
IOWA UTILITIES BOARD
Policy Development Section

Docket No.: NOI-2014-0001
Memo Date: November 17, 2014

TO: The Board

FROM: Brenda Biddle

SUBJECT: Informational Guide for On-Site Generation

I. Background

On January 7, 2014, the Iowa Utilities Board (Board) issued an order commencing an inquiry into distributed generation (DG), inviting participants to comment on broad general questions related to the benefits and challenges of DG, both for utilities and their ratepayers, on policies that should be examined with respect to DG, and to identify the technical, financial, regulatory, and safety aspects of DG that participants would like to address in this inquiry docket. Participants were also invited to comment on other issues they considered relevant to any discussion regarding DG, such as whether there were any technical hurdles to implementing DG. The Board also welcomed any policy recommendations for the Board, other state agencies, or the General Assembly to consider. Comments were received from over 170 participants, including utilities, utility associations, environmental groups, renewable energy advocates, energy-related organizations, businesses, and individuals.

Because of the breadth of topics identified by participants in the initial comments, the Board, in its May 12, 2014, Order, suggested the inquiry focus on the topics of net metering¹; interconnection of DG (including safety and reliability); and customer awareness/protection. The Board requested the parties respond to specific questions outlined in the order with responses due June 24, 2014. There were 47 parties that filed comments.

Staff reviewed the responses to the May 12, 2014, Order and drafted additional questions related to net metering and interconnection. Additionally, staff drafted a distributed generation checklist which will eventually be used to further customer awareness. The Board issued an order on September 19, 2014, which among other things scheduled a workshop for October 21, 2014, to discuss the draft checklist.

¹ Avoided cost issues are the subject of a separate investigatory docket, Docket No. INU-2014-0001.

II. Analysis

Board staff hosted a workshop with approximately 30 participants in attendance. The group discussed the various elements of the distributed generation checklist and had many suggestions for improving the checklist. Overall, participants thought the checklist was too long and complicated and could potentially overwhelm potential DG owners. Some participants suggested that many of the items are topics that a DG equipment dealer would cover or should be common sense to most consumers. Other participants wanted the checklist to be as comprehensive as possible to make sure customers are aware of issues related to the installation of distributed generation equipment.

Staff has revised the checklist to include participant's ideas from the workshop. The checklist has been renamed the Informational Guide for On-Site Generation and includes five sections: 1) Before you begin a distributed generation project; 2) Distributed Generation Checklist; 3) Choosing a Dealer or Equipment; 4) Finance Options; and 5) Informational Links. Having separate sections should make the guide less overwhelming to potential DG owners and will allow them to look at the entire document or specific sections they are interested in.

III. Recommendation

Staff recommends the Board direct General Counsel to draft an order asking the parties to review the attached Informational Guide for On-Site Generation and to file written comments suggesting changes before the guide is finalized and published on the Board's Website.

RECOMMENDATION APPROVED

IOWA UTILITIES BOARD

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/bkb

/s/ Elizabeth S. Jacobs 11-20-14

Date

/s/ Nick Wagner 11/20/14

Date

/s/ Sheila K. Tipton 11/24/2014

Date

Informational Guide for On-Site Generation (Distributed Generation)

This document is intended to help residential and small business customers who are considering installing electric generation (wind, solar, biomass, etc.) on their property. Following are topics covered:

1. Before You Begin a Distributed Generation Project
2. Distributed Generation Checklist
3. Choosing a Dealer or Equipment
4. Finance Options
5. Informational Links

1. Before You Begin a Distributed Generation Project

- Assess your goals** – Are you interested in reducing your electricity bills or are you interested in using more/only renewable energy?
 - If you are interested in reducing your electricity bills, consider an energy efficiency audit and implement recommendations. An energy audit may uncover energy efficiency improvements to help you reduce your electric usage and potentially allow you to install a smaller distributed generation system. Contact your utility to get more information.

Alliant Energy - <http://www.alliantenergy.com/SaveEnergyAndMoney/>
MidAmerican - http://www.midamericanenergy.com/ee/ia_res.aspx
Iowa Association of Electric Cooperatives - <http://www.iowarec.org/about/links/>
Iowa Association of Municipal Utilities - <http://www.iamu.org/map.cfm>
 - If you are interested in promoting renewable energy, you can voluntarily contribute to the development of renewable energy through the utilities' Alternative Energy Purchase Program. Contact your utility to get more information. Also see Iowa Code § 476.47 (<https://www.legis.iowa.gov/docs/code/476.47.pdf>) for more information.
 - If you are interested in producing your own electricity and having a distributed generation system on your property, the “Distributed Generation Checklist” will help you with that process. Please keep in mind that **Iowa law requires that the distributed generation system owner notify the host utility prior to installing a distributed generation system.**
- Review Legal Requirements** - Ask the local planning and zoning commission or city officials if your property is covered by restrictive covenants or easements that affect the installation of a distributed generation system and to identify applicable zoning ordinances and building permit requirements. Consult with your attorney.
- Review Insurance Issues** – Discuss liability coverage and insurance needs with your insurance agent.

2. Distributed Generation Checklist

Information to gather

- Gather from your utility the historical electrical usage for your property and rates paid.
- Review information to become familiar with the technology and terminology.
 - Iowa Energy Center - <http://www.iowaenergycenter.org/renewable-energy/>
 - U.S. Department of Energy – <http://www.energy.gov/energysaver/articles/planning-home-renewable-energy-systems>
 - Database of State Incentives for Renewables and Efficiency - <http://www.dsireusa.org>
- Check out the following links to see the potential of your site.
 - Wind calculator: <http://www.iowaenergycenter.org/wind-calculator-tool/>
 - Solar Calculator: <http://www.iowaenergycenter.org/solar-calculator-tool/>

Solicit and compare quotes from dealers/installers. (See the Choosing a Dealer and Equipment section for additional guidance.)

Select your Dealer/Installer. (See the Choosing a Dealer and Equipment section for additional guidance.)

- Your qualified dealer/installer should be able to help you with the remaining areas.

Cost Considerations

- Identify federal, state and utility incentives.
 - Also, refer to the Database of State Incentives for Renewables and Efficiency. <http://www.dsireusa.org>
- Look at finance options. (See the Finance Options section for more information.)
 - Purchase
 - Lease
 - Power Purchase Agreement (Third-Party)
- Check with your accountant, tax advisor, attorney, or insurance professional to ensure that the incentives and financing options are right for you.
- Calculate the estimated payback period.

Total Initial Cost / (Annual Energy Cost Savings – Annual Operating Costs) = Payback (in years)

Review assumptions used for the following

- Cost of the system – should include equipment, installation and incentive assumptions.
- Energy cost savings assumptions (electric rate², utility assumptions (i.e., net metering, avoided cost, etc.).
- Annual operating costs (insurance, maintenance, etc.).

² Understand that electric rates are dynamic and that some fixed aspects of rates may not be offset by a distributed generation system. Future utility rates are difficult to predict and vary greatly when evaluating a price and any assumed savings.

Review Requirements for Utility Interconnection

- Contact the utility to discuss distributed generation systems, project plans and interconnection. Review interconnection requirements, safety, or any special permits required. Iowa law requires that the distributed generation system owner notify the host utility prior to installing a distributed generation system.

- Review the Board's Interconnection Rules.
<https://www.legis.iowa.gov/law/administrativeRules/rules?agency=199&chapter=45&pubDate=07-23-2014>

- Plan that the state of Iowa or the electric utility may require an inspection upon completion.

3. Choosing a Dealer and Equipment

Dealers can be found on the Internet, in the yellow pages, and from family and friend referrals.³

- Get a written project proposal from multiple dealers and compare.
 - Make sure the estimates are for the same type of system.
 - The proposal should include detailed costs (including hardware, installation, connection to the grid, permitting, sales tax, and warranty).
 - The proposal should also include an estimate of how much of your electric needs the system will provide.

- Get the dealers' qualifications related to the specific product/system.
 - Ask if the dealer is properly licensed or certified.
 - <http://www.nabcep.org/>
 - http://www.dps.state.ia.us/fm/electrician/licensing/licensing_verification.shtml
 - Are there any pending or active judgments or liens against the dealer?
 - Ask for, and check references. Look at other installations made by the dealer. Ask if the dealer has insurance and what it covers.
 - Inquire about whether the dealer guarantees his work.
 - Ask whether the dealer is familiar with utility policies on interconnection, net metering, or utility buy-back (avoided cost) rates.
 - See if the dealer is aware of any tax or utility incentives that may be available for the system.
 - Discuss maintenance of the system, training to operate the system, and how you will be able monitor the system's performance.

- For solar, ask:
 - What type of roof preparation is needed and what condition does the roof need to be in for a roof mount?
 - Who is responsible for repairs if there are structural damages resulting from the installation?
 - Who is responsible for removal and reinstallation of the system when your roof needs replaced or repaired?

- Beware of scams. Be wary of: door-to-door solicitations, requests for verbal agreements, high pressure sales tactics, demands for cash or large down payments, or scare tactics.

- Review and compare options.

- Consider the warranty associated with the specific equipment manufacturer. Ask:
 - Who is responsible for equipment replacement while the hardware is under warranty?
 - If there is a hardware warranty issue, who is responsible for the costs of removing the old equipment and installing the replacement equipment?
 - Who provides notice and what other provisions apply if the installer or inspector needs access to your home?

³ There are many "how-to" guides for purchasing solar, wind, or other distributed generation systems. To make ensure you get the system that best meets your needs, do some additional research and be sure to ask questions.

4. Finance Options

Compare the costs to own a distributed generation system versus costs of a lease or a third-party power purchase agreement.

Own

A distributed generation system is a long-term investment. When you own the system, you assume the responsibility of operating and maintaining the system.

Consider whether to purchase the distributed generation system by:

- Paying for the system up front or
- Financing the system through a bank or other financial institution.

Lease

Leases typically require less capital investment up front. The customer simply rents the system from a company for a fixed monthly payment for a period of time no matter how much electricity the system generates each month. There may also be lease-to-own options.

Power Purchase Agreement

In a Power Purchase Agreement a third-party developer owns and operates the system on a customer's property. That customer purchases the system's electric output for a period of time and at a price (typically per kWh) specified in the agreement.

Below are some things to consider for either a lease or power purchase agreement:

- Who owns any renewable energy credits associated with the system?
- Who receives tax credits or other incentives?
- Will the installation affect property taxes?
- Who pays the taxes on it, including any increase in property taxes?
- What happens to the lease and the installation if the property is sold?
- Can a system be bought before the end of the agreement/lease?
- Who owns a leased system at the end of the agreement/lease?
- Is the product and performance of the product specified in the agreement/lease?
- Does the agreement specify who is responsible for system maintenance?
- Does the monthly fee or price per kWh increase over time?

- For Solar: Who pays to remove and repair the roof at the end of the agreement/lease?

5. Informational Links

General Information

Iowa Energy Center	http://www.iowaenergycenter.org/
U.S. Department of Energy	Guide to Purchasing Green Power http://www.epa.gov/greenpower/documents/purchasing_guide_for_web.pdf
North American Board of Certified Energy Practitioners	To see if your installer is certified http://www.nabcep.org/
Attorney General -	To file a consumer complaint http://www.state.ia.us/government/ag/file_complaint/index.html
State Fire Marshal Division	Licenses Electrical Contractors http://www.dps.state.ia.us/fm/index.shtml
Iowa Economic Development Authority	Energy Programs: http://www.iowaeconomicdevelopment.com/Programs/Energy Combined Heat and Power: http://www.iowaeconomicdevelopment.com/Energy/CHP
Iowa Utilities Board	Interconnection Rules: https://www.legis.iowa.gov/law/administrativeRules/rules?agency=199&chapter=45&pubDat=07-23-2014

Utility Information

Aside from the links below, you can also search the utility's website by using key words such as: net metering, energy efficiency, interconnection or distributed (or customer-owned) generation.

Alliant Energy (Interstate Power & Light Company)	Home page: http://www.alliantenergy.com/ Energy Efficiency: http://www.alliantenergy.com/SaveEnergyAndMoney/ Customer-Owned Generation: http://www.alliantenergy.com/sellmypower Second Nature Program: http://www.alliantenergy.com/SaveEnergyAndMoney/RenewableEnergy/SecondNature/index.html
MidAmerican Energy Company	Home page: http://www.midamericanenergy.com/ Energy Efficiency: http://www.midamericanenergy.com/ee/ Distributed Generation: http://www.midamericanenergy.com/environment7.aspx Renewable Advantage Program: http://www.midamericanenergy.com/wind_advantage.aspx
Iowa Association of Electric Cooperatives	http://www.iowarec.org/
Iowa Association of Municipal Utilities	http://www.iamu.org/

Incentive Information

The list below is not meant to be a comprehensive list of all incentives available in Iowa. Please check with your dealer, utility, or tax professional to see if other incentives are available.

Database of State Incentives for Renewable Energy	http://www.dsireusa.org/incentives/index.cfm?state=IA&re=0&ee=0&spv=0&st=0&srp=1
Iowa Solar Energy System Tax Credits	https://tax.iowa.gov/solar-energy-system-tax-credits
Iowa Renewable Energy Tax Credit	http://www.state.ia.us/government/com/util/energy/renewable_tax_credits.html