

**Iowa Power Fund Board - Due Diligence Committee (DDC)  
Meeting Minutes  
August 20, 2009**

**Wallace Building, Conference Room 3E & 3W  
502 E. 9<sup>th</sup> Street  
Des Moines, IA**

**Call to Order**

Brian Crowe, Program Planner, called the meeting to order for Ms. Stanley at 1:01p.m.

**Roll Call**

Member	Present	Absent
Franklin Codel	Conf. Call	
Ted Crosbie	X	
Vern Gebhart		X
Patricia Higby	X	
Fred Hubbell	X	
William (Curt) Hunter	Conf. Call	
Kevin Nordmeyer	Conf. Call	
Roya Stanley	X	

Also in attendance from the Office of Energy Independence: Brian Crowe, Mary Lewis.

**Review of Pre-applications**

**09-08-1210      Thin Film Solar: Research and Development of Next Generation Meter-Wide Manufacturing Technology  
PowerFilm, Inc.**

Reviewed by Higby

Applicant wants to manufacture their product to a meter-wide size to become both cost efficient and market competitive. This project is a research and development program that is a part of an overall advanced manufacturing product commercialization program.

- Allows them to get into integrated building industry
- PF would go to R&D but not sure how they'd share results
- Not sure if they have only the match or the total amount of the project

***Vote:***

**Yes –**

**Yes, if –**

**No, but – *Hunter*** – would review again if application comes back requesting a loan, ***Codel, Higby, Hubbell, Nordmeyer, Crosbie***

**No –**

**09-08-1211      Small Wind Turbine Research and Development  
CB Wind Systems LLC**

Reviewed by Crosbie

Reported by Crowe

The proposed project would fund the design and development of small to medium sized wind turbines for sale in the Midwest, specifically 5, 10 and 15 Kwh units. The Office of Energy Independence suggests

the DDC not review the pre-application because a similar project has been awarded by the Power Fund. The committee recommends that Mr. Crowe familiarize the applicant with Carbon-Free Energy's project.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No –Hunter, Nordmeyer, Codel, Higby, Hubbell, Crosbie**

**09-08-1212      Wind Turbine Drivetrain Test Facility  
The University of Iowa**

Reviewed by Codel

Recusal - Hunter

Applicant is requesting funds to support a portion of a required cost share for a \$45 million grant opportunity from the U.S. Department of Energy. The project is to develop a large-scale dynamometer test facility for the design, testing and optimization of large utility-scale wind turbines.

- There is currently no drivetrain facility of this size in the U.S.
- There is no indication on the useful life of the facility, and if there are any contingency plans to be able to further expand the size and scope of the facility as technology dictates.
- There is no indication that the applicant actually has the \$5 million lined up.
- Applicant does have three or four companies lined up.
- DDC would like to learn more about the project but could not give \$20 or even \$10 million for the project.

**Vote:**

**Yes –**

**Yes, if – Codel, Nordmeyer, Hubbell - , Crosbie, Higby**

**No, but –**

**No –**

**09-08-1228      Harnessing Energy Flows in the Biosphere  
Iowa State University**

Reviewed by Crowe

Recusal – Nordmeyer, Higby

Applicant requesting for Iowa's three Regents' institutions which are working together to prepare a \$20 million grant application to the National Science Foundation (NSF), which must be submitted by October 19, 2009. Applicant is seeking \$3 million of a \$4 million required cost-share for the project. The goal of the project is to build Iowa's research infrastructure in renewable energy. The program addresses state-wide issues of diversity in scientific participation and education; workforce development; and communication and outreach.

Due Diligence Comments:

- Don't quite understand what's tangible/measurable five year benefit for the Power Fund
- This is project that would benefit the entire Regents system
- Anything already funded by the Power Fund Board for Regents projects could be considered cost share, if not expended at the time of the EPSCoR award. The cost share request from the Board could be reduced.
- EPSCoR is a program for states to build research education facilities from kindergarten to college.
- DDC could ask for a full proposal and in the meantime calculate the dollars already spent on Regents projects, and what the potential cost share requirement would need to be.
- DDC believes that the majority of the cost share should come from the Regents and not the Power Fund, as there seem to be more tangible/measurable benefits for the Regent institutions.

- Suggest that David Mills presents the full proposal to explain why this is so important for the Regents.
- Restructuring of the universities should be done to identify the more cost share as this project could further develop the core competencies of the Regent institutions, the committee would like David Miles to present the full proposal, and how the project fits in with the strategic direction of the Regents.
- Regents should focus on mapping of capacities and what areas of competencies should be highlighted
- There needs to be clear measures and project results delivered to the Power Fund

**Vote:**

**Yes –**

**Yes, if – Hubbell, Crosbie, Hunter**

**No, but – Codel**

**No –**

*Nordmeyer left meeting for a prior commitment*

**09-08-1213      Lowest cost highest reliability solar/thermal concentrating system for PV, thermal and roof top applications  
Ahura Energy Concentrating Systems Inc.**

Reviewed by Higby

Reported by Crowe

The project is for a product under development which is the lowest cost, high reliability, high-efficiency solar/thermal concentrating system for utility scale and roof top applications. The Office of Energy Independence suggests the DDC not review the pre-application because the applicant does not have a real presence in Iowa and collaborations are not established with Iowans.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Higby, Hunter, Hubbell, Crosbie, Codel**

*Nordmeyer came back to the DDC meeting via conference call.*

**09-08-1214      Waste-to-Energy: Fort Madison, IA  
IA-Fort Madison, TE, LLC**

Reviewed by Nordmeyer

Reported by Crowe

The applicant previously applied to the Power Fund with another group and was turned down. Now, they are trying to apply with another group. The Office of Energy Independence suggests the DDC not review the pre-application because the applicant is trying to license their project to their listed partner and they still haven't explained how they would replicate their project. Staff feels that the applicant is asking for seed money which is not the mission of the Power Fund.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Crosbie, Hubbell, Codel, Hunter, Nordmeyer, Higby**

**09-08-1215      Testing and permanent installation of low cost integrated hydroelectric generator at Burlington Street Dam, Iowa City, Iowa  
IIHR – Hydroscience & Engineering, The University of Iowa**

Reviewed by Nordmeyer

Reported by Crowe

Applicants are seeking funding for the design, construction, and testing of a novel, low cost hydropower generator for small hydro applications (.3 to 40MW). The ATS design is projected to reduce the cost of hydroelectric installation by half while allowing installation where conventional systems are not possible.

- Technology is feasible and already commercially available
- The DDC would like to know what percentage increase to the grid would make the product cost competitive
- Full application should contain information about scale and feasibility for attachment to the grid
- Unclear how this project will lead to more development of hydro in the state
- There is a question if the technology is scalable.
- The committee would like to know the environmental impacts of the technology.
- There is a question about the cost competitiveness of the technology.
- Project needs a clearer financial picture, where would the investment dollars come from

**Vote:**

**Yes –**

**Yes, if – Higby** – Need to clearly define the scale of the intended devices and how the energy harnessed will be added to the grid, **Crosbie, Nordmeyer, Hubbell, Hunter, Codel**

**No, but –**

**No –**

**09-08-1216      GFEX Phase III Trading Platform Development  
Green Fuels Exchange, Inc.**

Reviewed Codel

Reported by Crowe

The applicant is requesting funding for needed capitol for the Green Fuels Exchange (GFEX) in order to create a Phase III Trading Platform Development Project for the expansion for trading of Green Fuels and reduction of operational costs for producers and buyers. The Office of Energy Independence suggests the DDC not review the pre-application because the proposal is not viable in regards to the markets at this time.

**Vote:**

**Yes –**

**Yes, if –**

**No, but – Hubbell** – would look at an application if there were more industry interest

**No – Crosbie, Higby, Hunter, Codel, Nordmeyer**

**09-08-1217      Glycerin Bottom Refinement Study  
Green Fuels Exchange, Inc**

Reviewed by Codel

Reported by Crowe

The proposed project is to build on experience gained in operational biodiesel plants to improve the commercialization potential of refining and using waste glycerin through a study on glycerin refinement. The Office of Energy Independence suggests the DDC not review the pre-application because the Power Fund has already awarded funds for studies currently being conducted.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Hubbell, Hunter, Higby, Codel, Crosbie, Nordmeyer**

**09-08-1225 Energy Efficiency Program for Iowa K-12 Schools  
Krell Energy Efficiency, LLC**

Reviewed by Codel

The applicant is proposes a project to reduce energy use in Iowa schools by implementing a behavior-based energy efficiency program designed for K-12 school districts. The program was launched in 2003, over 600 school buildings (31 districts) in Minnesota, New Jersey and Louisiana. The program reduces energy use and costs through a district-wide awareness campaign that engages students and staff with new themes, activities, and communications by training building operators to implement about 50 new no-cost and low-cost operational strategies.

- The Power Fund has proposed this project previously but they have made some changes
- This project does play well in energy efficiency and does create jobs for instructors
- This costing model is cleaner and is statewide now
- Not sure how applicants going to bring rebates to the table
- Could be considered energy conservation project
- Rebates shouldn't be a question for an educational proposal

**Vote:**

**Yes –**

**Yes, if – Higby**

**No, but – Hubbell, Nordmeyer**

**No – Hunter, Crosbie, Codel**

*Codel had to leave meeting for a prior commitment.*

**09-08-1218 Utilizing Corn Stover Biomass to Co-fire with Coal at Power Generating Facilities  
Robert J. Ravlin**

Reviewed by Crosbie

Reported by Crowe

Applicant proposes to efficiently source, harvest, transport, store, and process corn stover biomass, in large volumes to co-fire with coal at utility plants. The Office of Energy Independence suggests the DDC not review the pre-application because the applicant does not explain the plan to implement the proposed project.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Crosbie, Hubbell, Higby, Hunter, Nordmeyer**

**09-08-1219 Conversion of waste hydrocarbons – plastics, used oil, refinery residues, tires –  
to high grade fuels  
Innovative Energy Solutions, Inc.**

Reviewed by Hunter

Reported by Crowe

Recusal – Nordmeyer

Applicant has developed a pyrolysis-based, Waste HydroCarbon to Fuel (WHC2F) process that converts waste materials into high quality diesel fuel, along with by-products of natural gas and carbon black. Project funding would assist with the construction of a demonstration scale facility which will be able to process 10 metric tons per day. The Office of Energy Independence suggests the DDC not review the pre-application because the cost share for this project isn't balanced. Committee suggests that this project could be good for the U.S. Department of Defense.

**Vote:**

**Yes –**

**Yes, if –**

**No, but – Higby –** would look at application if request amount is reduced

**No – Hubbell, Crosbie, Hunter**

**09-08-1220      Efficient Airless Drying of Ethanol Co-Products  
Drying Solutions Inc.**

Reviewed by Nordmeyer

Reported by Crowe

Recusal - Nordmeyer

The applicant proposes a new Super Heated Steam (SHS) drying technology to reduce energy consumption, improve product quality and reduce emissions plus other improvements. The Office of Energy Independence suggests the DDC not review the pre-application because a similar project from Cellencor has been awarded and is currently being funded.

**Vote:**

**Yes –**

**Yes, if –**

**No, but – Hubbell –** would review application again after seeing results from Cellencor project

**No – Higby, Hunter, Crosbie**

**09-08-1221      Utilizing On-Farm Products to Reduce the Energy and Environmental Costs of  
Drying Grain  
Thor Manufacturing**

Reviewed by Crosbie

Reported by Crowe

Applicant proposes to develop, produce, test, and market an on-farm-use biomass heating unit utilizing large round biomass bales. The Office of Energy Independence suggests the DDC not review the pre-application because the project would utilize a lot of existing technology and the money requested would go for marketing which is not the mission of the Power Fund. The committee suggests the project be proposed to the Iowa Department of Economic Development.

**Vote:**

**Yes – Higby**

**Yes, if –**

**No, but – Crosbie, Hubbell, Hunter, Nordmeyer**

**No –**

**09-08-1222      Energia Power Post – Plug-In Hybrid Electric Vehicle (PHEV) Recharging Station  
Terad Fabricating Inc. d/b/a TFI Lighting Products**

Reviewed by Nordmeyer

Reported by Crowe

The applicant is asking for funding from the Power Fund to do a product extension to the Energia Power Post to transform the product into a charging station for Plug-In Hybrid Electric Vehicles (PHEV). The Office of Energy Independence suggests the DDC not review the pre-application because, to staff's knowledge, there is only one PHEV in the State of Iowa.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Higby, Crosbie, Hubbell, Hunter, Nordmeyer**

**09-08-1223      New Tech Ceramics, Inc.  
New Tech Ceramics, Inc.**

Reviewed by Higby  
Reported by Crowe

Applicant produces an industrial ceramic material that, when used in cutting tools, extends the life of the tool and reduces cutting friction. Applicant is seeking funding for commercialization and product development of there product. The Office of Energy Independence suggests the DDC not review the pre-application because the project does not align with the goals of the Power Fund.

**Vote:**

**Yes –**

**Yes, if –**

**No, but – Higby** – this project should be sent to DED, **Crosbie, Hubbell, Nordmeyer, Hunter**

**No –**

**09-08-1224 Sustainable Communities Through Integrated, Innovative Smarter City Information Technology  
City of Dubuque**

Reviewed by Hunter

Applicant will create an integrated Smarter City energy model for measurement and monitoring of its energy and water systems, infrastructure components and transportation networks. The project will emphasize resource sustainability while minimizing environmental impacts of consumption and increasing economic well-being for residents. The outcome of this project will be a replicable model for small to medium size cities in Iowa and the United States.

- City recently attracted IBM and they're supplying technical assistance for this project
- Have a concern that this model is only one city, how can the results be replicated across Iowa without further cost to the State.
- DDC will need to have more detail about how the money would be spent or specifically on what the money would purchase
- Inquired about what other funds that the city is applying for, specifically in ARRA?SEP/Recovery funds
- The committee would like an update on the sources and uses of funds, and what additional cost share has been secured.
- DDC would like to know what other sources of funds the city intends to pursue.
- More technical information is need as to the data gathering and the deciphering of the information to create benefit, what is the technology that will be developed, how will this assist in developing a program that helps Iowans.

**Vote:**

**Yes –**

**Yes, if – Higby, Crosbie, Hunter, Hubbell, Nordmeyer**

**No, but –**

**No –**

**09-06-1206R Vacuum Insulating System for High Efficiency & High Reliability Windows  
EverSealed Windows, Inc.**

Reviewed by Higby

Applicant is a startup company developing an energy efficient window glass, based on vacuum technology, for manufacture and sale to window manufacturers. Applicant is seeking to obtain additional seed funding for product reach the prototype demonstration stage – required to attract commercialization funding – but allowing for the manufacture of highly energy efficient windows.

- Have a better understanding of the project this time
- Believe this is a IDEED project
- Would like to know more about the DOE funding
- Would like to know if the product is coming from a lab and entering the R&D realm
- The work is revolutionary and could benefit several window companies

**Vote:**

**Yes –**

**Yes, if – Higby**

**No, but – Crosbie** – an operating spif could be considered, **Hubbell, Hunter, Nordmeyer**

**No –**

**09-08-1226 High Efficiency Aeration System  
City of Clinton, IA**

Reviewed by Hunter

Reported by Crowe

Applicant is requesting funding to assist with the construction of a 12 million gallon per day wastewater treatment plant employing technology which is proven but new to Iowa. The Office of Energy Independence suggests the DDC not review the pre-application because the Power Fund mission does not allow the funding of construction costs.

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Higby, Hubbell, Crosbie, Nordmeyer, Hunter**

**09-08-1227 Development and Commercialization of Second Generation Technology for  
Biodiesel Production  
Catilin, Inc.**

Reviewed by Crosbie

Recusal - Nordmeyer

Applicant's project is the development of technology that biodiesel producers will be able to broaden their feedstock alternatives to mix with soybean oil including industrial oils, jathropha, and algal oil among others. This project is second generation technology and second generation feedstocks in their current production environment.

- Don't understand the technology in the proposal
- Algae production of biodiesel is a ways from viability
- Can't tell from the proposal the unique aspects of the proposed technology
- Reputable people but obscure references

**Vote:**

**Yes –**

**Yes, if –**

**No, but –**

**No – Crosbie, Hubbell, Higby, Hunter**

**09-06-1200R 3Fueled – Biomass Infrastructure Feasibility  
3Fueled LLC**

Reviewed by Nordmeyer

Reported by Crowe

Applicant is requesting funding to conduct an engineering, financial, economic and feedstock feasibility study for the harvesting, transporting, and conversion of 1.2 million tons of biomass annually in the State of Iowa. Applicant cites that no such facility in Iowa can meet end user demand for biomass production.

- The theories of biomass production are already being put into production
- Project is not groundbreaking work

**Vote:**

**Yes –**

**Yes, if – Higby**

**No, but – Nordmeyer** – need to see a larger description of the gap filing, **Hunter**

**No – Crosbie, Hubbell**

**Other Business**

The next Due Diligence meeting will be on August 26<sup>th</sup> at the Department of Development (DED). The time is 1:00p.m.

**Adjournment**

The meeting adjourned at 3:42p.m.

Respectfully Submitted,  
Mary Lewis, Recorder

DRAFT