

STATE OF IOWA  
DEPARTMENT OF COMMERCE  
UTILITIES BOARD

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IN RE:  DISTRIBUTED GENERATION	DOCKET NO. NOI-2014-0001
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**ORDER SOLICITING FINAL COMMENTS  
REGARDING ON-SITE GENERATION GUIDE**

(Issued December 3, 2014)

On January 7, 2014, the 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, and other organizations, businesses, and individuals.

Because of the breadth of the topics identified by participants in the initial comments, the Board issued an order on May 12, 2014, which suggested the inquiry

focus on the topics of net metering (excluding avoided costs issues, which are the subject of a separate Board docket, Docket No. INU-2014-0001); interconnection of DG, including safety and reliability; and customer awareness and protection. The Board invited participants to respond to specific questions contained in the May 12, 2014, order. Responses were due on June 24, 2014, and 47 participants filed comments.

After reviewing the comments, the Board issued an order on September 19, 2014, which contained additional questions regarding net metering and interconnection. The order also included a draft generation checklist for use by utility customers who were considering on-site generation. Finally, the order scheduled a workshop for October 21, 2014, for interested participants to discuss the draft checklist.

Approximately 30 inquiry participants attended the workshop and there were numerous suggestions for improving the checklist. In particular, several participants suggested that the draft checklist was too long and complicated, which could potentially overwhelm customers considering DG. However, there were others who wanted the checklist as comprehensive as possible to make sure customers were aware of the various issues associated with installing DG.

The draft checklist has been revised to incorporate many of the suggestions 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) Information Links. The Board believes that having separate sections will make the guide less overwhelming to potential DG owners and allow them to review the entire document or only specific sections, at their option.

A copy of the new draft of the information guide is attached. The Board appreciates all the comments received in writing and at the workshop and believes participants have made the revised version a better guide for potential DG users. The Board will give participants an opportunity to file written comments on the revised informational guide on or before December 22, 2014. After reviewing these comments, the Board will make any appropriate revisions and then publish the guide on the Board's website. As technology or other things associated with DG change, revisions to the guide can be made.

**IT IS THEREFORE ORDERED:**

Inquiry participants may file final written comments with respect to the revised

“Information Guide for On-Site Generation,” on or before December 22, 2014. A copy of the draft guide, which is in five sections, is attached to this order.

**UTILITIES BOARD**

/s/ Elizabeth S. Jacobs

/s/ Nick Wagner

ATTEST:

/s/ Joan Conrad  
Executive Secretary

/s/ Sheila K. Tipton

Dated at Des Moines, Iowa, this 3<sup>rd</sup> day of December 2014.

# Customer-Sited Generation Checklist (Distributed Generation)

## **Before you begin**

- 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](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, did you know that you can voluntarily contribute to the development of renewable energy through the utilities' Alternative Energy Purchase Program? Contact your utility to get more information. 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 generation system on your property, the rest of this 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 Issues** - 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 Requirements** – Discuss liability coverage and insurance needs with your insurance agent.

## **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/>

## Customer-Sited Generation Checklist (Distributed Generation)

**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 time, in years**

Review assumptions used for the following

- Cost of the system – should include equipment, installation and incentive assumptions.
- Energy cost savings assumptions (electric rate<sup>1</sup>, utility assumptions (i.e., net metering, avoided cost, etc.)
- Annual operating costs (insurance, maintenance, etc.).

### **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.

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<sup>1</sup> 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.

## Choosing a Dealer and Equipment

Dealers can be found on the Internet, in the yellow pages, and from family and friend referrals.<sup>2</sup>

- 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](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?

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<sup>2</sup> There are many "how-to" guides for purchasing solar, wind, or other distributed generation systems. To make sure you get the system that best meets your needs, do some additional research and be sure to ask questions.

## 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?

## Informational Links

### General Information

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

### 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: <a href="http://www.alliantenergy.com/">http://www.alliantenergy.com/</a> Energy Efficiency: <a href="http://www.alliantenergy.com/SaveEnergyAndMoney/">http://www.alliantenergy.com/SaveEnergyAndMoney/</a> Customer-Owned Generation: <a href="http://www.alliantenergy.com/sellmypower">http://www.alliantenergy.com/sellmypower</a> Second Nature Program: <a href="http://www.alliantenergy.com/SaveEnergyAndMoney/RenewableEnergy/SecondNature/index.htm">http://www.alliantenergy.com/SaveEnergyAndMoney/RenewableEnergy/SecondNature/index.htm</a>
MidAmerican Energy Company	Home page: <a href="http://www.midamericanenergy.com/">http://www.midamericanenergy.com/</a> Energy Efficiency: <a href="http://www.midamericanenergy.com/ee/">http://www.midamericanenergy.com/ee/</a> Distributed Generation: <a href="http://www.midamericanenergy.com/environment7.aspx">http://www.midamericanenergy.com/environment7.aspx</a> Renewable Advantage Program: <a href="http://www.midamericanenergy.com/wind_advantage.aspx">http://www.midamericanenergy.com/wind_advantage.aspx</a>
Iowa Association of Electric Cooperatives	<a href="http://www.iowarec.org/">http://www.iowarec.org/</a>
Iowa Association of Municipal Utilities	<a href="http://www.iamu.org/">http://www.iamu.org/</a>

### 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	<a href="http://www.dsireusa.org/incentives/index.cfm?state=IA&amp;re=0&amp;ee=0&amp;spv=0&amp;st=0&amp;srp=1">http://www.dsireusa.org/incentives/index.cfm?state=IA&amp;re=0&amp;ee=0&amp;spv=0&amp;st=0&amp;srp=1</a>
Iowa Solar Energy System Tax Credits	<a href="https://tax.iowa.gov/solar-energy-system-tax-credits">https://tax.iowa.gov/solar-energy-system-tax-credits</a>
Iowa Renewable Energy Tax Credit	<a href="http://www.state.ia.us/government/com/util/energy/renewable_tax_credits.html">http://www.state.ia.us/government/com/util/energy/renewable_tax_credits.html</a>