STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF WHITING CLEAN ENERGY, INC., AND BP PRODUCTS NORTH AMERICA, INC., SEEKING TERMINATION OF ALTERNATIVE REGULATORY TREATMENT PURSUANT TO IND. CODE 8-1-2.5 AND ESTABLISHMENT OF ASSOCIATED SERVICE TERMS, IN LIGHT OF MATERIAL CHANGES IN CIRCUMSTANCES.	**CAUSE NO. 45071**

Verified Direct Testimony and Attachments of

Cameron H. Eveland

On behalf of

Whiting Clean Energy, Inc.
and
BP Products North America, Inc.

June 20, 2018

I. INTRODUCTION

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESSES.

A My name is Cameron H. Eveland, and my business addresses are 2815 Indianapolis Boulevard, Whiting, Indiana 46394, and 2155 Standard Avenue, Whiting, Indiana 46394.

Q BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A I am employed by BP Products North America, Inc., as the Deputy Operations Manager for the Whiting Refinery. I am also the President of Whiting Clean Energy, Inc.

Q PLEASE DESCRIBE YOUR ROLE AND RESPONSIBILITIES IN THOSE CAPACITIES.

A As Deputy Operations Manager, I provide oversight to operations teams at the Whiting Refinery, serve as project gatekeeper for a variety of refinery projects, and manage the implementation of refinery programs relating to operations. As President of Whiting Clean Energy, I have management responsibility for the Whiting Clean Energy facility that is located adjacent to the Whiting Refinery.

Q PLEASE DESCRIBE YOUR EDUCATION AND BACKGROUND WITH BP.

A I received a Bachelor's Degree in Chemical Engineering from the University of Detroit in 1993. I started with Amoco in 1996 and have held multiple positions with increasing responsibility. Most recently at the BP Whiting Refinery I have been an Operations Superintendent, and Area Manager. I took the position of Deputy Operations Manager in June 2017.

Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY IN THIS PROCEEDING?

A I will describe the operations and status of the Whiting Refinery, the background and functions of the Whiting Clean Energy facility, and an overview of the current initiative to utilize that facility to provide both electric power and steam to support refinery operations.

II. WHITING REFINERY

Q COULD YOU PROVIDE AN OVERVIEW DESCRIPTION OF THE WHITING REFINERY?

A The Whiting Refinery is an industrial complex covering about 1,400 acres in Whiting, Indiana, about 17 miles southeast of downtown Chicago. It is the largest refinery in the Midwest and is BP's largest refinery in the world. The Whiting Refinery is capable of refining up to 430,000 barrels of crude oil a day, enough to meet the average fuel needs of over 7 million cars. It produces around 10 million gallons of gasoline and 1.7 million gallons of jet fuel daily, and also produces about 5 percent of all asphalt in the United States.

Q HOW LONG HAS THE WHITING REFINERY BEEN IN OPERATION?

A The Whiting Refinery was constructed in 1889. Initially, it was operated by Standard Oil of Indiana, which was established at that time by John D. Rockefeller. At first, the refinery produced kerosene, but it soon began refining gasoline to meet increasing demand in the growing automobile industry. Standard Oil was formally renamed Amoco

in 1985. In 1998, Amoco merged with BP, becoming the largest producer of oil and gas in the United States. BP has continued operations at the Whiting Refinery through the present time.

Q HOW MANY JOBS DOES BP PROVIDE IN INDIANA?

A In all, BP supports more than 11,300 Indiana jobs. There are about 1,700 direct BP employees at the Whiting Refinery. BP also supports employment in Indiana in additional respects. In 2016, BP spent some $190 million on Indiana vendors.

Q HAS BP MADE SIGNIFICANT INVESTMENTS IN THE WHITING REFINERY IN RECENT YEARS?

A Yes. In particular, BP completed a major modernization project in 2013, which expanded the production capabilities of the Whiting Refinery and provided flexibility to process heavier grades of Canadian crude oil. That multi-billion dollar project took several years to complete, and was the largest private sector investment in Indiana history. Since that time, the Whiting Refinery has completed a $180 million flare gas recovery project, has constructed a $235 million water treatment unit, and has undertaken construction of a $300 million naphtha hydrotreating unit to reduce sulfur in fuel products.

Q ARE THERE OTHER RESPECTS IN WHICH BP HAS CONTRIBUTED TO THE ECONOMY IN INDIANA?

A Yes. BP pays on the order of $49 million annually in property taxes in Indiana. BP also regularly makes substantial contributions to local educational institutions, charitable

organizations, environmental initiatives, and other community activities. In addition, BP operates three wind farms in Benton County, Indiana, with total capacity of about 600 megawatts.

Q HOW WOULD YOU DESCRIBE THE ENERGY REQUIREMENTS ASSOCIATED WITH OPERATIONS AT THE WHITING REFINERY?

A Refinery operations are highly energy-intensive. In particular, the Whiting Refinery continuously utilizes massive volumes of electricity and steam. BP is one of the largest electric customers served by NIPSCO.

Q HOW DO ENERGY COSTS IMPACT THE WHITING REFINERY?

A BP operates in extremely competitive global markets. The costs associated with production-related energy needs are a major expense and are very material to the economic efficiency of the Whiting Refinery. Energy costs have a significant impact on the performance and commercial vitality of the Whiting Refinery.

III. WHITING CLEAN ENERGY

Q COULD YOU PROVIDE AN OVERVIEW DESCRIPTION OF THE WHITING CLEAN ENERGY FACILITY?

A The facility is a cogeneration asset owned by Whiting Clean Energy, Inc., a BP affiliate. It is a topping-cycle facility fueled with natural gas that produces thermal output in the form of steam as well as electric power.

Q WHERE IS THE WHITING CLEAN ENERGY FACILITY LOCATED?

A The facility is located on land owned by BP that is adjacent to the Whiting Refinery. The parcel is immediately to the northeast of the Whiting Refinery, directly across Standard Avenue which runs along the northeastern side of the refinery.

Q PLEASE IDENTIFY WHAT HAS BEEN MARKED AS ATTACHMENT CHE-1.

A Attachment CHE-1 consists of two aerial photographs showing the locations of the Whiting Refinery and the Whiting Clean Energy facility. In both photographs, the Whiting Refinery is marked with a green boundary and Whiting Clean Energy is marked with a yellow boundary.

Q WHEN WAS THE WHITING CLEAN ENERGY FACILITY CONSTRUCTED?

A The arrangements to construct the facility were negotiated in the late 1990s, and the facility went into operation in 2001.

Q PLEASE DESCRIBE THE CIRCUMSTANCES THAT LED TO THE CONSTRUCTION OF THE WHITING CLEAN ENERGY FACILITY.

A Around 1998, Amoco engaged in discussions with Primary Energy regarding a proposal to construct a cogeneration facility on land owned by Amoco next to the Whiting Refinery. At the time, Primary Energy was a subsidiary of NiSource Inc. and therefore an affiliate of NIPSCO. Whiting Clean Energy, Inc. was incorporated as a subsidiary of Primary Energy. Amoco and Whiting Clean Energy entered into an Energy Sales

Agreement governing the construction and operation of the facility, and an associated Ground Lease, in 1999.

Q UNDER THE ENERGY SALES AGREEMENT, WHAT WERE THE AGREED ARRANGEMENTS WITH RESPECT TO THE STEAM AND ELECTRIC OUTPUT OF THE PLANNED FACILITY?

A The agreement provided for Amoco to purchase both the steam and electricity produced by Whiting Clean Energy, in order to support the energy requirements of the Whiting Refinery operations. The parties agreed to terms for Whiting Clean Energy to sell to Amoco all of the high pressure steam requirements and all of the electricity requirements for the Whiting Refinery, net of defined generation assets owned by Amoco.

Q WERE THERE SPECIFIED CONDITIONS RELATING TO THE SALE AND PURCHASE OF ELECTRICITY GENERATED BY THE WHITING CLEAN ENERGY FACILITY?

A Yes, the Energy Sales Agreement included a provision which stated that Whiting Clean Energy would not be obligated to sell electricity to Amoco if prohibited by law or if it would cause Whiting Clean Energy to be regulated as a public utility. The provision also stated that if a tolling arrangement to convert natural gas to electricity instead of a sale of electricity would alleviate the regulatory prohibition or impact, then Whiting Clean Energy would negotiate with Amoco on such a tolling arrangement.

Q ONCE THE FACILITY WAS CONSTRUCTED, DID WHITING CLEAN ENERGY PROCEED TO SELL STEAM AND ELECTRICITY TO MEET THE REQUIREMENTS OF THE WHITING REFINERY?

A The provision of steam to the Whiting Refinery went forward once the facility became operational. With regard to electricity, however, BP Amoco entered into a special contract with NIPSCO in 1999 for the purpose of making it economic for NIPSCO to continue supplying the electricity requirements of the Whiting Refinery. That contract was approved by the Indiana Utility Regulatory Commission (Commission) in March 2000. When the Whiting Clean Energy facility was completed the following year, BP continued to purchase its electricity requirements for the Whiting Refinery from NIPSCO pursuant to the special contract, as opposed to purchasing from Whiting Clean Energy.

Q IN CONNECTION WITH THE CONSTRUCTION OF THE WHITING CLEAN ENERGY FACILITY, WERE ANY REGULATORY APPROVALS SOUGHT FROM THE COMMISSION?

A Yes. Whiting Clean Energy filed a petition in 1999, requesting that the Commission decline to exercise jurisdiction regarding the construction, ownership and operation of the facility. The Commission issued an order on December 29, 1999, granting the requested relief with stated terms. The order found Whiting Clean Energy would be a "public utility" in that it would own and operate an electric generation facility and would be making retail sales of steam. In light of the fact that Whiting Clean Energy and NIPSCO were, at the time, corporate affiliates, the order also called for regulatory review and approval of any sales of electric power to NIPSCO. The order further prohibited any

retail sales of electricity generated by the facility, and called for certain reports and the provision of certain information on request.

Q WHAT ARRANGEMENTS WERE MADE FOR THE DISPOSITION OF THE ELECTRIC POWER GENERATED BY THE WHITING CLEAN ENERGY FACILITY?

A In 2001, Whiting Clean Energy submitted an application with the Federal Energy Regulatory Commission (FERC) to establish status as an exempt wholesale generator (EWG). Following the FERC determination, Whiting Clean Energy proceeded to make electric power sales into the wholesale market, in accordance with federal law and the provisions of the Commission's 1999 Order.

Q WHEN WAS WHITING CLEAN ENERGY ACQUIRED BY A BP AFFILIATE?

A In 2008, all of the shares of capital stock in Whiting Clean Energy, Inc. were purchased by BP Alternative Energy North America Inc., an affiliate of BP Products North America Inc. At that point, Whiting Clean Energy, Inc. became a wholly-owned subsidiary of the BP affiliate. Since that time, Whiting Clean Energy has no longer been an indirect subsidiary of NiSource Inc. and has not been a corporate affiliate of NIPSCO.

Q HOW DID THE ACQUISITION OF WHITING CLEAN ENERGY IN 2008 COME ABOUT?

A In November 2007, NIPSCO filed a petition with the Commission in Cause No. 43396 that included a request for approval of a proposed purchase by NIPSCO of the Whiting

Clean Energy facility and all related assets. In its petition, NIPSCO noted that BP retained contractual rights relating to the transaction, including a right of first refusal. BP subsequently exercised the right of first refusal, resulting in the 2008 purchase of Whiting Clean Energy by the BP affiliate rather than by NIPSCO.

Q DID THE DISPOSITION OF THE STEAM AND ELECTRICITY PRODUCED BY THE WHITING CLEAN ENERGY FACILITY CHANGE WITH THE BP ACQUISITION IN 2008?

A Not at that time. Subsequent to the 2008 acquisition, the steam output continued to be used to support the Whiting Refinery operations and Whiting Clean Energy continued to sell electric power into the wholesale market as an EWG, consistent with prior operations up to that time.

IV. CERTIFICATION AS A QUALIFYING FACILITY

Q HAVE BP AND WHITING CLEAN ENERGY TAKEN STEPS TO PERMIT THE ELECTRIC AS WELL AS THE STEAM OUTPUT OF THE COGENERATION FACILITY TO BE USED TO SUPPORT OPERATIONS AT THE WHITING REFINERY?

A Yes. On March 29, 2018, Whiting Clean Energy filed a Form 556 with FERC, self-certifying as a Qualifying Facility under federal law. As a Qualifying Facility, both the electric power and the steam produced by the facility will be used to support BP's industrial operations at the Whiting Refinery.

Q CAN YOU IDENTIFY WHAT HAS BEEN MARKED AS PETITIONERS' ATTACHMENT CHE-2?

A Attachment CHE-2 is a copy of the Form 556 as filed by Whiting Clean Energy on March 29, 2018.

Q WHAT IS THE IMPLEMENTATION DATE SPECIFIED IN EXHIBIT 1-B?

A May 1, 2019.

Q WHY IS MAY 1, 2019 INDICATED AS THE IMPLEMENTATION DATE?

A Currently, BP and Whiting Clean Energy do not have facilities and arrangements in place to transmit electricity from the cogeneration facility to the Whiting Refinery. The future date allows for a time period to secure all necessary approvals and, if necessary, to install additional infrastructure. A determination of the transmission arrangements in light of identified alternatives is included in the relief requested in this proceeding. Until the capability is in place to transmit the electricity to the Whiting Refinery, Whiting Clean Energy will continue to sell into the wholesale market as it has done historically.

Q AT THE PRESENT TIME, WHAT ARE THE RETAIL ELECTRIC SERVICES THAT NIPSCO PROVIDES FOR THE WHITING REFINERY?

A BP is served under NIPSCO Rate 733 for the electric requirements of the Whiting Refinery, net of self-supplied power that is produced by five BP generators with aggregate capacity of about 83 megawatts. In relation to those generators, BP also

receives service under NIPSCO Rider 776 for back-up, maintenance and temporary service needs.

Q ONCE THE ARRANGEMENT IS IMPLEMENTED FOR WHITING CLEAN ENERGY TO SUPPLY ELECTRICITY AS WELL AS STEAM TO SUPPORT OPERATIONS AT THE WHITING REFINERY, HOW WILL THE RETAIL ELECTRIC SERVICES PROVIDED BY NIPSCO CHANGE?

A BP will continue to be served under NIPSCO Rate 733, but at a substantially reduced level of demand. BP has provided formal notice to NIPSCO, pursuant to contractual and tariff provisions, that the Whiting Refinery demand will be reduced to 20 megawatts upon implementation of the Whiting Clean Energy supply arrangement. BP will continue to receive service under Rider 776, with Whiting Clean Energy added to the list of qualifying facilities for purposes of back-up, maintenance and temporary services. In addition, NIPSCO may purchase excess energy and/or capacity pursuant to Rider 778.

Q WHAT ARE THE PRIMARY FACTORS AND CONSIDERATIONS THAT LED TO THE DECISION TO USE WHITING CLEAN ENERGY TO PROVIDE ELECTRICITY AS WELL AS STEAM TO SUPPORT THE WHITING REFINERY?

A A series of developments in recent years have resulted in dramatic increases in the Whiting Refinery's energy costs. The special contract for electric service that was negotiated with NIPSCO in 1999 expired in 2011, leading to a substantial cost increase as BP transitioned to tariff rates. The modernization project that was completed in 2013,

involving investment in the billions of dollars at the Whiting Refinery, greatly expanded BP's production capacity and correspondingly involved a major increase in the electric load served by NIPSCO. That much higher level of electric requirements has been compounded by significant escalation in unit prices due to a succession of NIPSCO rate proceedings since the special contract expired. BP had made the investment in 2008 to acquire Whiting Clean Energy and now owns a cogeneration facility located next to the Whiting Refinery that is capable of meeting BP's energy needs in a much more efficient and cost-effective manner. Ultimately, BP determined that productive use of the electric capacity of its existing generation asset to support the power needs at the Whiting Refinery would improve operations and mitigate the challenges associated with rising energy costs.

Q WHAT BENEFITS AND ADVANTAGES DO YOU SEE IN UTILIZING THE WHITING CLEAN ENERGY FACILITY TO SUPPORT THE POWER AS WELL AS STEAM REQUIREMENTS OF THE WHITING REFINERY?

A In the past, the electric capacity of the Whiting Clean Energy facility has been an underutilized resource, even though it is highly efficient generation and involves much lower emissions compared to coal-fired sources. The electric integration of Whiting Clean Energy with the Whiting Refinery provides substantial cost advantages, creates operational synergies, improves BP's ability to manage a key input to productivity, and advances the productive use of an existing asset that is highly efficient and cost-effective. Affirmatively addressing the impact of a major component in the cost of production that has steeply increased in the past decade will make the Whiting Refinery a more

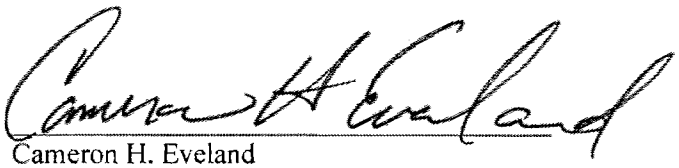
competitive facility and will better position BP to continue to invest with confidence in its northern Indiana operations. Strengthening the cost profile of the Whiting Refinery will enhance BP's ability to continue to serve as a leading source of employment in the region and will support the economic development benefits arising from BP's operations. In addition, BP will be better able to manage its energy needs with reliable supply within its direct operational control from an adjacent facility on its own property having reduced vulnerability to regional constraints or external disruptions.

Q DOES THAT COMPLETE YOUR TESTIMONY?

A Yes, at this time.

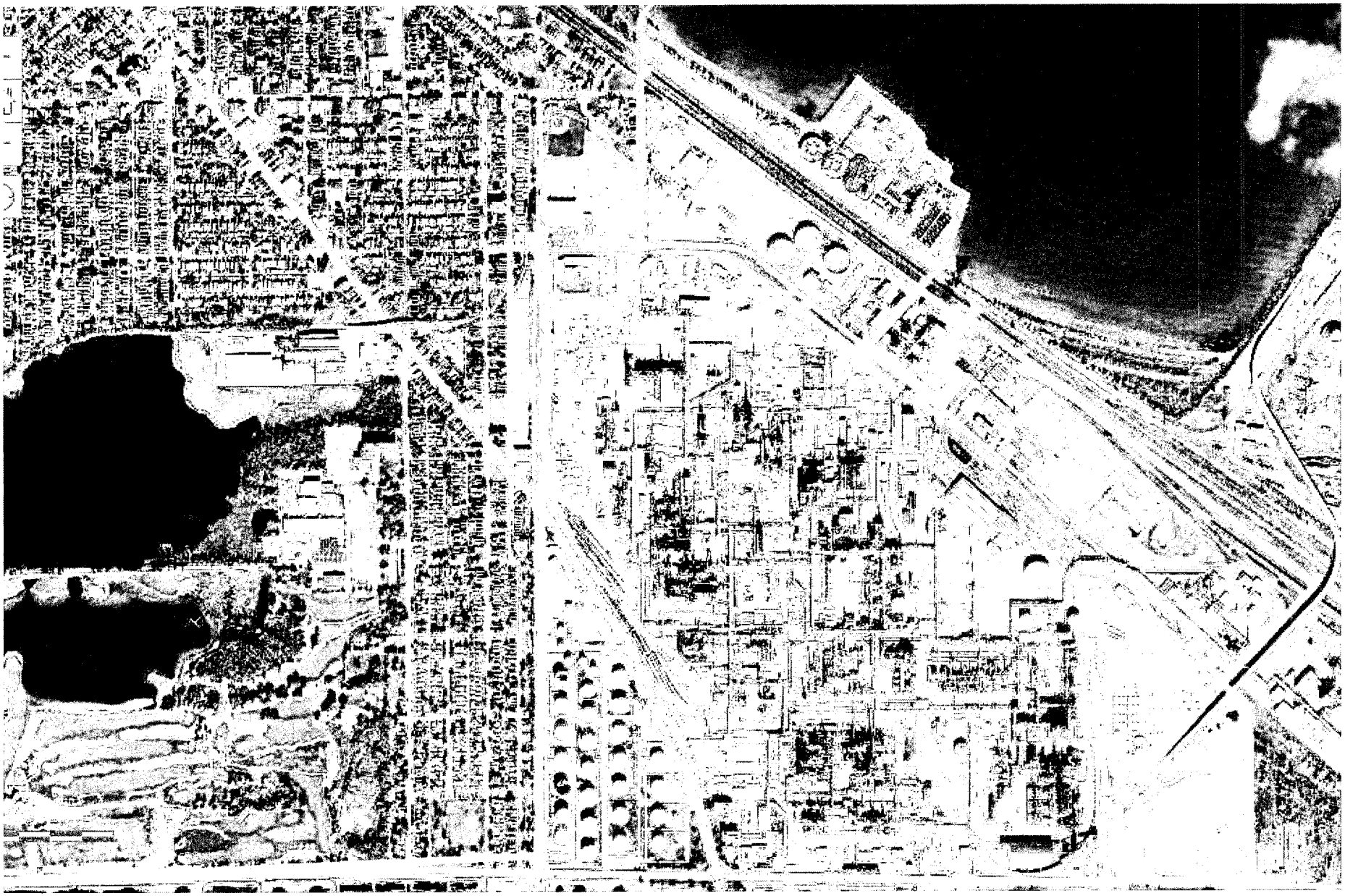
VERIFICATION

I, Cameron H. Eveland, Whiting Refinery Deputy Operations Manager for BP Products North America, Inc., and President of Whiting Clean Energy, Inc., affirm under the penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.



Cameron H. Eveland

June 20, 2018



FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC

OMB Control # 1902-0075
Expiration 06/30/2019

Form 556 Certification of Qualifying Facility (QF) Status for a Small Power Production or Cogeneration Facility

General

Questions about completing this form should be sent to Form556@ferc.gov. 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 the Commission's QF website, www.ferc.gov/QF. The Commission's QF website also provides links to the Commission's QF regulations (18 C.F.R. § 131.80 and Part 292), as well as other statutes and orders pertaining to the Commission's QF program.

Who Must File

Any applicant seeking QF status or recertification of QF status for a generating facility with a net power production capacity (as determined in lines 7a through 7g below) greater than 1000 kW must file a self-certification or an application for Commission certification of QF status, which includes a properly completed Form 556. Any applicant seeking QF status for a generating facility with a net power production capacity 1000 kW or less is exempt from the certification requirement, and is therefore not required to complete or file a Form 556. *See* 18 C.F.R. § 292.203.

How to Complete the Form 556

This form is intended to be completed by responding to the items in the order they are presented, according to the instructions given. If you need to back-track, you may need to clear certain responses before you will be allowed to change other responses made previously in the form. If you experience problems, click on the nearest help button ( ) for assistance, or contact Commission staff at Form556@ferc.gov.

Certain lines in this form will be automatically calculated based on responses to previous lines, with the relevant formulas shown. You must respond to all of the previous lines within a section before the results of an automatically calculated field will be displayed. If you disagree with the results of any automatic calculation on this form, contact Commission staff at Form556@ferc.gov to discuss the discrepancy before filing.

You must complete all lines in this form unless instructed otherwise. Do not alter this form or save this form in a different format. Incomplete or altered forms, or forms saved in formats other than PDF, will be rejected.

How to File a Completed Form 556

Applicants are required to file their Form 556 electronically through the Commission's eFiling website (see instructions on page 2). 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.

If you are simultaneously filing both a waiver request and a Form 556 as part of an application for Commission certification, see the "Waiver Requests" section on page 3 for more information on how to file.

Paperwork Reduction Act Notice

This form is approved by the Office of Management and Budget. 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 as follows: 3 hours for self-certification of a small power production facility, 8 hours for self-certifications of a cogeneration facility, 6 hours for an application for Commission certification of a small power production facility, and 50 hours for an application for Commission certification of a cogeneration facility. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to the following: Information Clearance Officer, Office of the Executive Director (ED-32), Federal Energy Regulatory Commission, 888 First Street N.E., Washington, DC 20426 (DataClearance@ferc.gov); and Desk Officer for FERC, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 (oira_submission@omb.eop.gov). Include the Control No. 1902-0075 in any correspondence.

Electronic Filing (eFiling)

To electronically file your Form 556, visit the Commission's QF website at www.ferc.gov/QF and click the eFiling link.

If you are eFiling your first document, you will need to register with your name, email address, mailing address, and phone number. If you are registering on behalf of an employer, then you will also need to provide the employer name, alternate contact name, alternate contact phone number and and alternate contact email.

Once you are registered, log in to eFiling with your registered email address and the password that you created at registration. Follow the instructions. When prompted, select one of the following QF-related filing types, as appropriate, from the Electric or General filing category.

Filing category	Filing Type as listed in eFiling	Description
Electric	(Fee) Application for Commission Cert. as Cogeneration QF	Use to submit an application for Commission certification or Commission recertification of a cogeneration facility as a QF.
	(Fee) Application for Commission Cert. as Small Power QF	Use to submit an application for Commission certification or Commission recertification of a small power production facility as a QF.
	Self-Certification Notice (QF, EG, FC)	Use to submit a notice of self-certification of your facility (cogeneration or small power production) as a QF.
	Self-Recertification of Qualifying Facility (QF)	Use to submit a notice of self-recertification of your facility (cogeneration or small power production) as a QF.
	Supplemental Information or Request	Use to correct or supplement a Form 556 that was submitted with errors or omissions, or for which Commission staff has requested additional information. Do *not* use this filing type to report new changes to a facility or its ownership; rather, use a self-recertification or Commission recertification to report such changes.
General	(Fee) Petition for Declaratory Order (not under FPA Part 1)	Use to submit a petition for declaratory order granting a waiver of Commission QF regulations pursuant to 18 C.F.R. §§ 292.204(a)(3) and/or 292.205(c). A Form 556 is not required for a petition for declaratory order unless Commission recertification is being requested as part of the petition.

You will be prompted to submit your filing fee, if applicable, during the electronic submission process. Filing fees can be paid via electronic bank account debit or credit card.

During the eFiling process, you will be prompted to select your file(s) for upload from your computer.

Filing Fee

No filing fee is required if you are submitting a self-certification or self-recertification 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 or recertification of your facility as a QF pursuant to 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) and/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 and clicking the Fee Schedule link.

You will be prompted to submit your filing fee, if applicable, during the electronic filing process described on page 2.

Required Notice to Utilities and State Regulatory Authorities

Pursuant to 18 C.F.R. § 292.207(a)(ii), you must provide a copy of your self-certification or request for Commission certification to the utilities with which the facility will interconnect and/or transact, as well as to the State regulatory authorities of the states in which your facility and those utilities reside. Links to information about the regulatory authorities in various states can be found by visiting the Commission's QF website at www.ferc.gov/QF and clicking the Notice Requirements link.

What to Expect From the Commission After You File

An applicant filing a Form 556 electronically will receive an email message acknowledging receipt of the filing and showing the docket number assigned to the 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 the filing.

An applicant submitting a self-certification of QF status should expect to receive no documents from the Commission, other than the electronic acknowledgement of receipt described above. Consistent with its name, a self-certification is a certification *by the applicant itself* that the facility meets the relevant requirements for QF status, and does not involve a determination by the Commission as to the status of the facility. An acknowledgement of receipt of a self-certification, in particular, does not represent a determination by the Commission with regard to the QF status of the facility. An applicant self-certifying may, however, receive a rejection, revocation or deficiency letter if its application is found, during periodic compliance reviews, not to comply with the relevant requirements.

An applicant submitting a request for Commission certification will receive an order either granting or denying certification of QF status, or a letter requesting additional information or rejecting the application. 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.

Waiver Requests

18 C.F.R. § 292.204(a)(3) allows an applicant to request a waiver to modify the method of calculation pursuant to 18 C.F.R. § 292.204(a)(2) to determine if two facilities are considered to be located at the same site, for good cause. 18 C.F.R. § 292.205(c) allows an applicant to request waiver of the requirements of 18 C.F.R. §§ 292.205(a) and (b) for operating and efficiency upon a showing that the facility will produce significant energy savings. A request for waiver of these requirements must be submitted as a petition for declaratory order, with the appropriate filing fee for a petition for declaratory order. Applicants requesting Commission recertification as part of a request for waiver of one of these requirements should electronically submit their completed Form 556 along with their petition for declaratory order, rather than filing their Form 556 as a separate request for Commission recertification. Only the filing fee for the petition for declaratory order must be paid to cover both the waiver request and the request for recertification *if such requests are made simultaneously.*

18 C.F.R. § 292.203(d)(2) allows an applicant to request a waiver of the Form 556 filing requirements, for good cause. Applicants filing a petition for declaratory order requesting a waiver under 18 C.F.R. § 292.203(d)(2) do not need to complete or submit a Form 556 with their petition.

Geographic Coordinates

If a street address does not exist for your facility, then line 3c of the Form 556 requires you to report your facility's geographic coordinates (latitude and longitude). Geographic coordinates may be obtained from several different sources. You can find links to online services that show latitude and longitude coordinates on online maps by visiting the Commission's QF webpage at www.ferc.gov/QF and clicking the Geographic Coordinates link. You may also be able to obtain your geographic coordinates from a GPS device, Google Earth (available free at http://earth.google.com), a property survey, various engineering or construction drawings, a property deed, or a municipal or county map showing property lines.

Filing Privileged Data or Critical Energy Infrastructure Information in a Form 556

The Commission's regulations provide procedures for applicants to either (1) request that any information submitted with a Form 556 be given privileged treatment because the information is exempt from the mandatory public disclosure requirements of the Freedom of Information Act, 5 U.S.C. § 552, and should be withheld from public disclosure; or (2) identify any documents containing critical energy infrastructure information (CEII) as defined in 18 C.F.R. § 388.113 that should not be made public.

If you are seeking privileged treatment or CEII status for any data in your Form 556, then you must follow the procedures in 18 C.F.R. § 388.112. See www.ferc.gov/help/filing-guide/file-ceii.asp for more information.

Among other things (see 18 C.F.R. § 388.112 for other requirements), applicants seeking privileged treatment or CEII status for data submitted in a Form 556 must prepare and file both (1) a complete version of the Form 556 (containing the privileged and/or CEII data), and (2) a public version of the Form 556 (with the privileged and/or CEII data redacted). Applicants preparing and filing these different versions of their Form 556 must indicate below the security designation of this version of their document. If you are *not* seeking privileged treatment or CEII status for any of your Form 556 data, then you should not respond to any of the items on this page.

☐ **Non-Public**: Applicant is seeking privileged treatment and/or CEII status for data contained in the Form 556 lines indicated below. This non-public version of the applicant's Form 556 contains all data, including the data that is redacted in the (separate) public version of the applicant's Form 556.
☐ **Public (redacted)**: Applicant is seeking privileged treatment and/or CEII status for data contained in the Form 556 lines indicated below. This public version of the applicants's Form 556 contains all data except for data from the lines indicated below, which has been redacted.
Privileged: Indicate below which lines of your form contain data for which you are seeking privileged treatment
Critical Energy Infrastructure Information (CEII): Indicate below which lines of your form contain data for which you are seeking CEII status

The eFiling process described on page 2 will allow you to identify which versions of the electronic documents you submit are public, privileged and/or CEII. The filenames for such documents should begin with "Public", "Priv", or "CEII", as applicable, to clearly indicate the security designation of the file. Both versions of the Form 556 should be unaltered PDF copies of the Form 556, as available for download from www.ferc.gov/QF. To redact data from the public copy of the submittal, simply omit the relevant data from the Form. For numerical fields, leave the redacted fields blank. For text fields, complete as much of the field as possible, and replace the redacted portions of the field with the word "REDACTED" in brackets. Be sure to identify above all fields which contain data for which you are seeking non-public status.

The Commission is not responsible for detecting or correcting filer errors, including those errors related to security designation. If your documents contain sensitive information, make sure they are filed using the proper security designation.

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC

OMB Control # 1902-0075
Expiration 06/30/2019

Form 556

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

Application Information

1a Full name of applicant (legal entity on whose behalf qualifying facility status is sought for this facility)
Whiting Clean Energy, Inc.

1b Applicant street address
2155 Standard Avenue

1c City	**1d** State/province
Whiting	Indiana

1e Postal code	**1f** Country (if not United States)	**1g** Telephone number
46394		219-473-0653

1h Has the instant facility ever previously been certified as a QF? Yes ☐ No ☒

1i If yes, provide the docket number of the last known QF filing pertaining to this facility: QF ___ - ___ - ___

1j Under which certification process is the applicant making this filing?

☒ Notice of self-certification (see note below)

☐ Application for Commission certification (requires filing fee; see "Filing Fee" section on page 3)

Note: a notice of self-certification is a notice by the applicant itself that its facility complies with the requirements for QF status. A notice of self-certification does not establish a proceeding, and the Commission does not review a notice of self-certification to verify compliance. See the "What to Expect From the Commission After You File" section on page 3 for more information.

1k What type(s) of QF status is the applicant seeking for its facility? (check all that apply)

☐ Qualifying small power production facility status ☒ Qualifying cogeneration facility status

1l What is the purpose and expected effective date(s) of this filing?

☒ Original certification; facility expected to be installed by 5/1/19 and to begin operation on 5/1/19

☐ Change(s) to a previously certified facility to be effective on ___
(identify type(s) of change(s) below, and describe change(s) in the Miscellaneous section starting on page 19)

- ☐ Name change and/or other administrative change(s)
- ☐ Change in ownership
- ☐ Change(s) affecting plant equipment, fuel use, power production capacity and/or cogeneration thermal output

☐ Supplement or correction to a previous filing submitted on ___
(describe the supplement or correction in the Miscellaneous section starting on page 19)

1m If any of the following three statements is true, check the box(es) that describe your situation and complete the form to the extent possible, explaining any special circumstances in the Miscellaneous section starting on page 19.

☐ The instant facility complies with the Commission's QF requirements by virtue of a waiver of certain regulations previously granted by the Commission in an order dated ___ (specify any other relevant waiver orders in the Miscellaneous section starting on page 19)

☐ The instant facility would comply with the Commission's QF requirements if a petition for waiver submitted concurrently with this application is granted

☐ The instant facility complies with the Commission's regulations, but has special circumstances, such as the employment of unique or innovative technologies not contemplated by the structure of this form, that make the demonstration of compliance via this form difficult or impossible (describe in Misc. section starting on p. 19)

Contact Information

2a Name of contact person
Todd A. Richardson

2b Telephone number
(317) 639-1210

2c Which of the following describes the contact person's relationship to the applicant? (check one)

- ☐ Applicant (self)
- ☐ Employee, owner or partner of applicant authorized to represent the applicant
- ☐ Employee of a company affiliated with the applicant authorized to represent the applicant on this matter
- ☒ Lawyer, consultant, or other representative authorized to represent the applicant on this matter

2d Company or organization name (if applicant is an individual, check here and skip to line 2e) ☐
Lewis & Kappes, P.C.

2e Street address (if same as Applicant, check here and skip to line 3a) ☐
One American Square, Suite 2500

2f City
Indianapolis

2g State/province
Indiana

2h Postal code
46282

2i Country (if not United States)

Facility Identification and Location

3a Facility name
Whiting Clean Energy

3b Street address (if a street address does not exist for the facility, check here and skip to line 3c) ☐
2155 Standard Avenue

3c Geographic coordinates: If you indicated that no street address exists for your facility by checking the box in line 3b, then you must specify the latitude and longitude coordinates of the facility in degrees (to three decimal places). Use the following formula to convert to decimal degrees from degrees, minutes and seconds: decimal degrees = degrees + (minutes/60) + (seconds/3600). See the "Geographic Coordinates" section on page 4 for help. If you provided a street address for your facility in line 3b, then specifying the geographic coordinates below is optional.

Longitude ☐ East (+) ☐ West (-) _____ degrees Latitude ☐ North (+) ☐ South (-) _____ degrees

3d City (if unincorporated, check here and enter nearest city) ☐
Whiting

3e State/province
Indiana

3f County (or check here for independent city) ☐
Lake

3g Country (if not United States)

Transacting Utilities

Identify the electric utilities that are contemplated to transact with the facility.

4a Identify utility interconnecting with the facility
Northern Indiana Public Service Company

4b Identify utilities providing wheeling service or check here if none ☐
Northern Indiana Public Service Company

4c Identify utilities purchasing the useful electric power output or check here if none ☐
Northern Indiana Public Service Company (50 MW for MISO planning year 2018-2019)

4d Identify utilities providing supplementary power, backup power, maintenance power, and/or interruptible power service or check here if none ☐
Northern Indiana Public Service Company

Ownership and Operation

5a Direct ownership as of effective date or operation date: Identify all direct owners of the facility holding at least 10 percent equity interest. For each identified owner, also (1) indicate whether that owner is an electric utility, as defined in section 3(22) of the Federal Power Act (16 U.S.C. 796(22)), or a holding company, as defined in section 1262(8) of the Public Utility Holding Company Act of 2005 (42 U.S.C. 16451(8)), and (2) for owners which are electric utilities or holding companies, provide the percentage of equity interest in the facility held by that owner. If no direct owners hold at least 10 percent equity interest in the facility, then provide the required information for the two direct owners with the largest equity interest in the facility.

	Full legal names of direct owners	Electric utility or holding company	If Yes, % equity interest
1)	Whiting Clean Energy, Inc.	Yes ☒ No ☐	100 %
2)		Yes ☐ No ☐	%
3)		Yes ☐ No ☐	%
4)		Yes ☐ No ☐	%
5)		Yes ☐ No ☐	%
6)		Yes ☐ No ☐	%
7)		Yes ☐ No ☐	%
8)		Yes ☐ No ☐	%
9)		Yes ☐ No ☐	%
10)		Yes ☐ No ☐	%

☐ Check here and continue in the Miscellaneous section starting on page 19 if additional space is needed

5b Upstream (i.e., indirect) ownership as of effective date or operation date: Identify all upstream (i.e., indirect) owners of the facility that both (1) hold at least 10 percent equity interest in the facility, and (2) are electric utilities, as defined in section 3(22) of the Federal Power Act (16 U.S.C. 796(22)), or holding companies, as defined in section 1262(8) of the Public Utility Holding Company Act of 2005 (42 U.S.C. 16451(8)). Also provide the percentage of equity interest in the facility held by such owners. (Note that, because upstream owners may be subsidiaries of one another, total percent equity interest reported may exceed 100 percent.)

Check here if no such upstream owners exist. ☐

	Full legal names of electric utility or holding company upstream owners	% equity interest
1)	BP Alternative Energy North America Inc.	100 %
2)	BP Company North America Inc.	100 %
3)	BP Corporation North America Inc.	100 %
4)	BP America Inc.	100 %
5)	BP America Limited	100 %
6)	BP Holdings North America Limited	100 %
7)	BP P.L.C.	100 %
8)		%
9)		%
10)		%

☐ Check here and continue in the Miscellaneous section starting on page 19 if additional space is needed

5c Identify the facility operator

Whiting Clean Energy Inc.

Energy Input

6a Describe the primary energy input: (check one main category and, if applicable, one subcategory)

- ☐ Biomass (specify)
  - ☐ Landfill gas
  - ☐ Manure digester gas
  - ☐ Municipal solid waste
  - ☐ Sewage digester gas
  - ☐ Wood
  - ☐ Other biomass (describe on page 19)
- ☐ Renewable resources (specify)
  - ☐ Hydro power - river
  - ☐ Hydro power - tidal
  - ☐ Hydro power - wave
  - ☐ Solar - photovoltaic
  - ☐ Solar - thermal
  - ☐ Wind
  - ☐ Other renewable resource (describe on page 19)
- ☐ Geothermal
- ☒ Fossil fuel (specify)
  - ☐ Coal (not waste)
  - ☐ Fuel oil/diesel
  - ☒ Natural gas (not waste)
  - ☐ Other fossil fuel (describe on page 19)
- ☐ Waste (specify type below in line 6b)
- ☐ Other (describe on page 19)

6b If you specified "waste" as the primary energy input in line 6a, 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 on page 19)
- ☐ Waste natural gas from gas or oil wells (describe on page 19 how the gas meets the requirements of 18 C.F.R. § 2.400 for waste natural gas; include with your filing any materials necessary to demonstrate compliance with 18 C.F.R. § 2.400)
- ☐ Materials that a government agency has certified for disposal by combustion (describe on page 19)
- ☐ Heat from exothermic reactions (describe on page 19) ☐ Residual heat (describe on page 19)
- ☐ 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 the Miscellaneous section starting on page 19; include a discussion of the fuel's lack of commercial value and existence in the absence of the qualifying facility industry)

6c Provide the average energy input, calculated on a calendar year basis, in terms of Btu/h for the following fossil fuel energy inputs, and provide the related percentage of the total average annual 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	2,409,750,043 Btu/h	100 %
Oil-based fuels	0 Btu/h	0 %
Coal	0 Btu/h	0 %

Technical Facility Information

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. Respond to all items. If any of the parasitic loads and/or losses identified in lines 7b through 7e are negligible, enter zero for those lines.

7a The maximum gross power production capacity at the terminals of the individual generator(s) under the most favorable anticipated design conditions	545,000 kW
7b Parasitic station power used at the facility to run equipment which is necessary and integral to the power production process (boiler feed pumps, fans/blowers, office or maintenance buildings directly related to the operation of the power generating facility, etc.). If this facility includes non-power production processes (for instance, power consumed by a cogeneration facility's thermal host) , do not include any power consumed by the non-power production activities in your reported parasitic station power.	13,648 kW
7c Electrical losses in interconnection transformers	2,412 kW
7d Electrical losses in AC/DC conversion equipment, if any	0 kW
7e Other interconnection losses in power lines or facilities (other than transformers and AC/DC conversion equipment) between the terminals of the generator(s) and the point of interconnection with the utility	0 kW
7f Total deductions from gross power production capacity = 7b + 7c + 7d + 7e	16,060.0 kW
7g Maximum net power production capacity = 7a - 7f	528,940.0 kW

7h Description of facility and primary components: Describe the facility and its operation. Identify all boilers, heat recovery steam generators, prime movers (any mechanical equipment driving an electric generator), electrical generators, photovoltaic solar equipment, fuel cell equipment and/or other primary power generation equipment used in the facility. Descriptions of components should include (as applicable) specifications of the nominal capacities for mechanical output, electrical output, or steam generation of the identified equipment. For each piece of equipment identified, clearly indicate how many pieces of that type of equipment are included in the plant, and which components are normally operating or normally in standby mode. Provide a description of how the components operate as a system. Applicants for cogeneration facilities do not need to describe operations of systems that are clearly depicted on and easily understandable from a cogeneration facility's attached mass and heat balance diagram; however, such applicants should provide any necessary description needed to understand the sequential operation of the facility depicted in their mass and heat balance diagram. If additional space is needed, continue in the Miscellaneous section starting on page 19.

The primary components of the Whiting Clean Energy generating facility are as follows:

Two (2) General Electric 7FA combustion turbine generators @ 168 MW (gross) each

One (1) General Electric condensing steam turbine generator @ 213 MW (gross)

Two (2) Aalborg heat recovery steam generators with duct burners and selective catalytic reduction @ 1,100,000 lbs/hr of high pressure steam each

One (1) 3,200 gpm demineralized water treatment plant

One (1) Ten cell induced draft cooling tower

(Continued on page 19)

Information Required for Small Power Production Facility

If you indicated in line 1k that you are seeking qualifying small power production facility status for your facility, then you must respond to the items on this page. Otherwise, skip page 10.

Certification of Compliance with Size Limitations

Pursuant to 18 C.F.R. § 292.204(a), the power production capacity of any small power production facility, together with the power production capacity of any other small power production facilities that use the same energy resource, are owned by the same person(s) or its affiliates, and are located at the same site, may not exceed 80 megawatts. To demonstrate compliance with this size limitation, or to demonstrate that your facility is exempt from this size limitation under the Solar, Wind, Waste, and Geothermal Power Production Incentives Act of 1990 (Pub. L. 101-575, 104 Stat. 2834 (1990) *as amended by* Pub. L. 102-46, 105 Stat. 249 (1991)), respond to lines 8a through 8e below (as applicable).

8a Identify any facilities with electrical generating equipment located within 1 mile of the electrical generating equipment of the instant facility, and for which any of the entities identified in lines 5a or 5b, or their affiliates, holds at least a 5 percent equity interest.

Check here if no such facilities exist. ☐

	Facility location (city or county, state)	Root docket # (if any)	Common owner(s)	Maximum net power production capacity
1)		QF ___ - ___		kW
2)		QF ___ - ___		kW
3)		QF ___ - ___		kW

☐ Check here and continue in the Miscellaneous section starting on page 19 if additional space is needed

8b The Solar, Wind, Waste, and Geothermal Power Production Incentives Act of 1990 (Incentives Act) provides exemption from the size limitations in 18 C.F.R. § 292.204(a) for certain facilities that were certified prior to 1995. Are you seeking exemption from the size limitations in 18 C.F.R. § 292.204(a) by virtue of the Incentives Act?

☐ Yes (continue at line 8c below) ☐ No (skip lines 8c through 8e)

8c Was the original notice of self-certification or application for Commission certification of the facility filed on or before December 31, 1994? Yes ☐ No ☐

8d Did construction of the facility commence on or before December 31, 1999? Yes ☐ No ☐

8e If you answered No in line 8d, indicate whether reasonable diligence was exercised toward the completion of the facility, taking into account all factors relevant to construction? Yes ☐ No ☐ If you answered Yes, provide a brief narrative explanation in the Miscellaneous section starting on page 19 of the construction timeline (in particular, describe why construction started so long after the facility was certified) and the diligence exercised toward completion of the facility.

Certification of Compliance with Fuel Use Requirements

Pursuant to 18 C.F.R. § 292.204(b), qualifying small power production facilities may use fossil fuels, in minimal amounts, for only the following purposes: ignition; start-up; testing; flame stabilization; control use; alleviation or prevention of unanticipated equipment outages; and alleviation or prevention of emergencies, directly affecting the public health, safety, or welfare, which would result from electric power outages. The amount of fossil fuels used for these purposes may not exceed 25 percent of the total energy input of the facility during the 12-month period beginning with the date the facility first produces electric energy or any calendar year thereafter.

9a Certification of compliance with 18 C.F.R. § 292.204(b) with respect to uses of fossil fuel:

☐ Applicant certifies that the facility will use fossil fuels *exclusively* for the purposes listed above.

9b Certification of compliance with 18 C.F.R. § 292.204(b) with respect to amount of fossil fuel used annually:

☐ Applicant certifies that the amount of fossil fuel used at the facility will not, in aggregate, exceed 25 percent of the total energy input of the facility during the 12-month period beginning with the date the facility first produces electric energy or any calendar year thereafter.

Information Required for Cogeneration Facility

If you indicated in line 1k that you are seeking qualifying cogeneration facility status for your facility, then you must respond to the items on pages 11 through 13. Otherwise, skip pages 11 through 13.

General Cogeneration Information

Pursuant to 18 C.F.R. § 292.202(c), a cogeneration facility produces electric energy and forms of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, or cooling purposes, through the sequential use of energy. Pursuant to 18 C.F.R. § 292.202(s), "sequential use" of energy means the following: (1) for a topping-cycle cogeneration facility, the use of reject heat from a power production process in sufficient amounts in a thermal application or process to conform to the requirements of the operating standard contained in 18 C.F.R. § 292.205(a); or (2) for a bottoming-cycle cogeneration facility, the use of at least some reject heat from a thermal application or process for power production.

10a What type(s) of cogeneration technology does the facility represent? (check all that apply)

☒ Topping-cycle cogeneration ☐ Bottoming-cycle cogeneration

10b To help demonstrate the sequential operation of the cogeneration process, and to support compliance with other requirements such as the operating and efficiency standards, include with your filing a mass and heat balance diagram depicting average annual operating conditions. This diagram must include certain items and meet certain requirements, as described below. You must check next to the description of each requirement below to certify that you have complied with these requirements.

Check to certify compliance with indicated requirement	Requirement
☒	Diagram must show orientation within system piping and/or ducts of all prime movers, heat recovery steam generators, boilers, electric generators, and condensers (as applicable), as well as any other primary equipment relevant to the cogeneration process.
☒	Any average annual values required to be reported in lines 10b, 12a, 13a, 13b, 13d, 13f, 14a, 15b, 15d and/or 15f must be computed over the anticipated hours of operation.
☒	Diagram must specify all fuel inputs by fuel type and average annual rate in Btu/h. Fuel for supplementary firing should be specified separately and clearly labeled. All specifications of fuel inputs should use lower heating values.
☒	Diagram must specify average gross electric output in kW or MW for each generator.
☒	Diagram must specify average mechanical output (that is, any mechanical energy taken off of the shaft of the prime movers for purposes not directly related to electric power generation) in horsepower, if any. Typically, a cogeneration facility has no mechanical output.
☒	At each point for which working fluid flow conditions are required to be specified (see below), such flow condition data must include mass flow rate (in lb/h or kg/s), temperature (in °F, R, °C or K), absolute pressure (in psia or kPa) and enthalpy (in Btu/lb or kJ/kg). Exception: For systems where the working fluid is *liquid only* (no vapor at any point in the cycle) and where the type of liquid and specific heat of that liquid are clearly indicated on the diagram or in the Miscellaneous section starting on page 19, only mass flow rate and temperature (not pressure and enthalpy) need be specified. For reference, specific heat at standard conditions for pure liquid water is approximately 1.002 Btu/(lb*R) or 4.195 kJ/(kg*K).
☒	Diagram must specify working fluid flow conditions at input to and output from each steam turbine or other expansion turbine or back-pressure turbine.
☒	Diagram must specify working fluid flow conditions at delivery to and return from each thermal application.
☒	Diagram must specify working fluid flow conditions at make-up water inputs.

EPAct 2005 Requirements for Fundamental Use of Energy Output from Cogeneration Facilities

EPAct 2005 cogeneration facilities: The Energy Policy Act of 2005 (EPAct 2005) established a new section 210(n) of the Public Utility Regulatory Policies Act of 1978 (PURPA), 16 USC 824a-3(n), with additional requirements for any qualifying cogeneration facility that (1) is seeking to sell electric energy pursuant to section 210 of PURPA and (2) was either not a cogeneration facility on August 8, 2005, or had not filed a self-certification or application for Commission certification of QF status on or before February 1, 2006. These requirements were implemented by the Commission in 18 C.F.R. § 292.205(d). Complete the lines below, carefully following the instructions, to demonstrate whether these additional requirements apply to your cogeneration facility and, if so, whether your facility complies with such requirements.

11a Was your facility operating as a qualifying cogeneration facility on or before August 8, 2005? Yes ☐ No ☒

11b Was the initial filing seeking certification of your facility (whether a notice of self-certification or an application for Commission certification) filed on or before February 1, 2006? Yes ☐ No ☒

If the answer to either line 11a or 11b is Yes, then continue at line 11c below. Otherwise, if the answers to both lines 11a and 11b are No, skip to line 11e below.

11c With respect to the design and operation of the facility, have any changes been implemented on or after February 2, 2006 that affect general plant operation, affect use of thermal output, and/or increase net power production capacity from the plant's capacity on February 1, 2006?

☐ Yes (continue at line 11d below)

☐ No. Your facility is not subject to the requirements of 18 C.F.R. § 292.205(d) at this time. However, it may be subject to to these requirements in the future if changes are made to the facility. At such time, the applicant would need to recertify the facility to determine eligibility. Skip lines 11d through 11j.

11d Does the applicant contend that the changes identified in line 11c are not so significant as to make the facility a "new" cogeneration facility that would be subject to the 18 C.F.R. § 292.205(d) cogeneration requirements?

☐ Yes. Provide in the Miscellaneous section starting on page 19 a description of any relevant changes made to the facility (including the purpose of the changes) and a discussion of why the facility should not be considered a "new" cogeneration facility in light of these changes. Skip lines 11e through 11j.

☐ No. Applicant stipulates to the fact that it is a "new" cogeneration facility (for purposes of determining the applicability of the requirements of 18 C.F.R. § 292.205(d)) by virtue of modifications to the facility that were initiated on or after February 2, 2006. Continue below at line 11e.

11e Will electric energy from the facility be sold pursuant to section 210 of PURPA?

☒ Yes. The facility is an EPAct 2005 cogeneration facility. You must demonstrate compliance with 18 C.F.R. § 292.205(d)(2) by continuing at line 11f below.

☐ No. Applicant certifies that energy will *not* be sold pursuant to section 210 of PURPA. Applicant also certifies its understanding that it must recertify its facility in order to determine compliance with the requirements of 18 C.F.R. § 292.205(d) *before* selling energy pursuant to section 210 of PURPA in the future. Skip lines 11f through 11j.

11f Is the net power production capacity of your cogeneration facility, as indicated in line 7g above, less than or equal to 5,000 kW?

☐ Yes, the net power production capacity is less than or equal to 5,000 kW. 18 C.F.R. § 292.205(d)(4) provides a rebuttable presumption that cogeneration facilities of 5,000 kW and smaller capacity comply with the requirements for fundamental use of the facility's energy output in 18 C.F.R. § 292.205(d)(2). Applicant certifies its understanding that, should the power production capacity of the facility increase above 5,000 kW, then the facility must be recertified to (among other things) demonstrate compliance with 18 C.F.R. § 292.205(d)(2). Skip lines 11g through 11j.

☒ No, the net power production capacity is greater than 5,000 kW. Demonstrate compliance with the requirements for fundamental use of the facility's energy output in 18 C.F.R. § 292.205(d)(2) by continuing on the next page at line 11g.

EPAct 2005 Requirements for Fundamental Use of Energy Output from Cogeneration Facilities (continued)

Lines 11g through 11k below guide the applicant through the process of demonstrating compliance with the requirements for "fundamental use" of the facility's energy output. 18 C.F.R. § 292.205(d)(2). Only respond to the lines on this page if the instructions on the previous page direct you to do so. Otherwise, skip this page.

18 C.F.R. § 292.205(d)(2) requires that the electrical, thermal, chemical and mechanical output of an EPAct 2005 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. If you were directed on the previous page to respond to the items on this page, then your facility is an EPAct 2005 cogeneration facility that is subject to this "fundamental use" requirement.

The Commission's regulations provide a two-pronged approach to demonstrating compliance with the requirements for fundamental use of the facility's energy output. First, the Commission has established in 18 C.F.R. § 292.205(d)(3) a "fundamental use test" that can be used to demonstrate compliance with 18 C.F.R. § 292.205(d)(2). Under the fundamental use test, a facility is considered to comply with 18 C.F.R. § 292.205(d)(2) if at least 50 percent of the facility's total annual energy output (including electrical, thermal, chemical and mechanical energy output) is used for industrial, commercial, residential or institutional purposes.

Second, an applicant for a facility that does not pass the fundamental use test may provide a narrative explanation of and support for its contention that the facility nonetheless meets the requirement that the electrical, thermal, chemical and mechanical output of an EPAct 2005 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.

Complete lines 11g through 11j below to determine compliance with the fundamental use test in 18 C.F.R. § 292.205(d)(3). Complete lines 11g through 11j *even if you do not intend to rely upon the fundamental use test to demonstrate compliance with 18 C.F.R. § 292.205(d)(2).*

11g Amount of electrical, thermal, chemical and mechanical energy output (net of internal generation plant losses and parasitic loads) expected to be used annually for industrial, commercial, residential or institutional purposes and not sold to an electric utility	2,624,582 MWh
11h Total amount of electrical, thermal, chemical and mechanical energy expected to be sold to an electric utility	1,078,181 MWh
11i Percentage of total annual energy output expected to be used for industrial, commercial, residential or institutional purposes and not sold to a utility = 100 * 11g /(11g + 11h)	70.9 %

11j Is the response in line 11i greater than or equal to 50 percent?

☒ Yes. Your facility complies with 18 C.F.R. § 292.205(d)(2) by virtue of passing the fundamental use test provided in 18 C.F.R. § 292.205(d)(3). Applicant certifies its understanding that, if it is to rely upon passing the fundamental use test as a basis for complying with 18 C.F.R. § 292.205(d)(2), then the facility must comply with the fundamental use test both in the 12-month period beginning with the date the facility first produces electric energy, and in all subsequent calendar years.

☐ No. Your facility does not pass the fundamental use test. Instead, you must provide in the Miscellaneous section starting on page 19 a narrative explanation of and support for why your facility meets the requirement that the electrical, thermal, chemical and mechanical output of an EPAct 2005 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 QF to its host facility. Applicants providing a narrative explanation of why their facility should be found to comply with 18 C.F.R. § 292.205(d)(2) in spite of non-compliance with the fundamental use test may want to review paragraphs 47 through 61 of Order No. 671 (accessible from the Commission's QF website at www.ferc.gov/QF), which provide discussion of the facts and circumstances that may support their explanation. Applicant should also note that the percentage reported above will establish the standard that that facility must comply with, both for the 12-month period beginning with the date the facility first produces electric energy, and in all subsequent calendar years. *See* Order No. 671 at paragraph 51. As such, the applicant should make sure that it reports appropriate values on lines 11g and 11h above to serve as the relevant annual standard, taking into account expected variations in production conditions.

Information Required for Topping-Cycle Cogeneration Facility

If you indicated in line 10a that your facility represents topping-cycle cogeneration technology, then you must respond to the items on pages 14 and 15. Otherwise, skip pages 14 and 15.

Usefulness of Topping-Cycle Thermal Output

The thermal energy output of a topping-cycle cogeneration facility is the net energy made available to an industrial or commercial process or used in a heating or cooling application. Pursuant to sections 292.202(c), (d) and (h) of the Commission's regulations (18 C.F.R. §§ 292.202(c), (d) and (h)),.the thermal energy output of a qualifying topping-cycle cogeneration facility must be useful. In connection with this requirement, describe the thermal output of the topping-cycle cogeneration facility by responding to lines 12a and 12b below.

12a Identify and describe each thermal host, and specify the annual average rate of thermal output made available to each host for each use. For hosts with multiple uses of thermal output, provide the data for each use *in separate rows.*

	Name of entity (thermal host) taking thermal output	Thermal host's relationship to facility; Thermal host's use of thermal output	Average annual rate of thermal output attributable to use (net of heat contained in process return or make-up water)
1)	BP Whiting Business Unit	Applicant or affiliate Industrial process - petroleum	492,752,440 Btu/h
2)		Select thermal host's relationship to facility Select thermal host's use of thermal output	Btu/h
3)		Select thermal host's relationship to facility Select thermal host's use of thermal output	Btu/h
4)		Select thermal host's relationship to facility Select thermal host's use of thermal output	Btu/h
5)		Select thermal host's relationship to facility Select thermal host's use of thermal output	Btu/h
6)		Select thermal host's relationship to facility Select thermal host's use of thermal output	Btu/h

☐ Check here and continue in the Miscellaneous section starting on page 19 if additional space is needed

12b Demonstration of usefulness of thermal output: At a minimum, provide a brief description of each use of the thermal output identified above. In some cases, this brief description is sufficient to demonstrate usefulness. However, if your facility's use of thermal output is not common, and/or if the usefulness of such thermal output is not reasonably clear, then you must provide additional details as necessary to demonstrate usefulness. Your application may be rejected and/or additional information may be required if an insufficient showing of usefulness is made. (Exception: If you have previously received a Commission certification approving a specific use of thermal output related to the instant facility, then you need only provide a brief description of that use and a reference by date and docket number to the order certifying your facility with the indicated use. Such exemption may not be used if any change creates a material deviation from the previously authorized use.) If additional space is needed, continue in the Miscellaneous section starting on page 19.

The thermal output is used by the BP Whiting Business Unit in the following ways:

- High pressure steam is let down to 400 psi and 100 psi through turbine generators to produce electricity for internal refinery use
- Steam is used as thermal energy to heat process streams and in the reboilers of distillation columns for hydrocarbon separation
- Steam is used to drive turbines for compressors and pumps.

Topping-Cycle Operating and Efficiency Value Calculation

Applicants for facilities representing topping-cycle technology must demonstrate compliance with the topping-cycle operating standard and, if applicable, efficiency standard. Section 292.205(a)(1) of the Commission's regulations (18 C.F.R. § 292.205(a)(1)) establishes the operating standard for topping-cycle cogeneration facilities: the useful thermal energy output must be no less than 5 percent of the total energy output. Section 292.205(a)(2) (18 C.F.R. § 292.205(a)(2)) establishes the efficiency standard for topping-cycle cogeneration facilities for which installation commenced on or after March 13, 1980: the useful power output of the facility plus one-half the useful thermal energy output must (A) be no less than 42.5 percent of the total energy input of natural gas and oil to the facility; and (B) if the useful thermal energy output is less than 15 percent of the total energy output of the facility, be no less than 45 percent of the total energy input of natural gas and oil to the facility. To demonstrate compliance with the topping-cycle operating and/or efficiency standards, or to demonstrate that your facility is exempt from the efficiency standard based on the date that installation commenced, respond to lines 13a through 13l below.

If you indicated in line 10a that your facility represents *both* topping-cycle and bottoming-cycle cogeneration technology, then respond to lines 13a through 13l below considering only the energy inputs and outputs attributable to the topping-cycle portion of your facility. Your mass and heat balance diagram must make clear which mass and energy flow values and system components are for which portion (topping or bottoming) of the cogeneration system.

13a Indicate the annual average rate of useful thermal energy output made available to the host(s), net of any heat contained in condensate return or make-up water	492,752,440 Btu/h
13b Indicate the annual average rate of net electrical energy output	278,000 kW
13c Multiply line 13b by 3,412 to convert from kW to Btu/h	948,536,000 Btu/h
13d Indicate the annual average rate of mechanical energy output taken directly off of the shaft of a prime mover for purposes not directly related to power production (this value is usually zero)	0 hp
13e Multiply line 13d by 2,544 to convert from hp to Btu/h	0.0 Btu/h
13f Indicate the annual average rate of energy input from natural gas and oil	2,409,750,043 Btu/h
13g Topping-cycle operating value = 100 * 13a / (13a + 13c + 13e)	34.2 %
13h Topping-cycle efficiency value = 100 * (0.5*13a + 13c + 13e) / 13f	49.6 %

13i Compliance with operating standard: Is the operating value shown in line 13g greater than or equal to 5%?

☒ Yes (complies with operating standard) ☐ No (does not comply with operating standard)

13j Did installation of the facility in its current form commence on or after March 13, 1980?

☒ Yes. Your facility is subject to the efficiency requirements of 18 C.F.R. § 292.205(a)(2). Demonstrate compliance with the efficiency requirement by responding to line 13k or 13l, as applicable, below.

☐ No. Your facility is exempt from the efficiency standard. Skip lines 13k and 13l.

13k Compliance with efficiency standard (for low operating value): If the operating value shown in line 13g is less than 15%, then indicate below whether the efficiency value shown in line 13h greater than or equal to 45%:

☐ Yes (complies with efficiency standard) ☐ No (does not comply with efficiency standard)

13l Compliance with efficiency standard (for high operating value): If the operating value shown in line 13g is greater than or equal to 15%, then indicate below whether the efficiency value shown in line 13h is greater than or equal to 42.5%:

☒ Yes (complies with efficiency standard) ☐ No (does not comply with efficiency standard)

Information Required for Bottoming-Cycle Cogeneration Facility

If you indicated in line 10a that your facility represents bottoming-cycle cogeneration technology, then you must respond to the items on pages 16 and 17. Otherwise, skip pages 16 and 17.

Usefulness of Bottoming-Cycle Thermal Output

The thermal energy output of a bottoming-cycle cogeneration facility is the energy related to the process(es) from which at least some of the reject heat is then used for power production. Pursuant to sections 292.202(c) and (e) of the Commission's regulations (18 C.F.R. § 292.202(c) and (e)), the thermal energy output of a qualifying bottoming-cycle cogeneration facility must be useful. In connection with this requirement, describe the process(es) from which at least some of the reject heat is used for power production by responding to lines 14a and 14b below.

14a Identify and describe each thermal host and each bottoming-cycle cogeneration process engaged in by each host. For hosts with multiple bottoming-cycle cogeneration processes, provide the data for each process *in separate rows.*

	Name of entity (thermal host) performing the process from which at least some of the reject heat is used for power production	Thermal host's relationship to facility; Thermal host's process type	Has the energy input to the thermal host been augmented for purposes of increasing power production capacity? (if Yes, describe on p. 19)
1)		Select thermal host's relationship to facility Select thermal host's process type	Yes ☐ No ☐
2)		Select thermal host's relationship to facility Select thermal host's process type	Yes ☐ No ☐
3)		Select thermal host's relationship to facility Select thermal host's process type	Yes ☐ No ☐

☐ Check here and continue in the Miscellaneous section starting on page 19 if additional space is needed

14b Demonstration of usefulness of thermal output: At a minimum, provide a brief description of each process identified above. In some cases, this brief description is sufficient to demonstrate usefulness. However, if your facility's process is not common, and/or if the usefulness of such thermal output is not reasonably clear, then you must provide additional details as necessary to demonstrate usefulness. Your application may be rejected and/or additional information may be required if an insufficient showing of usefulness is made. (Exception: If you have previously received a Commission certification approving a specific bottoming-cycle process related to the instant facility, then you need only provide a brief description of that process and a reference by date and docket number to the order certifying your facility with the indicated process. Such exemption may not be used if any material changes to the process have been made.) If additional space is needed, continue in the Miscellaneous section starting on page 19.

Bottoming-Cycle Operating and Efficiency Value Calculation

Applicants for facilities representing bottoming-cycle technology and for which installation commenced on or after March 13, 1990 must demonstrate compliance with the bottoming-cycle efficiency standards. Section 292.205(b) of the Commission's regulations (18 C.F.R. § 292.205(b)) establishes the efficiency standard for bottoming-cycle cogeneration facilities: the useful power output of the facility must be no less than 45 percent of the energy input of natural gas and oil for supplementary firing. To demonstrate compliance with the bottoming-cycle efficiency standard (if applicable), or to demonstrate that your facility is exempt from this standard based on the date that installation of the facility began, respond to lines 15a through 15h below.

If you indicated in line 10a that your facility represents *both* topping-cycle and bottoming-cycle cogeneration technology, then respond to lines 15a through 15h below considering only the energy inputs and outputs attributable to the bottoming-cycle portion of your facility. Your mass and heat balance diagram must make clear which mass and energy flow values and system components are for which portion of the cogeneration system (topping or bottoming).

15a Did installation of the facility in its current form commence on or after March 13, 1980?

☐ Yes. Your facility is subject to the efficiency requirement of 18 C.F.R. § 292.205(b). Demonstrate compliance with the efficiency requirement by responding to lines 15b through 15h below.

☐ No. Your facility is exempt from the efficiency standard. Skip the rest of page 17.

15b Indicate the annual average rate of net electrical energy output	kW
15c Multiply line 15b by 3,412 to convert from kW to Btu/h	0 Btu/h
15d Indicate the annual average rate of mechanical energy output taken directly off of the shaft of a prime mover for purposes not directly related to power production (this value is usually zero)	hp
15e Multiply line 15d by 2,544 to convert from hp to Btu/h	0 Btu/h
15f Indicate the annual average rate of supplementary energy input from natural gas or oil	Btu/h
15g Bottoming-cycle efficiency value = 100 * (15c + 15e) / 15f	0 %

15h Compliance with efficiency standard: Indicate below whether the efficiency value shown in line 15g is greater than or equal to 45%:

☐ Yes (complies with efficiency standard) ☐ No (does not comply with efficiency standard)

Certificate of Completeness, Accuracy and Authority

Applicant must certify compliance with and understanding of filing requirements by checking next to each item below and signing at the bottom of this section. Forms with incomplete Certificates of Completeness, Accuracy and Authority will be rejected by the Secretary of the Commission.

Signer identified below certifies the following: (check all items and applicable subitems)

☒ He or she has read the filing, including any information contained in any attached documents, such as cogeneration mass and heat balance diagrams, and any information contained in the Miscellaneous section starting on page 19, and knows its contents.

☒ He or she has provided all of the required information for certification, and the provided information is true as stated, to the best of his or her knowledge and belief.

☒ He or she possess full power and authority to sign the filing; as required by Rule 2005(a)(3) of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2005(a)(3)), he or she is one of the following: (check one)

- ☐ The person on whose behalf the filing is made
- ☒ An officer of the corporation, trust, association, or other organized group on behalf of which the filing is made
- ☐ An officer, agent, or employe of the governmental authority, agency, or instrumentality on behalf of which the filing is made
- ☐ A representative qualified to practice before the Commission under Rule 2101 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2101) and who possesses authority to sign

☒ He or she has reviewed all automatic calculations and agrees with their results, unless otherwise noted in the Miscellaneous section starting on page 19.

☒ He or she has provided a copy of this Form 556 and all attachments to the utilities with which the facility will interconnect and transact (see lines 4a through 4d), as well as to the regulatory authorities of the states in which the facility and those utilities reside. See the Required Notice to Public Utilities and State Regulatory Authorities section on page 3 for more information.

Provide your signature, address and signature date below. 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 his or her name to sign the filed documents. A person filing this document electronically should sign (by typing his or her name) in the space provided below.

Your Signature	Your address	Date
Cameron H. Eveland	2155 Standard Avenue Whiting, Indiana 46394	3/29/2018

Audit Notes
Commission Staff Use Only: ☐

Miscellaneous

Use this space to provide any information for which there was not sufficient space in the previous sections of the form to provide. For each such item of information *clearly identify the line number that the information belongs to.* You may also use this space to provide any additional information you believe is relevant to the certification of your facility.

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.

(Continued from Section 7h)

The two combustion turbines (General Electric Frame 7FA, Model 7241)) are equipped with General Electric's dry low-NOx combustion systems. The heat input rating for each combustion turbine at ISO conditions is 1,735 MMBtu per hour. The hot combustion turbine exhaust is ducted to its associated heat recovery steam generator, where the exhaust heat is used to generate 1300 psig steam for electric power generation via the condensing steam turbine generator and refinery topping steam turbine generators. Auxiliary or supplemental duct firing is included as part of each combustion turbine/heat recovery steam generator. The rated heat input capacity of each duct burner is 821.3 MMBtu per hour. Auxiliary duct firing is used to increase electric power production during periods of peak electric demand, and to maintain sufficient steam supplies for refinery use, when one of the two combustion turbines is shut down. Steam production from each heat recovery steam generator is approximately 580,000 pounds per hour without duct firing and approximately 1,188,000 pounds per hour with duct firing.

BACKGROUND CIRCUMSTANCES

The facility was originally placed in operation in 2001. It is located contiguous to a refining operation conducted by BP Whiting Business Unit, a unit of BP Products North America Inc. The useful thermal output at all times has been used to support the refining operations. By letter determination dated April 11, 2001 in Docket No. EG01-133-000, Whiting Clean Energy, Inc. was designated as an Exempt Wholesale Generator, and in that capacity has engaged in wholesale electric power and energy transactions at market-based rates. In accordance with the Order dated May 23, 2008 in Docket No. EC08-77-000, Whiting Clean Energy, Inc. was acquired by BP Alternative Energy North America Inc. in 2008. Since that time, the facility's thermal output has continued to be used to support refinery operations and Whiting Clean Energy, Inc. has continued to operate as an Exempt Wholesale Generator. As reflected in this filing, the facility is now being designated as a Qualifying Facility with both the electrical and thermal output being used for industrial purposes supporting the refining operations. The installation and operation date of May 1, 2019 in Section 11 reflects the time period needed to complete the electric integration arrangements and any associated permitting. Prior to the operational date, Whiting Clean Energy, Inc. will continue to engage in wholesale electric power and energy transactions consistent with historical practice.

MPR

0742-0094-DWG-002
Revision 0

WHITING CLEAN ENERGY WCE HEAT AND MASS BALANCE

2X1 OPERATION, 107.5 MW COMBUSTION TURBINE LOAD 59F, 60% RH, NATURAL GAS DUCT FIRED 400 KPPH TO REFINERY, 278 MW NET

Prepared for: BP Alternative Energy

Preparer:	Douglas Carroll	E-signed by: Douglas Carroll on 2017-06-23 10:16:29
Checker:	Kent Kenneally	E-signed by: Kent Kenneally on 2017-06-23 11:56:54
Reviewer:	Kent Kenneally	E-signed by: Kent Kenneally on 2017-06-23 11:57:16
Approver:	Fred Buckingham	E-signed by: Fred Buckingham on 2017-06-23 14:32:27

QA Statement of Compliance

This document has been prepared, reviewed, and approved in accordance with the Quality Assurance requirements of the MPR Standard Quality Program.

Created: 2017-06-23 10:16:29
Project-Task No. 07421601-0094

MPR Associates, Inc.
320 King St. • Alexandria, VA 22314
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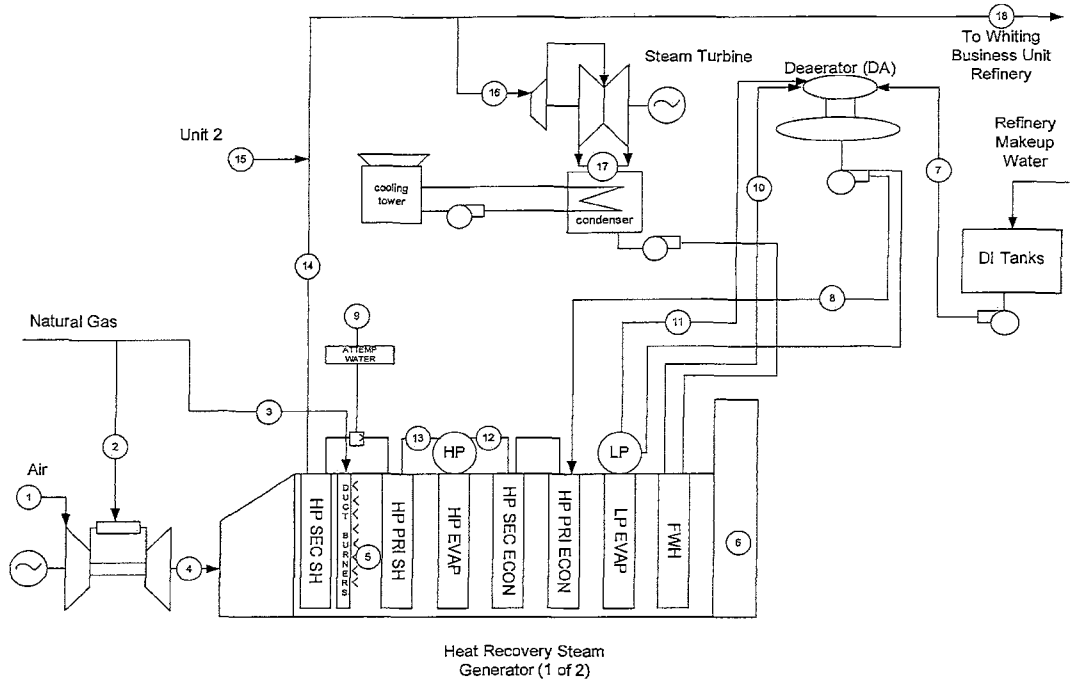
REVISIONS			
REV.	DESCRIPTION	APPROVED	DATE
0	INITIAL ISSUE	E. SIGNED BY F. BUCKINGHAM	E. SIGNED



Heat Recovery Steam Generator (1 of 2)

TYPE	U1 CT		U1 DUCT FIRING	U1 FLUE GAS			U1 FEEDWATER				U1 HRSG LP SECTION	U1 HRSG HP SECTION			U2 HP	MAIN STEAM SYSTEM		
NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
DESCRIPTION	INTAKE AIR	HEATED FUEL	DB NATURAL GAS	HP SEC SH INLET	DUCT BURNER OUTLET	HRSG OUTLET	REFINERY WATER MAKEUP	HP FW PUMP DSCHRG	HP ATTEMP SUPPLY	FW HTR TO DA	LP BOILER STEAM	HP ECON OUTLET	HP DRUM OUTLET	HP SH OUTLET	UNIT 2 HP SH OUTLET	STG INLET FLOW	STG EXHAUST	STEAM TO WBU
TEMPERATURE (°F)	59	400	60	1,148	1,123	271	220	318	318	329	316	563	576	870	870	870	82	870
PRESSURE (PSIA)	14	500	25	14	14	14	84	1,285	1,285	152	84	1,285	1,285	1,265	1,265	1,265	1	1,265
FLOW (LB/HR)	2,551,255	57,008	1,882	2,608,263	2,610,145	2,610,144	200,000	491,959	24,741	441,957	17,722	457,218	467,215	491,956	491,956	583,915	583,915	400,000
ENTHALPY (BTU/LB)	-	-	-	-	-	-	188	290	290	300	1,184	556	1,181	1,420	1,420	1,420	978	1,420

CASE	RELATIVE HUMIDITY (%)	AMBIENT TEMPERATURE (°F)	DUCT FIRING TEMPERATURE (°F)	FUEL CONSUMPTION (LHV MMBTU/HR)[1]		STEAM PRODUCTION (MMLB/HR)	ELECTRIC PRODUCTION (MW)						
				GAS TURBINES	DUCT BURNERS	TOTAL	STEAM TURBINE	GAS TURBINE		GROSS POWER	AUXILIARY LOADS	NET POWER	POWER TO WBU	POWER TO UTILITY
ANNUAL AVERAGE CONFIGURATION								EACH	TOTAL	TOTAL	TOTAL	TOTAL		
1	60.0%	59.0	1,123	2,333	77	0.984	75.0	107.5	215.0	290.0	12.0	278.0	155.0	123.0

Notes:
1. Natural gas Lower Heating Value (LHV) is 20,460 BTU/lb.

FERC QF Calculations		
Annual Average Energy Input	2,409,750,043	BTU/h
Annual Average Energy Output Not Sold to an Electric Utility	2,624,582	MWh
Annual Average Energy Output Sold to an Electric Utility	1,878,181	MWh
Percentage of Total Annual Energy Output Not Sold to an Electric Utility	70.9	%
Annual Average Rate of Thermal Output to Host	492,752,440	BTU/h
Annual Average Net Electrical Output	278.0	MW
Annual Average Net Electrical Output	948,931,223	BTU/h
Topping-cycle Operating Value	34.19	%
Topping-cycle Efficiency Value	49.59	%

PREPARER	E. SIGNED BY D. CARROLL	DATE E. SIGNED
CHECKER	E. SIGNED K. KENNEALLY	DATE E. SIGNED
REVIEWER	E. SIGNED K. KENNEALLY	DATE E. SIGNED
APPROVER	E. SIGNED F. BUCKINGHAM	DATE E. SIGNED

MPR ASSOCIATES, INC.
320 KING STREET
ALEXANDRIA, VA 22314

WHITING CLEAN ENERGY
WCE HEAT AND MASS BALANCE
2X1 OPERATION, 107.5 MW COMBUSTION TURBINE LOAD
59F, 60% RH, NATURAL GAS DUCT FIRED
400 KPPH TO REFINERY, 278 MW NET

SIZE: D | DWG NO.: 0742-0094-DWG-002 | REV: 0
SCALE: N.A. | SHEET 1 OF 1