IEC loan terms are determined by selecting the *shortest* of the following:

1. The estimated useful life
2. The estimated return on investment, or
3. The term of any other loan used to finance the project

This project's estimated useful life is the highest of the above list. The bank loan assisting in financing the project has a fifteen-year term. The estimated return on investment is determined differently than a self-generation project and results from analysis from the applicant's confidential cash flow projections. Factors impacting the estimated return on investment include cumulative cash flow and the percentage of annual revenue used to repay loans. Fifteen years was determined to be a realistic return.

Collateral

A Corporate Guaranty is pledged from Trusted Energy, which has membership in Marathon Power Partners LLC, investment in the project and management responsibility in its operations. IEC Loan funds will not be disbursed by IEDA until after collateral has been secured.

- A corporate guaranty is an executed written commitment through which a guarantor agrees to provide full payment if the recipient of the loan does not or cannot pay back the loan. IEDA will provide the required corporate guaranty document to the guarantor for signature.

Project Timeline

Project Award: November 6, 2019
Installation: Before April 30, 2020
Start-up Report: Within 30 days of being placed in service

Attachment F

Iowa Energy Center Board Meeting

November 6, 2019

IOWA.
economic development



Iowa Energy Center Grant Program Round Two Changes

- Policies and Procedures
 - Including examples of private asset development.
 - Clarifying the basis of calculations for indirect costs and cost share.
 - Clarifying the types of cost share allowed.
 - Unrecovered indirect costs will no longer be allowed as cost share.
 - Improving procedural descriptions for grantees.
 - Clarifying definition of Iowa Business.



Iowa Energy Center Grant Program Round Two Changes

• Pre-Application Scoring Criteria Changes

- Changed the scoring metrics from yes/no questions to a point-based system.
- Seven sections, 5 points per section for a total of 35 points
- Applicant must score 21 points to be eligible for final application
- Cost share information must be provided in the pre-application round.

Evaluation Criteria	Total Points
Does the proposal demonstrate how the project meets one of the seven key focus areas of the Iowa Energy Plan?	5
Does the proposal demonstrate how the project provides a benefit to Iowa ratepayers?	5
Does the proposal clearly describe the project goals?	5
If the applicant has received previous IEC awards, did they demonstrate acceptable past performance?	5
Is the budget proposal complete and appear to support the grant activities as described?	5
Does the proposal describe a dissemination or post-grant activity plan?	5
Does the proposal demonstrate that the applicant has obtained cost share?	5



Iowa Energy Center Grant Program Round Two Changes

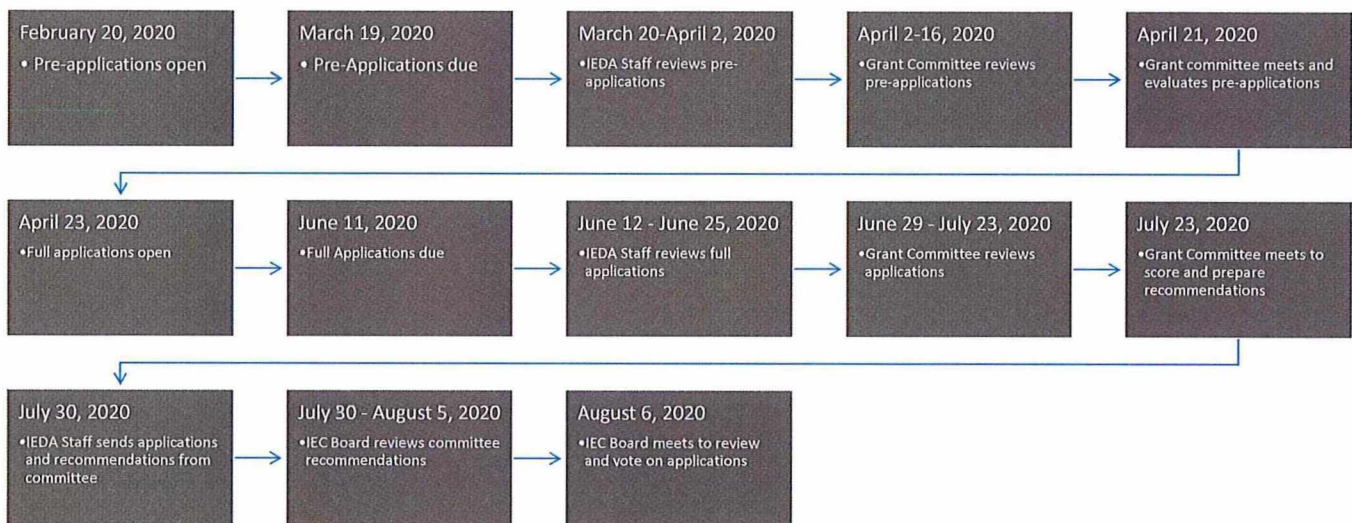
- **Full Application Scoring Criteria Changes**

- Increased total collaboration points and separated into two categories: collaboration with any entity and collaboration with another eligible applicant.
- Changed language to more closely reflect scoring
- Increased score to 170 total points – applicants must score at least 119 (70%) to be considered for funding.

Criteria	Evaluation Criteria	Total Points
Focus Area and Ratepayer Benefit	Does the proposal explain the benefit it will provide to Iowa ratepayers?	20
	Does the proposal meet at least one of the seven key focus areas? Key Focus Areas Technology-based Energy Research and Development Natural Gas Expansion in Underserved Areas Support for Rural and Underserved Areas Energy Workforce Development Biomass Conversion Electric Grid Modernization Alternative Fuel Vehicles	15
Programmatic Capabilities	Does the proposal provide information regarding organizational experience, staff qualifications, and procedures and controls for ensuring that awarded grant funds will be used in a timely and efficient manner in order to successfully complete proposed activities?	5
	Has the applicant received previous Iowa Energy Center awards? If no, applicant will receive up to 5pts If yes, did applicant expend grant funds in a timely manner and comply with reporting requirements? If yes, applicant will receive up to 5 pts	5

Project Approach, Outcomes and Deliverables	Does the proposal describe the applicant's project goals to be reached by project end? Are the project goals described in clear, easy to understand language? Do the project goals appear reasonable?	20
	Does the proposal describe the timeline, project tasks and milestones of the project (in chronological order)? Do the project goals appear reasonable?	10
	Does the proposal define the qualitative and/or quantitative measures the applicant will use to document the achievement of the goals of the project? Do the measures appear to be reasonable?	10
	Does the proposal satisfy a need or a problem?	5
	Does the proposal demonstrate a creative approach to a need or a problem?	5
	Does the proposal define the staff roles and responsibilities in the scope of work?	5
Budget and Budget Narrative	Does the proposal demonstrate that the project is feasible within the resources requested?	10
	Is the budget narrative complete, reasonable, and sound?	10
Dissemination Plan	Does the proposal provide a clear dissemination or post-grant plan?	5
	Does proposal demonstrate that the benefits of the project can be replicated by outside entities post grant completion?	10
Cost Share	Does the proposal indicate that the project has received either cost share funding match or external funding? This score will be calculated based on the total project budget	15
	<p>10 1 - 15% - 5 pts</p> <p>20 1% + - 15pts</p> <p>15 1 - 20% - 10 pts</p>	
Collaboration	Does the proposal demonstrate they are collaborating with other organizations?	5
	Does the proposal demonstrate they are collaborating with another eligible applicant?	7
Administrative Points	Administrator Discretion	8

IEC Grant Program Round Two Timeline





Next Steps

- First Round Awards
 - Finalize contracts for grant awards.
 - Complete build out of IowaGrants for awards.
- Round Two Launch
 - Finalize changes to policies and procedures, application and application guides.
 - Press release in early December.
 - Approve Policies and Procedures changes at February IEC Board meeting.
 - Launch second round of grant applications February 2020

ACTION

**REPORT
IOWA ENERGY CENTER BOARD
November 2019**

From: Iowa Energy Center

Subject: Agreement Extension for 17-IEC-016

Background: IEDA staff is in receipt of a written budget modification and agreement extension request for 17-IEC-016.

The agreement for this grant expired on 06/18/2019. This grant was used as a federal cost share match for a larger, federal award, which ends on 12/18/2019. Iowa State University has requested an extension to 12/18/2019, so that the end date of the IEC grant award matches the end date of the federal award. This will allow the Principal Investigator to include all of the data learned from the federal grant award in their final report to the Iowa Energy Center.

Additionally, upon submission of the final claims for this project, Iowa State University realized that approval for a budget modification/amendment was necessary, as certain budget categories were overspent, while others were underspent. These modifications will not increase the project award from the Iowa Energy Center.

Recommendation: Staff recommends re-opening the agreement, with a new completion date of 12/18/2019 in order to match end date of the federal award, with a similar revision to the final report deadline. This will also allow IEDA staff to make all necessary budget modifications, which meet the threshold for staff approval. Pursuant to 261 Iowa Administrative Code 404.7(7)"b"(2), staff is permitted to approve any budget changes that do not meet the definition of a "substantial modification."

Proposed Motion: Approve the extension of the end date of agreement 17-IEC-016 to 12/18/2019 to match the federal grant award end date.

Submitted By: Amber Buckingham, Program Manager

Attachments: Extension request from Iowa State University

Attachment H

IOWA STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY

Office of Sponsored
Programs Administration
1138 Pearson Hall
505 Morrill Road
Ames, Iowa 50011-2103
Phone: 515 294-5225
Fax: 515 294-8000

October 28, 2019

Iowa Economic Development Authority
Attn: Amber Buckingham
200 East Grand Avenue
Des Moines, Iowa 50309

RE: IEDA Grant Number 17-IEC-016
Project title: *Alkaline membrane-based ammonia electrosynthesis with high efficiency for renewable and scalable liquid-fuel production*
ISU PI: Dr. Wenzhen Li; ISU Account: 019199 /478-17-45

Dear Ms. Buckingham:

The above referenced grant was made to Iowa State University in the amount of \$10,896, under the direction of Dr. Wenzhen Li. I am in receipt of a request from Dr. Li to extend the period of performance and rebudget of funds. With a recent ISU invoice, there was a shift in budget categories. We request an adjustment to the budget as indicated in the attached form. The \$462 was used to purchase needed research supplies.

In addition, we request an extension of time on this project. We request that IEDA reopen the contract to amend the end date to 12/18/19, which will then match the federal award end date. This additional time will allow for completion of the final report and approval of the rebudget of funds.

We at Iowa State University have reviewed Dr. Li's request and concur therein. Therefore, we request approval for the rebudget and extension of time. If I can provide you with additional information or be of further assistance, please do not hesitate to contact me.

Sincerely,

**Tammy
Polaski** Digitally signed by
Tammy Polaski
Date: 2019.10.28
11:05:21 -05'00'

Tammy Polaski
Associate Director
Office of Sponsored Programs Administration
515-294-0983
tra@iastate.edu

cc: Wenzhen Li
Mary Scott Hall

Attachment H

Budget categories to be adjusted:

INCREASE		DECREASE	
Salary/Hourly (0108)	\$	Salary/Hourly (0108)	\$ 325
Payroll Benefits (0130)	\$	Payroll Benefits (0130)	\$ 138
Equipment (0710)	\$	Equipment (0710)	\$
Domestic Travel (0215)	\$	Domestic Travel (0215)	\$
Foreign Travel (0216)	\$	Foreign Travel (0216)	\$
Student Tuition (0610)	\$	Student Tuition (0610)	\$
Supply/Materials (0410)	\$ 462	Supply/Materials (0410)	\$
<i>Subcontracts</i>		<i>Subcontracts</i>	
Burdenable (0396)	\$	Burdenable (0396)	\$
Nonburdenable (0376)	\$	Nonburdenable (0376)	\$
<i>Other Direct Costs</i>		<i>Other Direct Costs</i>	
Computing (0353)	\$	Computing (0353)	\$
Printing/Copying (0373)	\$	Printing/Copying (0373)	\$
Honoraria/Services (0302)	\$	Honoraria/Services (0302)	\$
Postage (0379)	\$	Postage (0379)	\$
Other (0630)	\$	Other (0630)	\$
TOTAL DIRECT COSTS	\$ 462	TOTAL DIRECT COSTS	\$ 462
Indirect Costs (0642) Rate:	\$	Indirect Costs (0642) Rate:	\$
TOTAL ALL COSTS	\$ 462	TOTAL ALL COSTS	\$ 462

ACTION

REPORT
IOWA ENERGY CENTER BOARD
November 2019

From: Iowa Energy Center

Subject: Agreement Extension for 17-IEC-023

Background: IEDA staff is in receipt of a written budget modification and agreement extension request for 17-IEC-023.

The agreement for this grant expired on 8/31/2019. However, upon submission of their most recent claim, Iowa State University realized that they needed to request approval for a budget modification/amendment, as certain budget categories were overspent, while others were underspent. These modifications will not increase the project award from the Iowa Energy Center.

Recommendation: Staff recommends re-opening the agreement, with a new completion date of 01/15/2020 in order to allow adequate time to complete the final report and make all necessary budget modifications, which meet the threshold for staff approval. Pursuant to 261 Iowa Administrative Code 404.7(7)"b"(2), staff is permitted to approve any budget changes that do not meet the definition of a "substantial modification."

Proposed Motion:	Approve the extension of the end date of IEC Agreement 17-IEC-023 to 01/15/2020.
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Submitted By: Amber Buckingham, Program Manager

Attachments: Extension Request from Iowa State University

Attachment J

IOWA STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY

Office of Sponsored
Programs Administration
1138 Pearson Hall
505 Morrill Road
Ames, Iowa 50011-2103
Phone: 515 294-5225
Fax: 515 294-8000

October 23, 2019

Amber Buckingham
Iowa Economic development Authority
200 East Grand Avenue
Des Moines, IA 50309
Amber.Buckingham@IowaEDA.com

**SUBJECT: Agreement Title: Building Materials for Energy Efficiency: Adaptable
Educational Modules
Agreement Number: 17-IEC-023
ISU KC award ID: 019208 ISU ID: 137894
ISU PI: Dr. Behrouz Shafei**

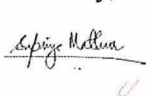
Dear Ms. Buckingham:

The above referenced award made to Iowa State University has a project end date of 8/31/2019. I am in receipt of a letter from the Principal Investigator Dr. Shafei requesting a no-cost extension to complete the work. The Principal Investigator's justification for the extension of time states:

This request is to give time for the modification of budget items by IEDA and the completion/submission of the final report.

The Iowa State University Office of Sponsored Programs Administration has reviewed the request and concur with the justification for the extension of time. **We respectfully request that the termination date be changed from 8/31/2019 to 1/15/2020 with similar revision to the final report deadline.** All other terms and conditions will remain unchanged. If I may provide you with additional information or be of further assistance, please do not hesitate to contact me.

Sincerely,



Digitally signed by Supriya Parshad
DN: cn=Supriya Parshad, o=Iowa
State University, ou=Office of
Sponsored Programs Administration,
email=sparshad@iastate.edu, c=US
Date: 2019.10.23 09:54:13 -0500

Supriya Parshad
Award Administrator

cc: Behrouz Shafei
Ying Li

OSPA/OIPTT/SPA Procedure for Rebudgets on Sponsored Awards

A Rebudget Request Form* is submitted to OSPA/OIPTT when the Sponsor's terms and conditions for an award require rebudgeting. OSPA/OIPTT will review the form and the Sponsor's terms and conditions to determine whether Sponsor approval is needed or if OSPA/OIPTT has been delegated institutional authority to approve. In general, Sponsor approval is not needed for the following (except when required by the award terms):

- Awards subject to Federal research terms and conditions (RTCs)
- Fixed price agreements
- Federal contracts
- Industry agreements

OSPA/OIPTT will not process Rebudget Request Forms if rebudgeting is not required by ISU or the Sponsor.

Deobligations of funds for subrecipient agreements and funds unspent by subrecipients do not require a Rebudget Request Form. If funds provided to a subrecipient are to be deobligated prior to the termination of the subrecipient agreement, PIs should contact OSPA/OIPTT to request execution of a deobligation amendment for the subrecipient.

Exceptions

Rebudgeting due to **changes in the scope of work** on any sponsored project requires submission of the Rebudget Request Form. Sponsor approval is required for all changes in scope of work. Award terms and conditions will be reviewed to determine what is needed by the sponsor for the request. OSPA/OIPTT may request additional documents from the PI and/or grant coordinator.

Rebudgeting more than \$25,000 to purchase unbudgeted equipment on sponsored projects under Federal research terms and conditions requires submission of the Rebudget Request Form due to materiality and potential audit concerns. Please note that the \$25,000 threshold is cumulative for the project, and not a per item amount.

Rebudgeting more than \$5,000 to purchase unbudgeted equipment on industry sponsored projects requires submission of the Rebudget Request Form to OIPTT.

Process for Sponsored Awards that Require Sponsor Approval of Rebudgeting

PIs and grant coordinators should submit a Rebudget Request Form when changes to the budget rise to the required level of sponsor approval (i.e. if the sponsor requires approval of budget deviations totaling 10% of the total budget, do not submit a Rebudget Request Form until the known deviations to the existing budget total 10%).

Additionally, OSPA/OIPTT and SPA will accept the Sponsor's budget approval form (if one exists) in lieu of the Rebudget Request Form as long as the Sponsor's budget line items conform to the current ISU sponsored program budget categories.

Who to Contact with Questions:

If you are unsure about the terms and conditions of your award for rebudgeting, please direct questions to:

For industry and commodity sponsors: industry-contracts@iastate.edu

For all other sponsor types: ospa-awards@iastate.edu

*Rebudget Request Form may be found at <http://www.ospa.iastate.edu/forms>.

**IOWA STATE UNIVERSITY
REBUDGET REQUEST FORM**

Date: October 7, 2019
PI Name: Behrouz Shafiei
ISU Award Number: AWD- 019208-00001

Justification: The increase in the salary/payroll benefits was to cover the effort needed for developing the planned modules. There was no need to make a domestic travel, as the communications were made through phone and web conference. No supplies/materials and printing/copying became necessary. Thus, their budget decreased accordingly.

Please provide a detailed explanation of the programmatic need for a rebudget, including specific items (e.g. equipment) not included in original budget. If adding a subrecipient, please also complete a Subrecipient Request Form.

Does this rebudget change the scope of work of the project? Yes No

*If yes, please explain.
Please use another page if necessary.*

Budget categories to be adjusted:

INCREASE		DECREASE	
Salary/Hourly (0108)	\$ 164	Salary/Hourly (0108)	\$
Payroll Benefits (0130)	\$ 2,353	Payroll Benefits (0130)	\$
Equipment (0710)	\$	Equipment (0710)	\$
Domestic Travel (0215)	\$	Domestic Travel (0215)	\$ 1,105
Foreign Travel (0216)	\$	Foreign Travel (0216)	\$
Student Tuition (0610)	\$	Student Tuition (0610)	\$
Supply/Materials (0410)	\$	Supply/Materials (0410)	\$ 600
<i>Subcontracts</i>		<i>Subcontracts</i>	
Burdenable (0396)	\$	Burdenable (0396)	\$ 12
Nonburdenable (0376)	\$	Nonburdenable (0376)	\$
<i>Other Direct Costs</i>		<i>Other Direct Costs</i>	
Computing (0353)	\$	Computing (0353)	\$
Printing/Copying (0373)	\$	Printing/Copying (0373)	\$ 800
Honoraria/Services (0302)	\$	Honoraria/Services (0302)	\$
Postage (0379)	\$	Postage (0379)	\$
Other (0630)	\$	Other (0630)	\$
TOTAL DIRECT COSTS	\$ 2,517	TOTAL DIRECT COSTS	\$ 2,517
Indirect Costs (0642) Rate.	\$	Indirect Costs (0642) Rate	\$
TOTAL ALL COSTS	\$ 2,517	TOTAL ALL COSTS	\$ 2,517

The total costs increased must equal the total costs decreased.

*Please return to
 OSPA ospa-awards@iastate.edu OR 1138 Pearson Hall,
 OIPTT industry-contracts@iastate.edu OR 1805 Collaboration Place, Suite 2100*

Attachment L

Cyber Security:

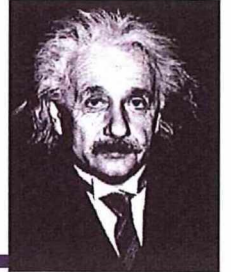
Utilities – Threats, Attacks, and Mitigation

Doug Jacobson

Information Assurance Center

www.iac.iastate.edu

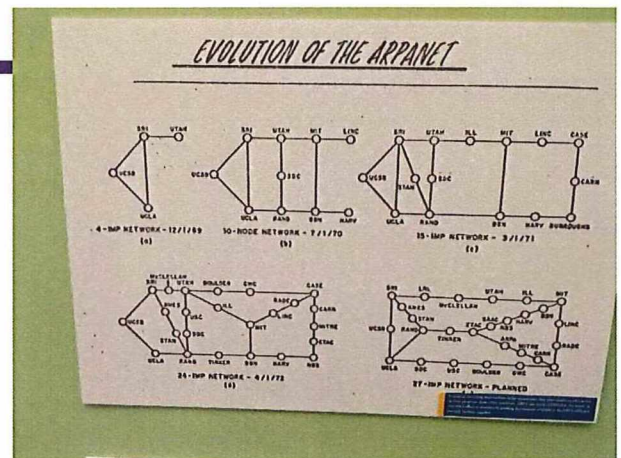
Outline



- What are the target and threats?
- What are the attack vectors?
- How do we stop them?

50 years since the birth of the Internet

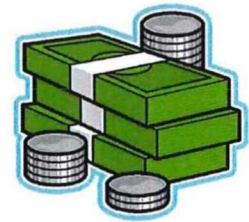
- No concept of security
- No idea of potential growth
- Not designed to support critical services
- No concept of the internet of things (remote control, remote data sources, or unattended systems)



Targets: Utility Sector

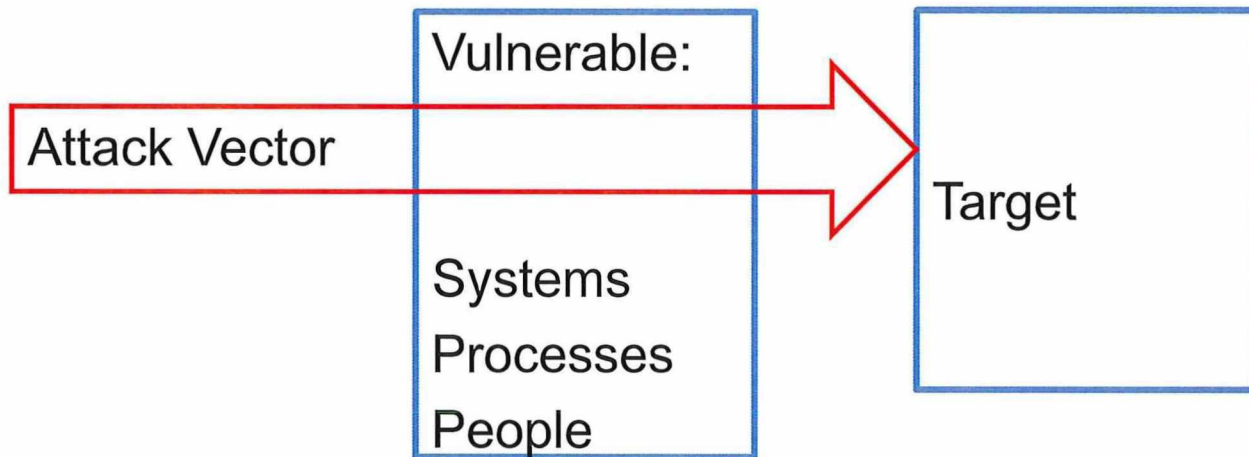
Goals are financial and/or disruption of service

- Generation / source
- Distribution
- Recovery / processes
 - Supply chain, dispatch systems
- Financial / business
 - Ransomware, data theft, money theft.



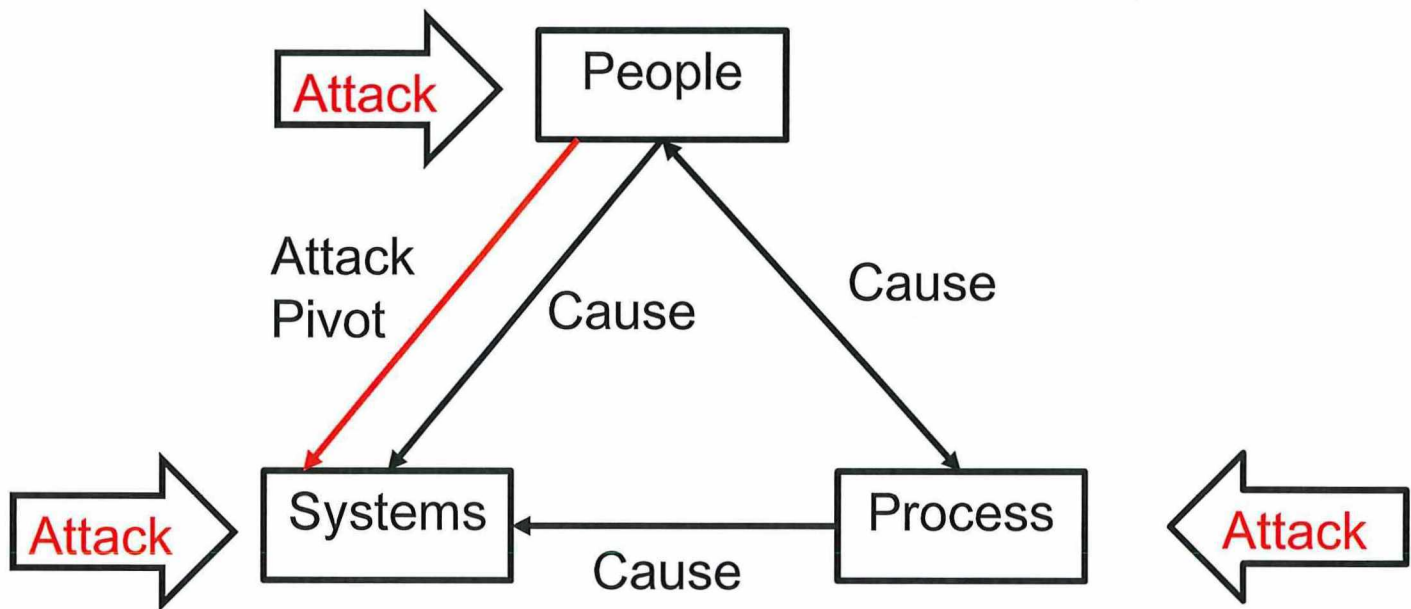
Attack Vectors

The adversary takes advantage of vulnerabilities to carry out the attack



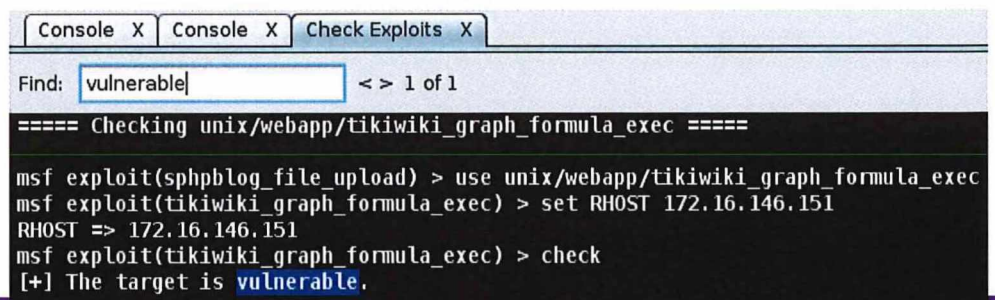
The Attack Triangle

Vulnerabilities are interrelated



Vulnerable Systems

- Attackers pick on vulnerable systems
- Bad access control
- Misconfigured systems
 - Initial configuration problems
 - Reconfiguration problems
- Not installing patches or old systems
- Zero Day

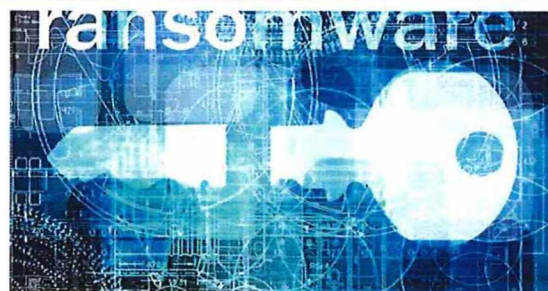


```
Console X Console X Check Exploits X
Find: vulnerable| <> 1 of 1
===== Checking unix/webapp/tikiwiki_graph_formula_exec =====
msf exploit(sphpblog_file_upload) > use unix/webapp/tikiwiki_graph_formula_exec
msf exploit(tikiwiki_graph_formula_exec) > set RHOST 172.16.146.151
RHOST => 172.16.146.151
msf exploit(tikiwiki_graph_formula_exec) > check
[+] The target is vulnerable.
```

Vulnerable people

People are the weak link

- Malware (ransomware)
 - Phishing
 - Spear-Phishing
 - Email attachments
 - Web Sites
 - Drive-by
 - Directed
 - Poor access policies



shutterstock - 290569046



Email

Vulnerable processes

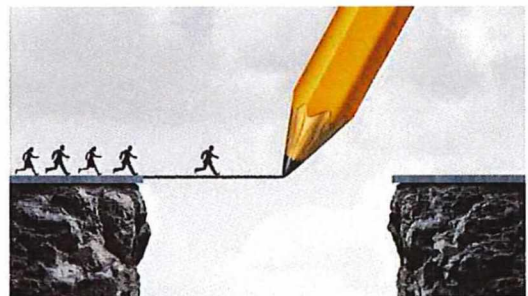
- Internal processes
 - Lack of a process
 - Lack of disclosure of the process
 - Lack of testing and review of the process
- External processes
 - Supply chain security
 - Partner security
 - Disclosure of internal process



Gaps

Technical measures can help slow down these attacks the workforce must be trained to detect and mitigate attacks

3 level training plan:



1. Cyber security literacy (Cyber hygiene)
2. Hands-on cyber security technical training
3. cyber-defense exercises

Cyber Security @ ISU

- MS in cyber security since 2000
- Minor in cyber security since 2015
- New BS degree in cyber security engineering
- Over 20 courses in cyber security
- Large research effort
- Efforts in cyber security training for power grid
- Efforts in cyber security literacy

Testbed-based Cybersecurity Training for Power Grid

CPS Security Training, FRCC, Tampa 05/13/2019

- Remote access capability
- Attack-defense modules
- Full-day/Half-day sessions
- Hosted 12+ training sessions over 3 years

Industry Users:

- Iowa utilities: MidAmerican, Alliant, CIPCO, Cedar Falls Utilities, CornBelt Coop,
- Beyond Iowa: NERC GridSecCon, Idaho Power Company, and Florida Reliability Coordinating Council (FRCC)



Cyber defense based table tops

In order to get good at something you need to practice

- ISU has been running cyber defense competitions over 15 years.
- It is difficult to add cyber to a classic table top
 - Hard to represent time
 - Hard to know effect
- We need a hybrid table top
 - Cyber defense competition integrated into a classic table top.

Conclusions

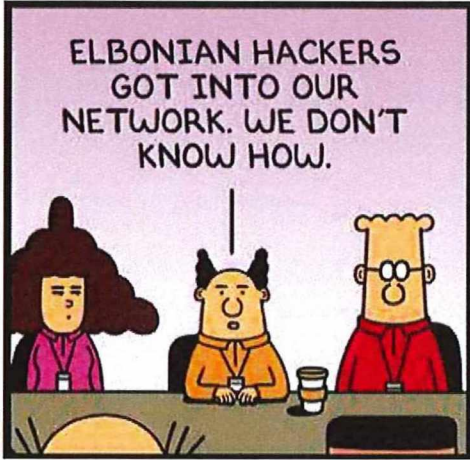
You need to understand:

- What can be a target
- What will happen if the attacker is successful
- What is the most important things to protect

You need a plan on how to handle what could happen

- Update the plan
- Exercise the plan (assume the worst)
- Involve all levels

Questions



Dilbert.com @ScottAdamsSays



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Attachment M

Obsessively. Relentlessly.
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DC Fast Charging Network Update

Iowa Energy Center Board Meeting

November 6, 2019

Andrew Lewis

Lead Engineer – Electric Distribution



Overview

- Introduction
- Electric Vehicle (EV) Adoption Constraints
- MidAmerican Energy's EV Programs
- DC Fast Charging Network
- Discussion/Q&A

Adoption Constraints

- What's holding back the large-scale adoption of EVs?
 - Customer Knowledge and Perception – Consumers expect to be able to drive EVs in the same manner that they drive internal combustion engine (ICE) vehicles
 - Cost of Vehicles, Charging Equipment and Fuel – Consumers expect a price point similar to that of ICE vehicles and expect to pay the same or less as standard fuel
 - Range Anxiety – Consumers expect to be able to “fuel” their vehicle anywhere and in a similar amount of time as they would spend at a fuel pump

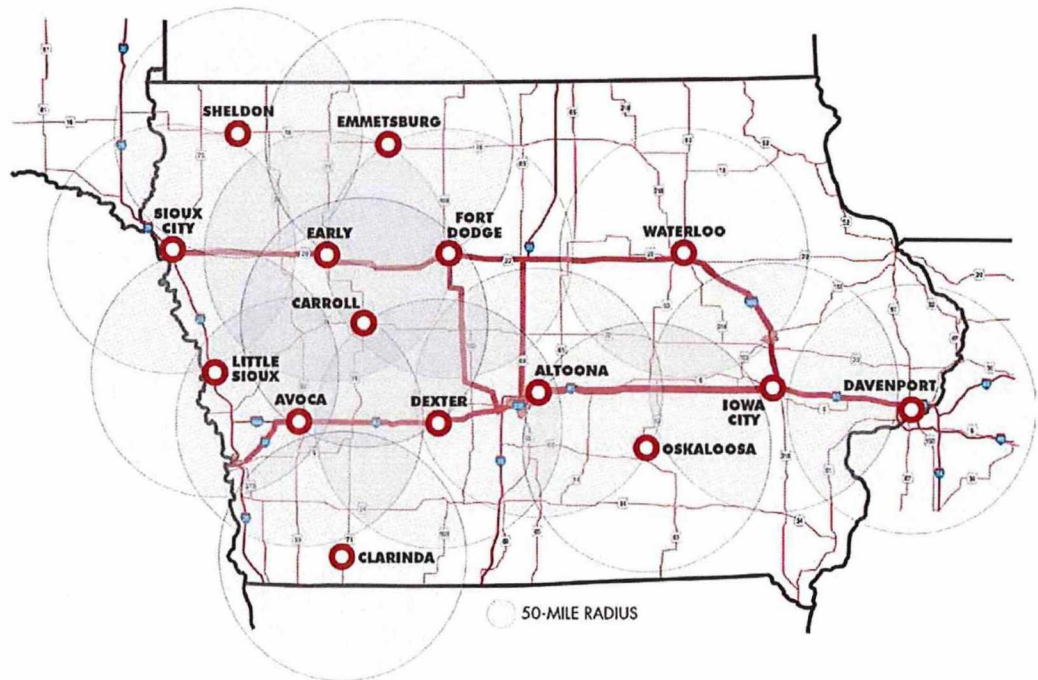
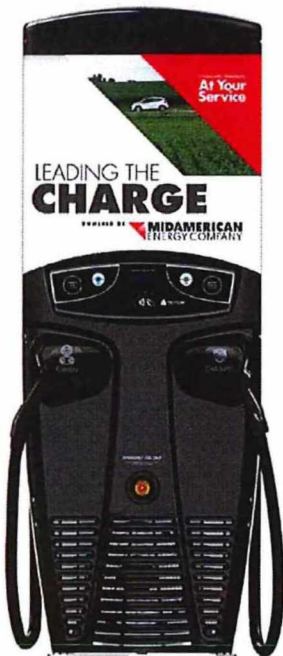
MidAmerican's Role

- Partnerships, education and program expansion:
 - Develop strategic partnerships to establish roles and responsibilities in the advancement of EVs
 - Utilize and expand MidAmerican EV fleet, install charging infrastructure to allow fleet travel across MidAmerican's service territory and implement employee charging program
- Incentive program:
 - Vehicle purchase incentive: provide \$500 toward the purchase or lease of a qualifying new EV
 - Non-residential charger incentive: provide \$1,500 toward the purchase of a qualifying charging installation (workplace, retail, commercial, etc.)
- Support the development and deployment of DC Fast Charging infrastructure throughout MidAmerican's service territory

DC Fast Charging Network

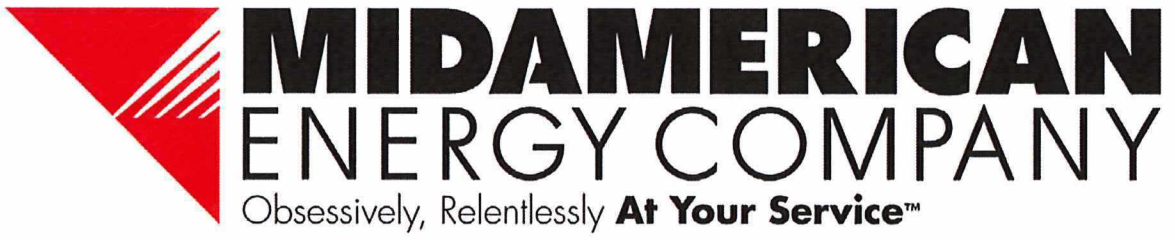
- MidAmerican Energy is constructing 15 DC Fast Charging stations throughout its service territory in Iowa
- Qualifying locations were selected in order to maximize charging availability along the Interstate 80, Interstate 29 and Highway 20 corridors
- Site hosts were selected through an application process which was open through the month of August
 - 78 applications were received
 - Selected site hosts will be announced in November
- Construction has already started on the first site, and all sites are planned for completion by the end of 2020

Electric Vehicle Initiatives



DC Fast Charging Network

- MidAmerican Energy has selected Greenlots as the EV solutions and network provider for its initial stations
- Two chargers will be located at each site, capable of providing a full battery charge to most compatible EVs in 30 to 45 minutes
- Charger locations will be made available on the Greenlots app and PlugShare; driver support services will be available at all hours
- Customers will provide payment for the charging services to the site host at the station through the Greenlots app or by credit or debit card



MIDAMERICAN
ENERGY COMPANY

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Update on Iowa's Use of Volkswagen Settlement

- Iowa will receive approximately \$21 million from the trust to fund eligible mitigation activities that reduce nitrogen oxides (NOx).
- Iowa intends to allocate those funds to the following categories

Mitigation Category	Funding Percentage	Estimated Application Cycle Total	Estimated Trust Fund Total
Class 4-8 Buses	45%	\$3,150,000	\$9,450,000
Freight and Port Drayage Trucks	15%	\$1,050,000	\$3,150,000
Non-Road Transport and Equipment	10%	\$700,000	\$2,100,000
ZEV	15%	\$1,050,000	\$3,150,000
DERA	15%	N/A	\$3,150,000
Total	100%		\$21,000,000

- First round of funding for first three categories awarded June 2019
 - **Class 4-8 Buses: \$3.15 million** (107 buses, diesel and propane)
 - **Freight and Port Drayage Trucks: \$931,522** (36 vehicles, all diesel)
 - **Non-Road Transport and Equipment: \$546,550** (Four vehicles, including two electric forklifts)
- Second round of funding for first three categories awarded June 2019
 - Tentative schedule
 - December 2019: Announcement of funding availability
 - February 2020: Applications due
 - April 2020: Funding awards
- First round of Zero Emission Vehicle Supply Equipment Funding
 - Tentative schedule
 - December 2019: Announcement of funding availability
 - February 2020: Applications due
 - April 2020: Funding awards
 - Funding available: \$1.05 million in first round
 - Anticipated emphasis areas
 - DC Fast Charging infrastructure: Fill in gaps on major corridors
 - Level 2 community charging sites

- 2019 Diesel Emission Reduction Act (DERA) Funding for EV
 - Replace a diesel terminal truck with an all-electric truck (Hy-Vee Cherokee)
 - Replace a forklift with an all-electric forklift and charging infrastructure (Iowa Steel & Wire Company)