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[\*licensed only in SD]

December 16, 2010

Autumn Mueller  
Coordinator, Generation and Transmission Interconnection  
North Western Energy  
40 E. Broadway  
Butte, MT 59701

**RE: *Tier 4 Application***

Dear Ms. Mueller:

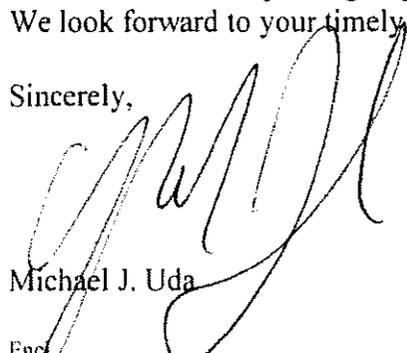
Please find enclosed the Tier 4 application for small Generator Facility Interconnection for Oak Tree Energy, LLC's (hereinafter "Oak Tree") 19.5 MW wind project in Clark, South Dakota. Oak Tree has decided to proceed with the Tier 4 application process because Oak Tree intends to be a qualifying facility and sell its output to NorthWestern Energy ("NWE") at NWE's existing 69 kV Clark Junction substation.

Oak Tree considers this application to be a formality given that the Facilities Study and the System Impact Study for the Oak Tree project are completed. It is Oak Tree's understanding that regardless of whether Oak Tree is studied as a network resource or energy resource under NWE's interconnection rules, the results of NWE's transmission studies will not differ.

Moreover, Oak Tree has already been billed by NWE to commence the aforementioned studies as part of the interconnection process, and therefore is not enclosing the \$1000 application fee. To date, Oak Tree has been billed \$35,633.23 (including the initial \$5,000 deposit for the Oak Tree Small Interconnection System Impact Study), and believes the initial \$5,000 deposit should cover any fee that might otherwise apply since NWE has acknowledged that the project study will not change regardless of whether it is considered a network or energy resource.

If we are mistaken about any of the foregoing, please let us know as soon as possible.  
Otherwise, we anticipate signing the interconnection agreement as soon as NWE is able to do so.  
We look forward to your timely response.

Sincerely,

A large, stylized handwritten signature in black ink, appearing to read 'MJU', is written over the word 'Sincerely,' and extends downwards into the name 'Michael J. Uda'.

Michael J. Uda

Enc.

1642.000 - PL 67335

**Application for Small Generator Facility Interconnection  
Tier 2, Tier 3 or Tier 4 Interconnection**

(See ARSD chapter 20:10:36 for the requirements for a Tier 2, Tier 3, or  
Tier 4 Interconnection.)

**Applicant/Interconnection Customer Contact Information:**

Name: L.W. "Bill" Makens dba CactusTree Energy, LLC  
Mailing Address: 42563 168<sup>th</sup> Street  
City: Clare State: SD Zip Code: 57225  
Telephone (Daytime): 612 751 7666 (Evening): 612 751 7666  
Facsimile Number: 605 532 3888  
E-Mail Address: Bill@CactusTreeEnergy.com

**Address of Customer Facility Where Small Generator Facility will be Interconnected:**

(if different from above)

Street Address: SAME AS ABOVE  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

**System Installer/Consulting Engineer:**

Name: Eland Matney, P.E.  
Mailing Address: 119 West Cleveland Street  
City: Bozeman State: MT Zip Code: 59715  
Telephone (Daytime): 406 581 9819 (Evening): 406 581 9819  
Facsimile Number: 512-727-6097  
E-Mail Address: ematney@MatneyFrantz.com

**Electric Service Information for Applicant's Facility Where Generator Will Be Interconnected:**

Capacity: 500 (Amps) Voltage: 34,500 (Volts)  
Type of Service:  Single Phase  Three Phase  
If Three-Phase Transformer, Indicate Type:  Wye  Delta

**Requested Procedure Under Which to Evaluate Interconnection Request:**

Please indicate below which review procedure applies to the interconnection request.

*N/A*  
 **Tier 2** - Certified interconnection equipment with an aggregate Electric Nameplate Capacity of 2 MW or less. Indicate type of certification below. The application fee amount is \_\_\_\_\_ (\$50 plus \$1 per KW of rated generation output up to a maximum of \$500).

**Lab Tested** – tested to IEEE 1547.1 and other specified standards by a nationally recognized testing laboratory and is appropriately labeled.

**Field Tested** – an identical small generator facility has been approved by the Public Utility under a Tier 4 study review process within the prior 36 months of the date of this interconnection request.

*N/A*  
 **Tier 3** – A Small Generator Facility connected to the EDS that does not export power. The Electric Nameplate Capacity rating must be 50 KW or smaller if connecting to an area network, or 2 MW or smaller if connecting to a radial distribution feeder. The application fee amount is \_\_\_\_\_ (\$100 plus \$2 per KW of rated generation output up to a maximum of \$1,000).

**Tier 4** – Electric Nameplate Capacity rating is 10 MW or smaller and the Small Generator Facility does not qualify for a Tier 1, Tier 2, or Tier 3 review or has been reviewed but not approved under a Tier 1, Tier 2, or Tier 3 review. Application fee amount is 1,000 (\$100 plus \$2 per KW of rated generation output up to a maximum of \$1,000).

**Field Tested Equipment:**

If the field tested equipment box is checked above, please include with the completed application the following information which will be required for review of Tier 2 field tested small generator facilities:

- A copy of the Certificate of Completion, signed by the Public Utility that has approved an identical small generator facility for parallel operation.
- A copy of all documentation submitted to the Public Utility that approved the Small Generator Facility for parallel operation under a Tier 4 study process.
- A written statement by the Applicant indicating that the small generator facility being proposed is identical, except for Minor Equipment Modification, to the one previously approved by the Public Utility for parallel operation.
- If a Tier 2 Application utilizing Field Tested equipment is proposed, the remainder of the application will not be required to be completed.

**Small Generator Facility Information:**

List interconnection components/system(s) to be used in the Small Generation Facility that is lab certified (required for Lab Tested, Tier 2 Interconnection requests only).

Component/System NRTL Providing Label & Listing

1. GE 1.5 slt 60HZ
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

*Please provide copies of manufacturer brochures or technical specifications.*

**Energy Production Equipment/Inverter Information:**

Synchronous    Induction    Inverter    Other \_\_\_\_\_

Electric Nameplate Rating: \_\_\_\_\_ KW   \_\_\_\_\_ kVA

Rated Voltage: \_\_\_\_\_ Volts

Rated Current: \_\_\_\_\_ Amps

System Type Tested (Total System):  Yes    No (attach product literature)

**For Synchronous Machines:**   THIS IS NOT A SYNCHRONOUS MACHINE

Manufacturer: \_\_\_\_\_

Model No.: \_\_\_\_\_   Version No.: \_\_\_\_\_

Submit copies of the Saturation Curve and the Vee Curve.

Salient    Non-Salient

Torque: \_\_\_\_\_ lb-ft   Rated RPM: \_\_\_\_\_

Field Amperes: \_\_\_\_\_ at rated generator voltage and current and \_\_\_\_\_ % PF over-excited

Type of Exciter: \_\_\_\_\_

Output Power of Exciter: \_\_\_\_\_

Type of Voltage Regulator: \_\_\_\_\_

Locked Rotor Current: \_\_\_\_\_ Amps

Synchronous Speed: \_\_\_\_\_ RPM

Winding Connection: \_\_\_\_\_

Min. Operating Frequency/Time: \_\_\_\_\_

Generator Connection:  Delta    Wye    Wye Grounded

Direct-axis Synchronous Reactance: (Xd) \_\_\_\_\_ ohms

Direct-axis Transient Reactance: (X'd) \_\_\_\_\_ ohms

Direct-axis Sub-transient Reactance: (X''d) \_\_\_\_\_ ohms

**For Induction Machines:**   DOUBLE FED

Manufacturer: GE

Model No.: slt 1.5 60HZ   Version No.: \_\_\_\_\_

Locked Rotor Current: \_\_\_\_\_ Amps

Rotor Resistance: (Rr) \_\_\_\_\_ ohms   Exciting Current: \_\_\_\_\_ Amps

Rotor Reactance: (Xr) ~~1~~ ohms Reactive Power Required: \_\_\_\_\_

Magnetizing Reactance: (Xm) \_\_\_\_\_ ohms \_\_\_\_\_ VARs (No Load)

Stator Resistance: (Rs) \_\_\_\_\_ ohms \_\_\_\_\_ VARs (Full Load)

Stator Reactance: (Xs) \_\_\_\_\_ ohms

Short Circuit Reactance: (X'd) \_\_\_\_\_ ohms

Phase:  Single  Three-Phase

Frame Size: \_\_\_\_\_ Design Letter: \_\_\_\_\_ Temp. Rise: \_\_\_\_\_ °C.

THE GEN IS A DOUBLY FED ASYNCHRONOUS MACHINE THE ROTOR SPEED IS DE-COUPLED FROM THE GRID FREQUENCY. ALTHOUGH THE MACHINE HAS PHYSICAL INERTIA, NO INERTIA IS SEEN BY GRID.

**Reverse Power Relay Information: (This section applies to Tier 3 Review only.)**

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Electric Nameplate Capacity rating: (kVA) \_\_\_\_\_

**Additional Information For Inverter Based Facilities:**

**Inverter Information:**

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Type:  Forced Commutated  Line Commutated

Electric Nameplate Capacity Rated Output: \_\_\_\_\_ Amps \_\_\_\_\_ Volts  
\_\_\_\_\_ KW

Efficiency: \_\_\_\_\_ % Power Factor: \_\_\_\_\_ %

**DC Source / Prime Mover:**

Solar  Wind  Hydro  Other \_\_\_\_\_

Electric Nameplate Capacity Rating: 1500 KW Rating: 1717 kVA

Rated Voltage: 575 Volts

Open Circuit Voltage (if applicable): \_\_\_\_\_ Volts

Rated Current: ~ 2,000 Amps

Short Circuit Current (If applicable): \_\_\_\_\_ Amps

**Other Facility Information:**

Is Facility a Qualified Facility? Yes  No

If yes, has Applicant completed FERC's "Notice of Self Certification"? Yes  No

Verification Number Received from FERC: 20100428-5179

One Line Diagram attached:  Yes  No

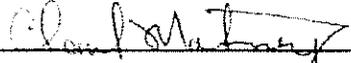
Plot Plan attached:  Yes  No

Installation Test Plan attached:  Yes  No

Estimated Commissioning Date (if known): \_\_\_\_\_

Applicant Signature:

I hereby certify that all of the information provided in this application request form is correct.

Applicant Signature:   
Title: ENGINEER Date: 12.13.16

An application fee is required before the application can be processed. Please verify that the appropriate fee is included with the application:

Application fee included:  PREVIOUSLY SUBMITTED.  
Amount \_\_\_\_\_

## Tier 2, 3, or 4 Interconnection Request Acknowledgement

I hereby acknowledge the receipt of an Interconnection Request and Application Fee.

Approval for a Tier 2, Tier 3, or Tier 4 Small Generator Facility interconnection is contingent upon the Applicant's Small Generator Facility passing the screens and completing the review process set forth in ARSD chapter 20:10:36 and is not granted by the Public Utility's signature on this Application form.

Public Utility Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Note: The Public Utility shall retain a copy of this completed and signed form and return the original and any attachments to the Applicant.

# Form 556

Certification of Qualifying Facility (QF) Status for an Existing or a Proposed Small Power Production or Cogeneration Facility

Type or print your responses below. Information about the Commission's QF program, answers to frequently asked questions about QF requirements or completing this form, and contact information for QF program staff are available at [www.ferc.gov/QF](http://www.ferc.gov/QF).

Certain lines in this form will be automatically calculated based on responses to previous lines, with the relevant formulas shown in the descriptions of the automatically calculated lines. If you disagree with the results of any automatic calculation on this form, contact Commission staff to discuss the discrepancy before filing.

Paperwork Reduction Act Notice: The Office of Management and Budget (OMB) Control No. is 1902-0075 and authorization expires on 12/31/2012. Compliance with the information requirements established by the FERC Form No. 556 is required to obtain or maintain status as a QF. See 18 C.F.R. § 131.80 and Part 292. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The estimated burden for completing the FERC Form No. 556, including gathering and reporting information, is 4 hours for self-certifications and 38 hours for applications for Commission certification. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to the following: Michael Miller, Office of the Executive Director (ED-34), Federal Energy Regulatory Commission, 888 First Street N.E., Washington, DC 20426; and Desk Officer for FERC, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 ([oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov)). Include the Control No. 1902-0075 in any correspondence.

<b>1a</b>	Full name of applicant Oak Tree Energy, LLC	
	Docket number assigned to the immediately preceding submittal filed with the Commission in connection with the instant facility, if any: QF ___ - ___ - ___ <input checked="" type="checkbox"/> Check here if no previous QF submittals for your facility	
<b>1a</b>	Purpose of instant filing: Under which certification process is the applicant making this filing? (check one)	
	<input checked="" type="checkbox"/> Notice of self-certification or recertification pursuant to 18 C.F.R. § 292.207(a)	<input type="checkbox"/> Application for Commission certification or recertification pursuant to 18 C.F.R. § 292.207(b) and (d)(2)
	What type(s) of QF status is the applicant seeking for its facility? (check all that apply)	
	<input checked="" type="checkbox"/> Qualifying small power production facility status	<input type="checkbox"/> Qualifying cogeneration facility status
	Indicate the specific purpose of the filing: (check one)	
<b>1b</b>	Full address of applicant	
	Street Address 42563 168th Street	
	City Clark	State/province South Dakota
	Postal code 57225-5814	Country (if not United States)

Indicate the owner(s) of the facility (including the percentage of ownership held by any electric utility or electric utility holding company, or by any persons owned by either).

Full legal name of direct owner	Electric utility or holding company (or owned by either)?	% ownership held
1) L. W. Makens	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	100 %
2)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
3)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
4)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
5)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
6)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
7)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
8)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
9)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%
10)	Yes <input type="checkbox"/> No <input type="checkbox"/>	%

Check here and continue in section 6 if additional space is needed to provide direct ownership information.

Indicate the facility operator

Oak Tree Energy, LLC

1c

Additionally, state whether or not any of the non-electric utility owners or their upstream owners are engaged in the generation or sale of electric power, or have any ownership or operating interest in any electric facilities other than QFs. Continue in section 6 if additional space is needed.

L.W. Makens, the sole owner of Oak Tree Energy, LLC, has no ownership or operating interest in any electric facilities other than this QF, except for possible interest represented by a general portfolio of stocks and mutual funds.

In order to facilitate review of the application, the applicant may provide an ownership chart identifying the upstream ownership of the facility. Such chart should indicate ownership percentages where appropriate.

2	Person to whom communications regarding the filed information may be addressed	
	Name of contact person Claud Matney, PE	
	Title Engineer	Telephone number 406 581 9819
	<input type="checkbox"/> If the contact person's address is the same as provided above for the applicant, check here and skip to section 3a.	
	Street address 119 West Cleveland Street	
	City Bozeman	State/province Montana
	Postal code 59715	Country (if not United States)
3a	Location of facility to be certified	
	Facility name Oak Tree Energy - Clark Wind Farm	
	Street address (if known) 42563 168th Street	
	City (if unincorporated, check here and enter nearest city) <input type="checkbox"/> Clark	State/province South Dakota
	County (or check here for independent city) <input type="checkbox"/> Clark	Country (if not United States)
3b	Indicate the electric utilities that are contemplated to transact with the facility and describe the services those electric utilities are expected to provide the services indicated below:	
	Indicate utility interconnecting with the facility: Northwestern Energy	
	Indicate utilities providing wheeling service (if known):	
	Indicate utilities purchasing the useful electric power output (if known): Northwestern Energy	
	Indicate utilities providing supplementary power, backup power, maintenance power, and/or interruptible power service (if known):	

4a	<p>Describe the principal components of the facility including boilers, prime movers and electric generators, and explain their operation. Include transmission lines, transformers and switchyard equipment, if included as part of the facility. Continue in section 6 if additional space is needed.</p> <p>19.5 Megawatts of nameplate generating capacity from wind turbines on site. Output from the turbines will be collected and stepped up to 69 kV at a project owned substation on the site. Approximately 5 miles of 69 kV line will be installed to deliver the generation from the collection sub station to Northwestern Energy's Clark Substation.</p>															
4b	<p>Indicate the maximum gross and maximum net electric power production capacity of the facility at the point(s) of delivery by completing the worksheet below. Enter zero for any values which are negligible.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 75%;">A) The maximum gross power production capacity at the terminals of the individual generator(s) under the most favorable anticipated design conditions</td> <td style="text-align: right;">19,500 kW</td> </tr> <tr> <td>B) Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process (pumps, fans, necessary office or maintenance buildings, etc.)</td> <td style="text-align: right;">0 kW</td> </tr> <tr> <td>C) Electrical losses in all interconnection transformers</td> <td style="text-align: right;">585 kW</td> </tr> <tr> <td>D) Electrical losses in AC/DC conversion equipment, if any</td> <td style="text-align: right;">0 kW</td> </tr> <tr> <td>E) Other interconnection losses in power lines or facilities (other than transformers) between the terminals of the generator(s) to the point of interconnection with the utility</td> <td style="text-align: right;">0 kW</td> </tr> <tr> <td>F) Total deductions from gross power production capacity = B + C + D + E</td> <td style="text-align: right;">585 kW</td> </tr> <tr> <td>G) Maximum net power production capacity = A - F</td> <td style="text-align: right;">18,915 kW</td> </tr> </table>		A) The maximum gross power production capacity at the terminals of the individual generator(s) under the most favorable anticipated design conditions	19,500 kW	B) Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process (pumps, fans, necessary office or maintenance buildings, etc.)	0 kW	C) Electrical losses in all interconnection transformers	585 kW	D) Electrical losses in AC/DC conversion equipment, if any	0 kW	E) Other interconnection losses in power lines or facilities (other than transformers) between the terminals of the generator(s) to the point of interconnection with the utility	0 kW	F) Total deductions from gross power production capacity = B + C + D + E	585 kW	G) Maximum net power production capacity = A - F	18,915 kW
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G) Maximum net power production capacity = A - F	18,915 kW															
4c	<p>Indicate the actual or expected installation and operation dates of the facility, or the actual or expected date of completion of the reported modifications to the facility.</p> <p>September 2012</p>															

Describe the primary energy input: (check one main category and, if applicable, one subcategory)

<input type="checkbox"/> Biomass (specify)	<input checked="" type="checkbox"/> Renewable resources (specify)	<input type="checkbox"/> Geothermal
<input type="checkbox"/> Landfill gas	<input type="checkbox"/> Hydro power - river	<input type="checkbox"/> Fossil fuel (specify)
<input type="checkbox"/> Manure digester gas	<input type="checkbox"/> Hydro power - tidal	<input type="checkbox"/> Coal (not waste)
<input type="checkbox"/> Municipal solid waste	<input type="checkbox"/> Hydro power - wave	<input type="checkbox"/> Fuel oil/diesel
<input type="checkbox"/> Sewage digester gas	<input type="checkbox"/> Solar - photovoltaic	<input type="checkbox"/> Natural gas (not waste)
<input type="checkbox"/> Wood	<input type="checkbox"/> Solar - thermal	<input type="checkbox"/> Other fossil fuel (describe in section 6)
<input type="checkbox"/> Other biomass (describe in section 6)	<input checked="" type="checkbox"/> Wind	
<input type="checkbox"/> Waste (specify type below)	<input type="checkbox"/> Other renewable resource (describe in section 6)	<input type="checkbox"/> Other (describe in section 6)

4d

If you specified "waste" as the primary energy input, indicate the type of waste fuel used: (check one)

Waste fuel listed in 18 C.F.R. § 292.202(b) (specify one of the following)

- Anthracite culm produced prior to July 23, 1985
- Anthracite refuse that has an average heat content of 6,000 Btu or less per pound and has an average ash content of 45 percent or more
- Bituminous coal refuse that has an average heat content of 9,500 Btu per pound or less and has an average ash content of 25 percent or more
- Top or bottom subbituminous coal produced on Federal lands or on Indian lands that has been determined to be waste by the United States Department of the Interior's Bureau of Land Management (BLM) or that is located on non-Federal or non-Indian lands outside of BLM's jurisdiction, provided that the applicant shows that the latter coal is an extension of that determined by BLM to be waste
- Coal refuse produced on Federal lands or on Indian lands that has been determined to be waste by the BLM or that is located on non-Federal or non-Indian lands outside of BLM's jurisdiction, provided that applicant shows that the latter is an extension of that determined by BLM to be waste
- Lignite produced in association with the production of montan wax and lignite that becomes exposed as a result of such a mining operation
- Gaseous fuels (except natural gas and synthetic gas from coal) (describe in section 6)
- Waste natural gas from gas or oil wells (describe in section 6 how the gas meets the requirements of section 2.400 of the Commission's regulations, 18 C.F.R. § 2.400, for waste natural gas; include with your filing any materials necessary to demonstrate compliance with section 2.400)
- Materials that a government agency has certified for disposal by combustion (describe in section 6)
- Heat from exothermic reactions (describe in section 6)
- Residual heat (describe in section 6)
- Used rubber tires
- Plastic materials
- Refinery off-gas
- Petroleum coke

Other waste energy input that has little or no commercial value and exists in the absence of the qualifying facility industry (describe in section 6; include a discussion of the fuel's lack of commercial value and existence in the absence of the qualifying facility industry)

5

Provide the average annual hourly energy input in terms of Btu for the following fossil fuel energy inputs, and provide the related percentage of the total average annual hourly energy input to the facility (18 C.F.R. § 292.202 (j)). For any oil or natural gas fuel, use lower heating value (18 C.F.R. § 292.202(m)).

Fuel	Annual average energy input for specified fuel	Percentage of total annual energy input
Natural gas	Btu/h	%
Oil-based fuels	Btu/h	%
Coal	Btu/h	%

## 6 Miscellaneous

Discuss any particular characteristics of the facility which the cogenerator or small power producer believes might bear on its qualifying status.

You may also use this space to provide any information for which there was not sufficient space in any other sections of the form. For such information clearly identify the section number to which the information belongs.

Your response below is not limited to one page. Additional page(s) will automatically be inserted into this form if the length of your response exceeds the space on this page. Use as many pages as you require.

## Description of the Small Power Production Facility

If you indicated in section 1a that you are seeking qualifying small power production facility status for your facility, then you must respond to sections 7 and 8. Otherwise, skip sections 7 and 8.

7	<p>Describe how fossil fuel use will not exceed 25 percent of the total annual energy input limit (18 C.F.R. §§ 292.202(j) and 292.204(b)). Also, describe how the use of fossil fuel will be limited to the following purposes to conform to Federal Power Act section 3(17)(B): ignition, start-up, testing, flame stabilization, control use, and minimal amounts of fuel required to alleviate or prevent unanticipated equipment outages and emergencies directly affecting the public. Continue in section 6 if additional space is needed.</p> <p>No fossil fuel input - wind only.</p>
8	<p>If the facility reported herein is not an "eligible solar, wind, waste or geothermal facility," and if any other non-eligible facility located within one mile of the instant facility is owned by any of the entities (or their affiliates) reported in section 1c above and uses the same primary energy input, provide the following information about the other facilities for the purpose of demonstrating that the total of the power production capacities of these facilities does not exceed 80 MW.</p> <p>An "eligible solar, wind, waste or geothermal facility," as defined in Section 3(17)(E) of the Federal Power Act, is a small power production facility that produces electric energy solely by the use, as a primary energy input, of solar, wind, waste or geothermal resources, for which either an application for Commission certification of qualifying status (18 C.F.R § 292.207(b)) or a notice of self-certification of qualifying status (18 C.F.R § 292.207(a)) was submitted to the Commission not later than December 31, 1994, and for which construction of such facility commences not later than December 31, 1999, or if not, reasonable diligence is exercised toward the completion of such facility, taking into account all factors relevant to construction of the facility.</p> <p>Continue in section 6 if additional space is needed to respond to any of the items below.</p>
	<p>Check here and skip the rest of section 8 if there are no eligible solar, wind, waste or geothermal facilities</p> <p><input checked="" type="checkbox"/> located within one mile of the instant facility which are owned by any of the entities (or their affiliates) reported in section 1c above and which use the same primary energy input.</p>
	<p>Facility names, if any (as reported to the Commission)</p>
	<p>Commission docket numbers</p>
	<p>Names of common owners</p>
	<p>Common primary energy source used as energy input</p>
<p>Power production capacities (MW)</p>	

### Description of the Cogeneration Facility

If you indicated in section 1a that you are seeking qualifying cogeneration facility status for your facility, then you must respond to sections 9 through 11. Otherwise, skip sections 9 through 11.

Describe the cogeneration system (18 C.F.R §§ 292.202(c) and 292.203(b)). Continue in section 6 if additional space is needed.

9

Indicate whether the facility is a topping-cycle (18 C.F.R § 292.202(d)) or bottoming-cycle (18 C.F.R § 292.202(e)) cogeneration facility (check all that apply)

Topping -cycle cogeneration

Bottoming-cycle cogeneration

<b>10</b>	<p>To demonstrate the sequentiality of the cogeneration process (18 C.F.R. § 292.202(s)) and to support compliance with other requirements such as the operating and efficiency standards (section 11 below), provide a mass and heat balance (cycle) diagram depicting the following average annual hourly operating conditions for the following:</p> <p>Working fluid (e.g., steam, water) flow conditions at (1) input and output of prime mover(s) and (2) at delivery to and return from each useful thermal application including the following: (1) flow rates (lbs./hr.), (2) temperature (deg. F), (3) pressure (psia), and (4) enthalpy (Btu/lb.). (Exception: Pressure values are <u>not</u> required to be specified in a flow cycle that is <u>all</u> liquid and has no vapor at any point in the cycle. Also, for cycles which are <u>all</u> liquid water, enthalpy need not be provided and a specific heat of 1.002 Btu/(lb*R) for will be assumed unless otherwise specified.)</p> <p>Indicate on the diagram the average fuel flow inputs in Btu/hr. (using lower heating value) (18 C.F.R § 292.202(m)), separately indicating fossil fuel inputs for any supplementary firing in Btu/hr. (18 C.F.R § 292.202(f)).</p>	
	Number of hours of operation used to determine the average annual hourly facility inputs and outputs	h
<b>11</b>	<p>Compute the operating value (applicable to a topping-cycle facility under 18 C.F.R § 292.205(a)(1)) and the efficiency value (18 C.F.R §§ 292.205(a)(2) and (b)), based on the information provided in and corresponding to item 10.</p> <p>If you indicated in section 9 that your facility represents topping-cycle cogeneration technology, compute topping-cycle operating and efficiency values by completing the worksheet below. Topping-cycle operating value is required to be 5 percent or more. Topping-cycle efficiency value is required to be 45 percent or more when operating value is less than 15 percent, or 42.5 percent or more when operating value is equal to or greater than 15 percent.</p>	
	(Pt) Average annual hourly useful thermal energy output	Btu/h
	Average annual rate of electrical output	kW
	(Pe) Convert electrical output to Btu/h by multiplying line above by 3,412	Btu/h
	Average annual rate of mechanical output	hp
	(Pm) Convert mechanical output to Btu/h by multiplying line above by 2,544	Btu/h
	(Pi) Average annual hourly energy input (natural gas or oil only)	Btu/h
	(Ps) Average annual hourly energy input from supplementary firing (natural gas or oil only)	Btu/h
	Topping-cycle operating value = $100 * Pt / (Pt + Pe + Pm)$	0 %
	Topping-cycle efficiency value = $100 * (Pe + Pm + 0.5 * Pt) / (Pi + Ps)$	0 %
	<p>If you indicated in section 9 that your facility represents bottoming-cycle cogeneration technology, compute bottoming-cycle efficiency value by completing the worksheet below. Bottoming-cycle efficiency value is required to be 45 percent or more.</p>	
	Average annual rate of electrical output	kW
	(Pe) Convert electrical output to Btu/h by multiplying line above by 3,412	Btu/h
	Average annual rate of mechanical output	hp
	(Pm) Convert mechanical output to Btu/h by multiplying line above by 2,544	Btu/h
	(Ps) Average annual hourly energy input from supplementary firing (natural gas or oil only)	Btu/h
	Bottoming-cycle efficiency value = $100 * (Pe + Pm) / Ps$	0 %

## For Topping-Cycle Cogeneration Facilities

If you indicated in section 9 that your facility represents topping-cycle cogeneration technology, then you must respond to sections 12 and 13. Otherwise, skip sections 12 and 13.

12	<p>Identify the entity (i.e., thermal host) which will purchase the useful thermal energy output from the facility (18 C.F.R. § 292.202(h)). Indicate whether the entity uses such output for the purpose of space and water heating, space cooling, and/or process use. Continue in section 6 if additional space is needed.</p>
13	<p>In connection with the requirement that the thermal energy output be useful (18 C.F.R § 292.202(h)): For process uses by commercial or industrial host(s), describe each process (or group of similar processes using the same quality of steam) and provide the average annual hourly thermal energy made available to the process, less process return. For a complex system, where the primary steam header at the host-side is divided into various sub-uses, each having different pressure and temperature characteristics, describe the processes associated with each sub-use and provide the average annual hourly thermal energy delivered to each sub-use, less process return from such sub-use. Provide a diagram showing the main steam header and the sub-uses with other relevant information such as the average header pressure (psia), the temperature (deg. F), the enthalpy (Btu/lb.), and the flow (lb./hr.), both in and out of each sub-use. For space and water heating, describe the type of heating involved (e.g., office space heating, domestic water heating) and provide the average annual hourly thermal energy delivered and used for such purpose. For space cooling, describe the type of cooling involved (e.g., office space cooling) and provide the average annual hourly thermal energy used by the chiller. Continue in section 6 if additional space is needed.</p>

### For Bottoming-Cycle Cogeneration Facilities

If you indicated in section 9 that your facility represents bottoming-cycle cogeneration technology, then you must respond to section 14. Otherwise, skip section 14.

Provide a description of the commercial or industrial process or other thermal application to which the energy input to the system is first applied and from which the reject heat is then used for electric power production. Continue in section 6 if additional space is needed.

14

## For New Cogeneration Facilities

For any cogeneration facility that was either not certified as a qualifying cogeneration facility on or before August 8, 2005, or that had not filed a notice of self-certification, self-recertification or an application for Commission certification under 18 C.F.R. § 292.207 prior to February 2, 2006, respond to the items in section 15 below. Otherwise, skip section 15.

	<p>Demonstrate that the thermal energy output of the cogeneration facility is used in a productive and beneficial manner (18 C.F.R §§ 292.205(d)(1), (d)(4) and (d)(5)). Continue in section 6 if additional space is needed.</p>
<p>15</p>	<p>Demonstrate that the electrical, thermal, chemical and mechanical output of the cogeneration facility is used fundamentally for industrial, commercial, residential or institutional purposes and is not intended fundamentally for sale to an electric utility, taking into account technological, efficiency, economic, and variable thermal energy requirements, as well as state laws applicable to sales of electric energy from a qualifying facility to its host facility (18 C.F.R §§ 292.205(d)(2), (d)(3) and (d)(4)). Continue in section 6 if additional space is needed.</p>

## Signature

Provide your signature and signature date below. Rule 2005(a) of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2005(a)) provides that a signature on a filing constitutes a certificate that (1) the signer has read the filing and knows its contents; (2) that the contents are true as stated, to the best knowledge and belief of the signer; and (3) the signer possesses full power and authority to sign the filing.

Rule 2005(c) of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2005(c)) provides that persons filing their documents electronically may use typed characters representing their name to sign the filed documents. A person filing this document electronically should sign (by typing their name) in the space provided below. A person filing this form in hardcopy format should sign in ink.

Signature	Date
L. W. Makens	04/28/2010

## Filing Fee

No filing fee is required if you are submitting a self-certification of your facility as a QF pursuant to 18 C.F.R. § 292.207(a).

A filing fee is required if you are filing either of the following:

- (1) an application for Commission certification of your facility as a QF under 18 C.F.R. § 292.207(b), or
- (2) a petition for declaratory order granting waiver pursuant to 18 C.F.R. §§ 292.204(a)(3) or 292.205(c).

The current fees for applications for Commission certifications and petitions for declaratory order can be found by visiting the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF) and clicking on the Fee Schedule link.

See the How to File section on the following page for details on how to include your filing fee with your filing. If a filing fee is required, you must submit your fee before your application can be considered complete.

## Notice Requirements

### Draft Notice Suitable for Publication in the *Federal Register*

Pursuant to 18 C.F.R. §§ 292.207(a)(iv) and (b)(4), a notice is required to be published in the *Federal Register* alerting the public to the filing of the following types of documents: (1) application for Commission certification of a facility as a QF (small power production or cogeneration facility); or (2) self-certification of a "new" cogeneration facility.

Definition: A cogeneration facility is "new" if it was either not certified as a qualifying cogeneration facility on or before August 8, 2005, or had not filed a notice of self-certification, self-recertification or an application for Commission certification or Commission recertification as a qualifying cogeneration facility under section 292.207 of the Commission's regulations prior to February 2, 2006.

No draft *Federal Register* notice is required to be published for the self-certification of any small power production facility, or for the self-certification of any "old" cogeneration facility (i.e., any cogeneration facility that does not meet the above definition of a "new" facility).

If publication of a draft *Federal Register* notice is required for your filing, you must obtain a blank notice from the Commission's website, complete the draft notice with the information pertaining to your facility, and include the draft notice with your filing in a word processing format (DOC, RTF, WPD, etc.) on electronic media (either electronically filed with your document, or on a disk, CD or DVD accompanying your filing). The Secretary of the Commission will, upon receipt of your draft notice, review the notice to ensure proper format and send it for publication in the *Federal Register*. Blank copies of *Federal Register* notices can be downloaded from the Notice Requirements link from the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF).

### Required Notice to Utilities and Public Utility Commissions for Self-Certification

Pursuant to 18 C.F.R. § 292.207(a)(ii), you must provide a copy of a self-certification to the utilities with which the facility will interconnect and transact, as well as to the Public Utility Commissions of the states in which those utilities and your facility reside. Links to information about the Public Utility Commissions in various states is available from the Notice Requirements link on the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF).

## How to Submit Your Filing to the Commission

### Electronic Filing

All QF applications and self-certifications may be filed electronically, and applicants are strongly encouraged to use the electronic filing process. By filing electronically, you will reduce your filing burden, save paper resources, save postage or courier charges, help keep Commission expenses to a minimum, and receive a much faster confirmation (via an email containing the docket number assigned to your facility) that the Commission has received your filing.

To electronically file your Form 556, visit the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF), and click the eFiling link. Follow the instructions. When prompted, select one of the following filing types, as appropriate, from the Electric menu:

- (Fee) Application for Commission Cert. as Cogeneration QF
- (Fee) Application for Commission Cert. as Small Power QF
- Self-Certification Notice (QF, EG, FC)
- Self-Recertification of Qualifying Facility (QF)
- Supplemental Information or Request (use this selection if you are supplementing or correcting a filing, whether on your own initiative, or at the request of Commission staff)

If you are required to pay a fee (see previous page for information), you will be prompted to submit your fee electronically during the electronic filing process. You can pay via credit card or electronic debit from a bank account.

If you are eFiling an application which requires you to submit a draft *Federal Register* notice (see previous page for information), you must upload your draft notice in a word processing format (DOC, RTF, WPD, etc.) during the eFiling process.

If you have any questions about the electronic filing process, contact the Commission's eFiling Experts by phone at 202-502-8258 or by email at [eFiling@ferc.gov](mailto:eFiling@ferc.gov).

### Hardcopy (Paper) Filing

While we strongly encourage you to file electronically, you may file in hardcopy format by sending fourteen (14) copies of your Form 556 and all required materials to the following address:

Secretary of the Commission  
Federal Energy Regulatory Commission  
888 First St. N.E.  
Washington, DC 20426

If you are required to pay a fee (see previous page for information), you must enclose with your filing a check payable to the Treasurer of the United States in the amount of the required fee.

If you are eFiling an application which requires you to submit a draft *Federal Register* notice (see previous page for information), you must include with your filing a disk, CD or DVD containing your draft notice in a word processing format (DOC, RTF, WPD, etc.).

## What to Expect From the Commission

An applicant filing any document via the electronic filing process will receive an email message acknowledging receipt of their filing and showing the docket number assigned to their filing. Such email is typically sent within one business day, but may be delayed pending confirmation by the Secretary of the Commission of the contents of your filing.

An applicant filing a self-certification as a QF via the hardcopy filing process will receive a message via U.S. mail acknowledging receipt of their filing and showing the docket number assigned to their filing. This paper acknowledgement is typically sent within 7 to 10 days of receipt of the filing by the Commission.

An applicant submitting a self-certification of their facility as a QF (either electronically or via hardcopy filing) should expect to receive no documents from the Commission, other than the electronic or paper acknowledgements of receipt described above. An acknowledgement of receipt of a filing does not represent a determination by the Commission with regard to the QF status of the facility.

An applicant for Commission certification will receive an order either granting or denying certification as a QF, or requesting additional information. Pursuant to 18 C.F.R. § 292.207(b)(3), the Commission must act on an application for Commission certification within 90 days of the later of the filing date of the application or the filing date of a supplement, amendment or other change to the application.

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, DC

OMB Control # 1902-0075

# Form 556

Certification of Qualifying Facility (QF) Status for an Existing or a Proposed Small Power Production or Cogeneration Facility

Type or print your responses below. Information about the Commission's QF program, answers to frequently asked questions about QF requirements or completing this form, and contact information for QF program staff are available at [www.ferc.gov/QF](http://www.ferc.gov/QF).

Certain lines in this form will be automatically calculated based on responses to previous lines, with the relevant formulas shown in the descriptions of the automatically calculated lines. If you disagree with the results of any automatic calculation on this form, contact Commission staff to discuss the discrepancy before filing.

Paperwork Reduction Act Notice: The Office of Management and Budget (OMB) Control No. is 1902-0075 and authorization expires on 12/31/2012. Compliance with the information requirements established by the FERC Form No. 556 is required to obtain or maintain status as a QF. See 18 C.F.R. § 131.80 and Part 292. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The estimated burden for completing the FERC Form No. 556, including gathering and reporting information, is 4 hours for self-certifications and 38 hours for applications for Commission certification. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to the following: Michael Miller, Office of the Executive Director (ED-34), Federal Energy Regulatory Commission, 888 First Street N.E., Washington, DC 20426; and Desk Officer for FERC, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 ([oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov)). Include the Control No. 1902-0075 in any correspondence.

<b>1a</b>	Full name of applicant Oak Tree Energy, LLC	
	Docket number assigned to the immediately preceding submittal filed with the Commission in connection with the instant facility, if any: QF ___ - ___ - ___ <input checked="" type="checkbox"/> Check here if no previous QF submittals for your facility	
<b>1a</b>	Purpose of instant filing: Under which certification process is the applicant making this filing? (check one)	
	<input checked="" type="checkbox"/> Notice of self-certification or recertification pursuant to 18 C.F.R. § 292.207(a)	<input type="checkbox"/> Application for Commission certification or recertification pursuant to 18 C.F.R. § 292.207(b) and (d)(2)
	What type(s) of QF status is the applicant seeking for its facility? (check all that apply)	
	<input checked="" type="checkbox"/> Qualifying small power production facility status	<input type="checkbox"/> Qualifying cogeneration facility status
	Indicate the specific purpose of the filing: (check one)	
<b>1b</b>	<input checked="" type="checkbox"/> Original certification	
	<input type="checkbox"/> Recertification to give notice of change(s) to a previously certified facility (specify change(s) below)	
	<input type="checkbox"/> Name change and/or other administrative change(s)	<input type="checkbox"/> Change in ownership
	<input type="checkbox"/> Change(s) affecting plant equipment, fuel use, power production capacity and/or cogeneration thermal output	
<input type="checkbox"/> Supplement or correction to a previous filing submitted on the following date: _____ (describe the supplement or correction in section 6)		
<b>1b</b>	Full address of applicant	
	Street Address 42563 168th Street	
	City Clark	State/province South Dakota
	Postal code 57225-5814	Country (if not United States)

Indicate the owner(s) of the facility (including the percentage of ownership held by any electric utility or electric utility holding company, or by any persons owned by either).

Full legal name of direct owner	Electric utility or holding company (or owned by either)?	% ownership held
1) <u>L. W. Makens</u>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<u>100</u> %
2) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
3) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
4) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
5) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
6) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
7) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
8) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
9) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %
10) _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	_____ %

Check here and continue in section 6 if additional space is needed to provide direct ownership information.

Indicate the facility operator

Oak Tree Energy, LLC

1c

Additionally, state whether or not any of the non-electric utility owners or their upstream owners are engaged in the generation or sale of electric power, or have any ownership or operating interest in any electric facilities other than QFs. Continue in section 6 if additional space is needed.

L.W. Makens, the sole owner of Oak Tree Energy, LLC, has no ownership or operating interest in any electric facilities other than this QF, except for possible interest represented by a general portfolio of stocks and mutual funds.

In order to facilitate review of the application, the applicant may provide an ownership chart identifying the upstream ownership of the facility. Such chart should indicate ownership percentages where appropriate.

2	Person to whom communications regarding the filed information may be addressed		
	Name of contact person Claud Matney, PE		
	Title Engineer		Telephone number 406 581 9819
	<input type="checkbox"/> If the contact person's address is the same as provided above for the applicant, check here and skip to section 3a.		
	Street address 119 West Cleveland Street		
	City Bozeman		State/province Montana
	Postal code 59715	Country (if not United States)	
3a	Location of facility to be certified		
	Facility name Oak Tree Energy - Clark Wind Farm		
	Street address (if known) 42563 168th Street		
	City (if unincorporated, check here and enter nearest city) <input type="checkbox"/> Clark		State/province South Dakota
	County (or check here for independent city) <input type="checkbox"/> Clark		Country (if not United States)
3b	Indicate the electric utilities that are contemplated to transact with the facility and describe the services those electric utilities are expected to provide the services indicated below:		
	Indicate utility interconnecting with the facility: Northwestern Energy		
	Indicate utilities providing wheeling service (if known):		
	Indicate utilities purchasing the useful electric power output (if known): Northwestern Energy		
	Indicate utilities providing supplementary power, backup power, maintenance power, and/or interruptible power service (if known):		

4a	<p>Describe the principal components of the facility including boilers, prime movers and electric generators, and explain their operation. Include transmission lines, transformers and switchyard equipment, if included as part of the facility. Continue in section 6 if additional space is needed.</p> <p>19.5 Megawatts of nameplate generating capacity from wind turbines on site. Output from the turbines will be collected and stepped up to 69 kV at a project owned substation on the site. Approximately 5 miles of 69 kV line will be installed to deliver the generation from the collection sub station to Northwestern Energy's Clark Substation.</p>															
4b	<p>Indicate the maximum gross and maximum net electric power production capacity of the facility at the point(s) of delivery by completing the worksheet below. Enter zero for any values which are negligible.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 75%;">A) The maximum gross power production capacity at the terminals of the individual generator(s) under the most favorable anticipated design conditions</td> <td style="text-align: right;">19,500 kW</td> </tr> <tr> <td>B) Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process (pumps, fans, necessary office or maintenance buildings, etc.)</td> <td style="text-align: right;">0 kW</td> </tr> <tr> <td>C) Electrical losses in all interconnection transformers</td> <td style="text-align: right;">585 kW</td> </tr> <tr> <td>D) Electrical losses in AC/DC conversion equipment, if any</td> <td style="text-align: right;">0 kW</td> </tr> <tr> <td>E) Other interconnection losses in power lines or facilities (other than transformers) between the terminals of the generator(s) to the point of interconnection with the utility</td> <td style="text-align: right;">0 kW</td> </tr> <tr> <td>F) Total deductions from gross power production capacity = B + C + D + E</td> <td style="text-align: right;">585 kW</td> </tr> <tr> <td>G) Maximum net power production capacity = A - F</td> <td style="text-align: right;">18,915 kW</td> </tr> </table>		A) The maximum gross power production capacity at the terminals of the individual generator(s) under the most favorable anticipated design conditions	19,500 kW	B) Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process (pumps, fans, necessary office or maintenance buildings, etc.)	0 kW	C) Electrical losses in all interconnection transformers	585 kW	D) Electrical losses in AC/DC conversion equipment, if any	0 kW	E) Other interconnection losses in power lines or facilities (other than transformers) between the terminals of the generator(s) to the point of interconnection with the utility	0 kW	F) Total deductions from gross power production capacity = B + C + D + E	585 kW	G) Maximum net power production capacity = A - F	18,915 kW
A) The maximum gross power production capacity at the terminals of the individual generator(s) under the most favorable anticipated design conditions	19,500 kW															
B) Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process (pumps, fans, necessary office or maintenance buildings, etc.)	0 kW															
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F) Total deductions from gross power production capacity = B + C + D + E	585 kW															
G) Maximum net power production capacity = A - F	18,915 kW															
4c	<p>Indicate the actual or expected installation and operation dates of the facility, or the actual or expected date of completion of the reported modifications to the facility.</p> <p>September 2012</p>															

Describe the primary energy input: (check one main category and, if applicable, one subcategory)

<input type="checkbox"/> Biomass (specify)	<input checked="" type="checkbox"/> Renewable resources (specify)	<input type="checkbox"/> Geothermal
<input type="checkbox"/> Landfill gas	<input type="checkbox"/> Hydro power - river	<input type="checkbox"/> Fossil fuel (specify)
<input type="checkbox"/> Manure digester gas	<input type="checkbox"/> Hydro power - tidal	<input type="checkbox"/> Coal (not waste)
<input type="checkbox"/> Municipal solid waste	<input type="checkbox"/> Hydro power - wave	<input type="checkbox"/> Fuel oil/diesel
<input type="checkbox"/> Sewage digester gas	<input type="checkbox"/> Solar - photovoltaic	<input type="checkbox"/> Natural gas (not waste)
<input type="checkbox"/> Wood	<input type="checkbox"/> Solar - thermal	<input type="checkbox"/> Other fossil fuel (describe in section 6)
<input type="checkbox"/> Other biomass (describe in section 6)	<input checked="" type="checkbox"/> Wind	
<input type="checkbox"/> Waste (specify type below)	<input type="checkbox"/> Other renewable resource (describe in section 6)	<input type="checkbox"/> Other (describe in section 6)

If you specified "waste" as the primary energy input, indicate the type of waste fuel used: (check one)

Waste fuel listed in 18 C.F.R. § 292.202(b) (specify one of the following)

- Anthracite culm produced prior to July 23, 1985
- Anthracite refuse that has an average heat content of 6,000 Btu or less per pound and has an average ash content of 45 percent or more
- Bituminous coal refuse that has an average heat content of 9,500 Btu per pound or less and has an average ash content of 25 percent or more
- Top or bottom subbituminous coal produced on Federal lands or on Indian lands that has been determined to be waste by the United States Department of the Interior's Bureau of Land Management (BLM) or that is located on non-Federal or non-Indian lands outside of BLM's jurisdiction, provided that the applicant shows that the latter coal is an extension of that determined by BLM to be waste
- Coal refuse produced on Federal lands or on Indian lands that has been determined to be waste by the BLM or that is located on non-Federal or non-Indian lands outside of BLM's jurisdiction, provided that applicant shows that the latter is an extension of that determined by BLM to be waste
- Lignite produced in association with the production of montan wax and lignite that becomes exposed as a result of such a mining operation
- Gaseous fuels (except natural gas and synthetic gas from coal) (describe in section 6)
- Waste natural gas from gas or oil wells (describe in section 6 how the gas meets the requirements of section 2.400 of the Commission's regulations, 18 C.F.R. § 2.400, for waste natural gas; include with your filing any materials necessary to demonstrate compliance with section 2.400)
- Materials that a government agency has certified for disposal by combustion (describe in section 6)
- Heat from exothermic reactions (describe in section 6)
- Residual heat (describe in section 6)
- Used rubber tires
- Plastic materials
- Refinery off-gas
- Petroleum coke

Other waste energy input that has little or no commercial value and exists in the absence of the qualifying facility industry (describe in section 6; include a discussion of the fuel's lack of commercial value and existence in the absence of the qualifying facility industry)

5

Provide the average annual hourly energy input in terms of Btu for the following fossil fuel energy inputs, and provide the related percentage of the total average annual hourly energy input to the facility (18 C.F.R. § 292.202 (j)). For any oil or natural gas fuel, use lower heating value (18 C.F.R. § 292.202(m)).

Fuel	Annual average energy input for specified fuel	Percentage of total annual energy input
Natural gas	Btu/h	%
Oil-based fuels	Btu/h	%
Coal	Btu/h	%

## 6 Miscellaneous

Discuss any particular characteristics of the facility which the cogenerator or small power producer believes might bear on its qualifying status.

You may also use this space to provide any information for which there was not sufficient space in any other sections of the form. For such information clearly identify the section number to which the information belongs.

Your response below is not limited to one page. Additional page(s) will automatically be inserted into this form if the length of your response exceeds the space on this page. Use as many pages as you require.

## Description of the Small Power Production Facility

If you indicated in section 1a that you are seeking qualifying small power production facility status for your facility, then you must respond to sections 7 and 8. Otherwise, skip sections 7 and 8.

7	<p>Describe how fossil fuel use will not exceed 25 percent of the total annual energy input limit (18 C.F.R. §§ 292.202(j) and 292.204(b)). Also, describe how the use of fossil fuel will be limited to the following purposes to conform to Federal Power Act section 3(17)(B): ignition, start-up, testing, flame stabilization, control use, and minimal amounts of fuel required to alleviate or prevent unanticipated equipment outages and emergencies directly affecting the public. Continue in section 6 if additional space is needed.</p> <p>No fossil fuel input - wind only.</p>
8	<p>If the facility reported herein is not an "eligible solar, wind, waste or geothermal facility," and if any other non-eligible facility located within one mile of the instant facility is owned by any of the entities (or their affiliates) reported in section 1c above and uses the same primary energy input, provide the following information about the other facilities for the purpose of demonstrating that the total of the power production capacities of these facilities does not exceed 80 MW.</p> <p>An "eligible solar, wind, waste or geothermal facility," as defined in Section 3(17)(E) of the Federal Power Act, is a small power production facility that produces electric energy solely by the use, as a primary energy input, of solar, wind, waste or geothermal resources, for which either an application for Commission certification of qualifying status (18 C.F.R § 292.207(b)) or a notice of self-certification of qualifying status (18 C.F.R § 292.207(a)) was submitted to the Commission not later than December 31, 1994, and for which construction of such facility commences not later than December 31, 1999, or if not, reasonable diligence is exercised toward the completion of such facility, taking into account all factors relevant to construction of the facility.</p> <p>Continue in section 6 if additional space is needed to respond to any of the items below.</p>
	<p>Check here and skip the rest of section 8 if there are no eligible solar, wind, waste or geothermal facilities</p> <p><input checked="" type="checkbox"/> located within one mile of the instant facility which are owned by any of the entities (or their affiliates) reported in section 1c above and which use the same primary energy input.</p>
	<p>Facility names, if any (as reported to the Commission)</p>
	<p>Commission docket numbers</p>
	<p>Names of common owners</p>
	<p>Common primary energy source used as energy input</p>
<p>Power production capacities (MW)</p>	

### Description of the Cogeneration Facility

If you indicated in section 1a that you are seeking qualifying cogeneration facility status for your facility, then you must respond to sections 9 through 11. Otherwise, skip sections 9 through 11.

9	<p>Describe the cogeneration system (18 C.F.R §5 292.202(c) and 292.203(b)). Continue in section 6 if additional space is needed.</p>
<p>Indicate whether the facility is a topping-cycle (18 C.F.R § 292.202(d)) or bottoming-cycle (18 C.F.R § 292.202(e)) cogeneration facility (check all that apply)</p> <p><input type="checkbox"/> Topping -cycle cogeneration      <input type="checkbox"/> Bottoming-cycle cogeneration</p>	

<b>10</b>	<p>To demonstrate the sequentiality of the cogeneration process (18 C.F.R. § 292.202(s)) and to support compliance with other requirements such as the operating and efficiency standards (section 11 below), provide a mass and heat balance (cycle) diagram depicting the following average annual hourly operating conditions for the following:</p> <p>Working fluid (e.g., steam, water) flow conditions at (1) input and output of prime mover(s) and (2) at delivery to and return from each useful thermal application including the following: (1) flow rates (lbs./hr.), (2) temperature (deg. F), (3) pressure (psia), and (4) enthalpy (Btu/lb.). (Exception: Pressure values are <u>not</u> required to be specified in a flow cycle that is <u>all</u> liquid and has no vapor at any point in the cycle. Also, for cycles which are <u>all</u> liquid water, enthalpy need not be provided and a specific heat of 1.002 Btu/(lb*R) for will be assumed unless otherwise specified.)</p> <p>Indicate on the diagram the average fuel flow inputs in Btu/hr. (using lower heating value) (18 C.F.R § 292.202(m)), separately indicating fossil fuel inputs for any supplementary firing in Btu/hr. (18 C.F.R § 292.202(f)).</p>																															
	Number of hours of operation used to determine the average annual hourly facility inputs and outputs	h																														
<b>11</b>	<p>Compute the operating value (applicable to a topping-cycle facility under 18 C.F.R § 292.205(a)(1)) and the efficiency value (18 C.F.R §§ 292.205(a)(2) and (b)), based on the information provided in and corresponding to item 10.</p> <p>If you indicated in section 9 that your facility represents topping-cycle cogeneration technology, compute topping-cycle operating and efficiency values by completing the worksheet below. Topping-cycle operating value is required to be 5 percent or more. Topping-cycle efficiency value is required to be 45 percent or more when operating value is less than 15 percent, or 42.5 percent or more when operating value is equal to or greater than 15 percent.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">(Pt) Average annual hourly useful thermal energy output</td> <td style="width: 40%; text-align: right;">Btu/h</td> </tr> <tr> <td>Average annual rate of electrical output</td> <td style="text-align: right;">kW</td> </tr> <tr> <td>(Pe) Convert electrical output to Btu/h by multiplying line above by 3,412</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>Average annual rate of mechanical output</td> <td style="text-align: right;">hp</td> </tr> <tr> <td>(Pm) Convert mechanical output to Btu/h by multiplying line above by 2,544</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>(Pi) Average annual hourly energy input (natural gas or oil only)</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>(Ps) Average annual hourly energy input from supplementary firing (natural gas or oil only)</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>Topping-cycle operating value = <math>100 * Pt / (Pt + Pe + Pm)</math></td> <td style="text-align: right;">0 %</td> </tr> <tr> <td>Topping-cycle efficiency value = <math>100 * (Pe + Pm + 0.5 * Pt) / (Pi + Ps)</math></td> <td style="text-align: right;">0 %</td> </tr> </table> <p>If you indicated in section 9 that your facility represents bottoming-cycle cogeneration technology, compute bottoming-cycle efficiency value by completing the worksheet below. Bottoming-cycle efficiency value is required to be 45 percent or more.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Average annual rate of electrical output</td> <td style="width: 40%; text-align: right;">kW</td> </tr> <tr> <td>(Pe) Convert electrical output to Btu/h by multiplying line above by 3,412</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>Average annual rate of mechanical output</td> <td style="text-align: right;">hp</td> </tr> <tr> <td>(Pm) Convert mechanical output to Btu/h by multiplying line above by 2,544</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>(Ps) Average annual hourly energy input from supplementary firing (natural gas or oil only)</td> <td style="text-align: right;">Btu/h</td> </tr> <tr> <td>Bottoming-cycle efficiency value = <math>100 * (Pe + Pm) / Ps</math></td> <td style="text-align: right;">0 %</td> </tr> </table>		(Pt) Average annual hourly useful thermal energy output	Btu/h	Average annual rate of electrical output	kW	(Pe) Convert electrical output to Btu/h by multiplying line above by 3,412	Btu/h	Average annual rate of mechanical output	hp	(Pm) Convert mechanical output to Btu/h by multiplying line above by 2,544	Btu/h	(Pi) Average annual hourly energy input (natural gas or oil only)	Btu/h	(Ps) Average annual hourly energy input from supplementary firing (natural gas or oil only)	Btu/h	Topping-cycle operating value = $100 * Pt / (Pt + Pe + Pm)$	0 %	Topping-cycle efficiency value = $100 * (Pe + Pm + 0.5 * Pt) / (Pi + Ps)$	0 %	Average annual rate of electrical output	kW	(Pe) Convert electrical output to Btu/h by multiplying line above by 3,412	Btu/h	Average annual rate of mechanical output	hp	(Pm) Convert mechanical output to Btu/h by multiplying line above by 2,544	Btu/h	(Ps) Average annual hourly energy input from supplementary firing (natural gas or oil only)	Btu/h	Bottoming-cycle efficiency value = $100 * (Pe + Pm) / Ps$	0 %
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## For Topping-Cycle Cogeneration Facilities

If you indicated in section 9 that your facility represents topping-cycle cogeneration technology, then you must respond to sections 12 and 13. Otherwise, skip sections 12 and 13.

<p>12</p>	<p>Identify the entity (i.e., thermal host) which will purchase the useful thermal energy output from the facility (18 C.F.R. § 292.202(h)). Indicate whether the entity uses such output for the purpose of space and water heating, space cooling, and/or process use. Continue in section 6 if additional space is needed.</p>
<p>13</p>	<p>In connection with the requirement that the thermal energy output be useful (18 C.F.R § 292.202(h)): For process uses by commercial or industrial host(s), describe each process (or group of similar processes using the same quality of steam) and provide the average annual hourly thermal energy made available to the process, less process return. For a complex system, where the primary steam header at the host-side is divided into various sub-uses, each having different pressure and temperature characteristics, describe the processes associated with each sub-use and provide the average annual hourly thermal energy delivered to each sub-use, less process return from such sub-use. Provide a diagram showing the main steam header and the sub-uses with other relevant information such as the average header pressure (psia), the temperature (deg. F), the enthalpy (Btu/lb.), and the flow (lb./hr.), both in and out of each sub-use. For space and water heating, describe the type of heating involved (e.g., office space heating, domestic water heating) and provide the average annual hourly thermal energy delivered and used for such purpose. For space cooling, describe the type of cooling involved (e.g., office space cooling) and provide the average annual hourly thermal energy used by the chiller. Continue in section 6 if additional space is needed.</p>

### For Bottoming-Cycle Cogeneration Facilities

If you indicated in section 9 that your facility represents bottoming-cycle cogeneration technology, then you must respond to section 14. Otherwise, skip section 14.

Provide a description of the commercial or industrial process or other thermal application to which the energy input to the system is first applied and from which the reject heat is then used for electric power production. Continue in section 6 if additional space is needed.

14

### For New Cogeneration Facilities

For any cogeneration facility that was either not certified as a qualifying cogeneration facility on or before August 8, 2005, or that had not filed a notice of self-certification, self-recertification or an application for Commission certification under 18 C.F.R. § 292.207 prior to February 2, 2006, respond to the items in section 15 below. Otherwise, skip section 15.

	<p>Demonstrate that the thermal energy output of the cogeneration facility is used in a productive and beneficial manner (18 C.F.R §§ 292.205(d)(1), (d)(4) and (d)(5)). Continue in section 6 if additional space is needed.</p>
15	<p>Demonstrate that the electrical, thermal, chemical and mechanical output of the cogeneration facility is used fundamentally for industrial, commercial, residential or institutional purposes and is not intended fundamentally for sale to an electric utility, taking into account technological, efficiency, economic, and variable thermal energy requirements, as well as state laws applicable to sales of electric energy from a qualifying facility to its host facility (18 C.F.R §§ 292.205(d)(2), (d)(3) and (d)(4)). Continue in section 6 if additional space is needed.</p>

## Signature

Provide your signature and signature date below. Rule 2005(a) of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2005(a)) provides that a signature on a filing constitutes a certificate that (1) the signer has read the filing and knows its contents; (2) that the contents are true as stated, to the best knowledge and belief of the signer; and (3) the signer possesses full power and authority to sign the filing.

Rule 2005(c) of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2005(c)) provides that persons filing their documents electronically may use typed characters representing their name to sign the filed documents. A person filing this document electronically should sign (by typing their name) in the space provided below. A person filing this form in hardcopy format should sign in ink.

Signature	Date
L. W. Makens	04/28/2010

## Filing Fee

No filing fee is required if you are submitting a self-certification of your facility as a QF pursuant to 18 C.F.R. § 292.207(a).

A filing fee is required if you are filing either of the following:

- (1) an application for Commission certification of your facility as a QF under 18 C.F.R. § 292.207(b), or
- (2) a petition for declaratory order granting waiver pursuant to 18 C.F.R. §§ 292.204(a)(3) or 292.205(c).

The current fees for applications for Commission certifications and petitions for declaratory order can be found by visiting the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF) and clicking on the Fee Schedule link.

See the How to File section on the following page for details on how to include your filing fee with your filing. If a filing fee is required, you must submit your fee before your application can be considered complete.

## Notice Requirements

### Draft Notice Suitable for Publication in the *Federal Register*

Pursuant to 18 C.F.R. §§ 292.207(a)(iv) and (b)(4), a notice is required to be published in the *Federal Register* alerting the public to the filing of the following types of documents: (1) application for Commission certification of a facility as a QF (small power production or cogeneration facility); or (2) self-certification of a "new" cogeneration facility.

Definition: A cogeneration facility is "new" if it was either not certified as a qualifying cogeneration facility on or before August 8, 2005, or had not filed a notice of self-certification, self-recertification or an application for Commission certification or Commission recertification as a qualifying cogeneration facility under section 292.207 of the Commission's regulations prior to February 2, 2006.

No draft *Federal Register* notice is required to be published for the self-certification of any small power production facility, or for the self-certification of any "old" cogeneration facility (*i.e.*, any cogeneration facility that does not meet the above definition of a "new" facility).

If publication of a draft *Federal Register* notice is required for your filing, you must obtain a blank notice from the Commission's website, complete the draft notice with the information pertaining to your facility, and include the draft notice with your filing in a word processing format (DOC, RTF, WPD, etc.) on electronic media (either electronically filed with your document, or on a disk, CD or DVD accompanying your filing). The Secretary of the Commission will, upon receipt of your draft notice, review the notice to ensure proper format and send it for publication in the *Federal Register*. Blank copies of *Federal Register* notices can be downloaded from the Notice Requirements link from the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF).

### Required Notice to Utilities and Public Utility Commissions for Self-Certification

Pursuant to 18 C.F.R. § 292.207(a)(ii), you must provide a copy of a self-certification to the utilities with which the facility will interconnect and transact, as well as to the Public Utility Commissions of the states in which those utilities and your facility reside. Links to information about the Public Utility Commissions in various states is available from the Notice Requirements link on the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF).

## How to Submit Your Filing to the Commission

### Electronic Filing

All QF applications and self-certifications may be filed electronically, and applicants are strongly encouraged to use the electronic filing process. By filing electronically, you will reduce your filing burden, save paper resources, save postage or courier charges, help keep Commission expenses to a minimum, and receive a much faster confirmation (via an email containing the docket number assigned to your facility) that the Commission has received your filing.

To electronically file your Form 556, visit the Commission's QF website at [www.ferc.gov/QF](http://www.ferc.gov/QF), and click the eFiling link. Follow the instructions. When prompted, select one of the following filing types, as appropriate, from the Electric menu:

- (Fee) Application for Commission Cert. as Cogeneration QF
- (Fee) Application for Commission Cert. as Small Power QF
- Self-Certification Notice (QF, EG, FC)
- Self-Recertification of Qualifying Facility (QF)
- Supplemental Information or Request (use this selection if you are supplementing or correcting a filing, whether on your own initiative, or at the request of Commission staff)

If you are required to pay a fee (see previous page for information), you will be prompted to submit your fee electronically during the electronic filing process. You can pay via credit card or electronic debit from a bank account.

If you are eFiling an application which requires you to submit a draft *Federal Register* notice (see previous page for information), you must upload your draft notice in a word processing format (DOC, RTF, WPD, etc.) during the eFiling process.

If you have any questions about the electronic filing process, contact the Commission's eFiling Experts by phone at 202-502-8258 or by email at [eFiling@ferc.gov](mailto:eFiling@ferc.gov).

### Hardcopy (Paper) Filing

While we strongly encourage you to file electronically, you may file in hardcopy format by sending fourteen (14) copies of your Form 556 and all required materials to the following address:

Secretary of the Commission  
Federal Energy Regulatory Commission  
888 First St. N.E.  
Washington, DC 20426

If you are required to pay a fee (see previous page for information), you must enclose with your filing a check payable to the Treasurer of the United States in the amount of the required fee.

If you are eFiling an application which requires you to submit a draft *Federal Register* notice (see previous page for information), you must include with your filing a disk, CD or DVD containing your draft notice in a word processing format (DOC, RTF, WPD, etc.).

## What to Expect From the Commission

An applicant filing any document via the electronic filing process will receive an email message acknowledging receipt of their filing and showing the docket number assigned to their filing. Such email is typically sent within one business day, but may be delayed pending confirmation by the Secretary of the Commission of the contents of your filing.

An applicant filing a self-certification as a QF via the hardcopy filing process will receive a message via U.S. mail acknowledging receipt of their filing and showing the docket number assigned to their filing. This paper acknowledgement is typically sent within 7 to 10 days of receipt of the filing by the Commission.

An applicant submitting a self-certification of their facility as a QF (either electronically or via hardcopy filing) should expect to receive no documents from the Commission, other than the electronic or paper acknowledgements of receipt described above. An acknowledgement of receipt of a filing does not represent a determination by the Commission with regard to the QF status of the facility.

An applicant for Commission certification will receive an order either granting or denying certification as a QF, or requesting additional information. Pursuant to 18 C.F.R. § 292.207(b)(3), the Commission must act on an application for Commission certification within 90 days of the later of the filing date of the application or the filing date of a supplement, amendment or other change to the application.