# BEFORE THE PUBLIC UTILITY COMMISSION

# OF OREGON

UM 2009

**Served electronically at Salem, Oregon, 4/22/19, to:**

*Respondent's Attorney*
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cc: Barbara Parr

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Re: UM 2009 - Madras Solar PV1, LLC, Complainant vs.
Portland General Electric Company Respondent

Madras Solar PV1, LLC has filed a complaint against Portland General Electric Company. A copy of the complaint is attached and served on Respondent, under ORS 756.512(1). The Commission has assigned Docket No. UM 2009 to this complaint. Please use this number whenever you refer to this case.

The Public Utility Commission must receive an Answer from the Respondent or its attorney by May 2, 2019, 10 days from the date of service of complaint, under OAR 860-029-0100(7). A copy must be served on the complainant.

After the filing of the answer, the PUC will contact the parties to provide information about further proceedings in this matter.

PUBLIC UTILITY COMMISSION OF OREGON

/s/ Candice Menza
Candice Menza
Administrative Hearings Division

(503) 378-6607

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Attachments: Complaint
Notice of Contested Case Rights and Procedures

# NOTICE OF CONTESTED CASE RIGHTS AND PROCEDURES

Oregon law requires state agencies to provide parties written notice of contested case rights and procedures. Under ORS 183.413, you are entitled to be informed of the following:

**Hearing:** The time and place of any hearing held in these proceedings will be noticed separately. The Commission will hold the hearing under its general authority set forth in ORS 756.040 and use procedures set forth in ORS 756.518 through 756.610 and OAR Chapter 860, Division 001. Copies of these statutes and rules may be accessed via the Commission's website at www.puc.state.or.us. The Commission will hear issues as identified by the parties.

**Right to Attorney:** As a party to these proceedings, you may be represented by counsel. Should you desire counsel but cannot afford one, legal aid may be able to assist you; parties are ordinarily represented by counsel. The Commission Staff, if participating as a party in the case, will be represented by the Department of Justice. Generally, once a hearing has begun, you will not be allowed to postpone the hearing to obtain counsel.

**Notice to Active Duty Servicemembers:** Active Duty Servicemembers have a right to stay these proceedings under the federal Servicemembers Civil Relief Act. For more information contact the Oregon State Bar at 800-452-8260, the Oregon Military Department at 503-584-3571 or the nearest United States Armed Forces Legal Assistance Office through http://legalassistance.law.af.mil. The Oregon Military Department does not have a toll free telephone number.

**Administrative Law Judge:** The Commission has delegated the authority to preside over hearings to Administrative Law Judges (ALJs). The scope of an ALJ's authority is defined in OAR 860-001-0090. The ALJs make evidentiary and other procedural rulings, analyze the contested issues, and present legal and policy recommendations to the Commission.

**Hearing Rights:** You have the right to respond to all issues identified and present evidence and witnesses on those issues. *See* OAR 860-001-0450 through OAR 860-001-0490. You may obtain discovery from other parties through depositions, subpoenas, and data requests. *See* ORS 756.538 and 756.543; OAR 860-001-0500 through 860-001-0540.

**Evidence:** Evidence is generally admissible if it is of a type relied upon by reasonable persons in the conduct of their serious affairs. *See* OAR 860-001-0450. Objections to the admissibility of evidence must be made at the time the evidence is offered. Objections are generally made on grounds that the evidence is unreliable, irrelevant, repetitious, or because its probative value is outweighed by the danger of unfair prejudice, confusion of the issues, or undue delay. The order of presenting evidence is determined by the ALJ. The burden of presenting evidence to support an allegation rests with the person raising the allegation. Generally, once a hearing is completed, the ALJ will not allow the introduction of additional evidence without good cause.

**Record:** The hearing will be recorded, either by a court reporter or by audio digital recording, to preserve the testimony and other evidence presented. Parties may contact the court reporter about ordering a transcript or request, if available, a copy of the audio recording from the Commission for a fee set forth in OAR 860-001-0060. The hearing record will be made part of the evidentiary record that serves as the basis for the Commission's decision and, if necessary, the record on any judicial appeal.

**Final Order and Appeal:** After the hearing, the ALJ will prepare a draft order resolving all issues and present it to the Commission. The draft order is not open to party comment. The Commission will make the final decision in the case and may adopt, modify, or reject the ALJ's recommendation. If you disagree with the Commission's decision, you may request reconsideration of the final order within 60 days from the date of service of the order. *See* ORS 756.561 and OAR 860-001-0720. You may also file a petition for review with the Court of Appeals within 60 days from the date of service of the order. *See* ORS 756.610.

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**BEFORE THE PUBLIC UTILITY COMMISSION**

**OF OREGON**

**Docket No. _____**

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| MADRAS PV1, LLC,<br><br>Complainant,<br><br>v.<br><br>PORTLAND GENERAL ELECTRIC COMPANY,<br><br>Respondent. | COMPLAINT OF MADRAS PV1, LLC |

## I. INTRODUCTION

This is a complaint ("Complaint") filed by Madras PV1, LLC ("Madras Solar" or "Complainant") with the Oregon Public Utility Commission (the "Commission" or "OPUC") against Portland General Electric Company ("PGE") under ORS 756.500, OAR 860-029-0100, and OAR 860-001-0400.

This complaint relates to the negotiation of a power purchase agreement ("PPA") between PGE and Madras Solar, which has a capacity greater than the eligibility threshold for a standard contract. Madras Solar requests that the Commission order PGE to execute the PPA

attached to this complaint, and to find that Madras Solar has created a legally enforceable obligation to sell its net output to PGE.

Madras Solar has sought to enter into a PPA with PGE in order to sell its net output as a qualifying facility ("QF") since October of 2017. During that process, PGE has caused delay, and has also insisted on unreasonable terms and conditions being included in Madras Solar's PPA. PGE delayed, for example, when it refused to provide indicative pricing, as required by its tariff and the Commission's regulations, because of its incorrect view that the point of delivery ("POD") for the project could not be accommodated. It also delayed by insisting, unlawfully, that Madras Solar must enter into an interconnection agreement or certain related agreements prior to receiving a draft PPA. Even after eventually providing this basic information, in time frames contrary to applicable rules and regulations, PGE sometimes failed to respond within reasonable timeframes to Madras Solar's requests to negotiate the PPA, or to move the negotiations forward through exchanges of information. Ultimately, PGE has refused to enter into a PPA that contains reasonable terms and conditions.

During the negotiations process, Madras Solar committed repeatedly to sell its net output to PGE, in accordance with reasonable PPA terms and conditions, and at avoided cost rates in effect at the time. This included delivering an executed PPA to PGE in May 2018, substantially in the form of PGE's standard QF contract, after PGE refused to negotiate or even provide a draft PPA. It also included an unequivocal offering to sell its net output in accordance with the negotiated PPA, so long as PGE agree to reasonable terms and conditions, which Madras Solar provided and executed in April 2019.

PGE's refusal to execute a PPA with reasonable terms and conditions is contrary to the Commission's rules and policies, and PGE's own tariffs. Madras Solar seeks a Commission

order that the terms in the attached PPA must be included in a PPA that PGE is required to enter into with Madras Solar, and seeks an order of the Commission directing PGE to enter into the PPA, in addition to other remedies.

Madras Solar stands ready, willing, and able to sell its net output to PGE under the terms and conditions of the PPA that it executed, or under the terms of the negotiated PPA with reasonable terms and conditions included. Madras Solar seeks relief from the Commission by adjudicating its PPA, because it has not been able to reach agreement with PGE on certain terms and conditions, described more fully below.

Madras Solar also asks this Commission for relief by extending its commercial operations date for each day that Madras Solar is required to litigate this complaint in order to gain the relief to which it is entitled.

While necessary to provide background, and to evaluate and understand the parties' actions and positions, Madras Solar is not requesting that the Commission focus on PGE's specific intentions or past actions. Madras Solar's goal with this requested adjudication is to have the Commission determine reasonable contract provisions, and move forward, rather than conduct a contentious proceeding that focuses on past behavior. The vast majority of the contract terms and conditions in the negotiated PPA are not subject to dispute, even though PGE has insisted upon Madras Solar agreeing to variety of unreasonable and illegal contract terms. In the end, however, Madras Solar and PGE have reached a point of disagreement about the appropriateness and reasonableness of a few remaining disputed provisions, which can happen during the negotiations of a non-standard power purchase agreement. Madras Solar requests that the Commission limit its time and resources to review the specific disputed contract provisions, and issue an order directing PGE to enter into the attached, or a substantially similar, PPA.

## II. SERVICE

Copies of all pleadings and correspondence should be served on Complainant's counsel and representatives at the addresses below:


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In support of this Complaint, Complainant alleges as follows:

## III. IDENTITY OF THE PARTIES

1. PGE is an investor-owned public utility regulated by the Commission under ORS Chapter 757. PGE is headquartered at 121 Southwest Salmon Street, Portland, Oregon 97204.

2. Madras Solar is a limited liability company organized under the laws of the state of Oregon. Madras Solar is owned by Ecoplexus, Inc., and Madras Solar's address is 101 Second Street, Suite 1250, San Francisco, CA 94105. Madras Solar is a "qualifying facility" ("QF") under the Public Utility Regulatory Policies Act ("PURPA"), and the Federal Energy Regulatory Commission's ("FERC's") regulations, 18 CFR 203-207.

## IV. APPLICABLE STATUTES AND RULES

3. The Oregon statutes expected to be involved in this case include: ORS 756.040, 756.500-558, 756.990, 757.325 and 758.505-758.555. The Oregon rules expected to be involved in this case include: OAR 860-001 and 860-029.

4. The federal statute expected to be involved in this case is PURPA, 16 USC 824a-3, and 2601 et seq. The federal rules expected to be involved in this case include: 18 CFR 292.101-292.602.

## V. JURISDICTION

5. FERC adopted regulations and policies governing utility purchases from QFs under PURPA. 18 CFR 292.101-292.602. State regulatory agencies are required to implement FERC's regulations. *See* 16 USC 824a-3(f); *FERC v. Mississippi*, 456 U.S. 742, 751 (1982).

6. The Commission is the Oregon state agency that implements the state and federal PURPA statutes. ORS 758.505(3); OAR 860-029-0001; *Snow Mountain Pine Co. v. Maudin*, 84 Or App 590, 593 (1987). Public utilities are defined in ORS 758.505(7), and include PGE. The Commission has the power and jurisdiction to hear complaints by QFs against public utilities, including PGE. ORS 756.040, 756.500-756.558, and 758.505-758.555; OAR 860-001-0010(3), 860-029-0030, and 860-029-100.

## VI. FACTUAL BACKGROUND

7. The Madras Solar project will be a 63 megawatt ("MW") alternating current ("AC") Net Available Capacity and a Nameplate Capacity Rating of approximately 65 Nameplate Capacity direct current ("DC") solar QF located in Jefferson County, Oregon.

8. The Madras Solar project is seeking to establish sales to PGE under PGE's Schedule 202, which applies to QFs with an aggregate nameplate capacity greater than 10 MW.

9. On or about October 17, 2017, Madras Solar requested from PGE an indicative pricing proposal, in writing, from PGE.

10. On or about October 18, 2017, PGE responded, asking for information to be provided, and describing its Schedule 202 process for negotiating a PPA. On or around the same day, Madras Solar responded to PGE with a completed Schedule 202 Initial Information Request Form and associated attachments.

11. On or about November 10, 2017, PGE responded that the information received on October 18, 2017 was deficient and requested clarification regarding several different questions. On or about November 14, 2017, Madras Solar responded with the requested information, including a statement responding to questions PGE had raised about the Point of Delivery ("POD") for the project.

12. On or about December 19, 2017, PGE responded to Madras Solar that the assumed POD is PGE's Round Butte substation, and that PGE is not able to accept deliveries at that point and, that until a valid POD is provided, PGE cannot offer indicative pricing.

13. On or around December 29, 2017, Madras Solar requested additional information regarding why Round Butte POD is not an acceptable POD and requested a copy of the transmission study evidencing PGE's claim that there was no capacity at Round Butte.

14. On or around January 19, 2018, PGE responded with certain information that it asserted showed that Round Butte and PGE system are physically constrained from each other and providing other information.

15. On or around February 8, 2018, Madras Solar sent PGE a letter responding to several items that had been raised by PGE over the course of previous communications, including disputing PGE's assertions about the Round Butte POD, and the completeness of the

information required under Schedule 202. Madras Solar stated that PGE has not identified any reason why PGE should not provide indicative pricing and asked PGE to provide indicative pricing immediately.

16. On or around February 23, 2018, PGE responded with indicative pricing.

17. On or around March 5, 2018, Madras Solar requested a draft PPA, as well as responding to other questions and asking PGE for further information.

18. On or around March 27, 2018, PGE responded that it denied Madras Solar's request for a draft PPA, because, in PGE's view, Madras Solar had not provided sufficient evidence to demonstrate that any necessary interconnection studies had been completed and assurance that interconnection arrangements had been executed or were under negotiation.

19. On or about May 4, 2018, Madras Solar responded that it had satisfied the interconnection and transmission arrangement requirements of Schedule 202, such that PGE should provide a draft PPA. Madras Solar outlined the history of the Madras Solar interconnection process, and detailed delays by PGE's transmission function that resulted in Madras Solar not yet being able to enter into the system impact study process.

20. On or about May 4, 2018, Madras Solar provided PGE with an executed PPA (Attachment B to this complaint), in substantially the form of PGE's standard contract under Schedule 201, and committed itself to selling the energy and capacity from Madras Solar in accordance with that PPA and the legally enforceable obligation ("LEO") established as of that date. Madras Solar asked PGE to provide a draft negotiated PPA, notwithstanding the establishment of the LEO that it had established on that date.

21. On or about July 10, 2018, Madras Solar submitted a letter informing PGE that it had not received any response to its May 4 letter, and affirmed its commitment to sell the output

of Madras Solar to PGE in accordance with the LEO, but reiterated its request for an alternative draft PPA. Madras Solar also requested an in-person negotiation with PGE within the next month.

22. On or around July 23, 2018, PGE requested certain information and asserted that a LEO had not been formed, but stated that it would provide a draft PPA.

23. On or around August 28, 2018, Madras Solar emailed PGE to follow-up on the status of PGE's commitment to provide a draft PPA.

24. On or around August 29, 2018, PGE provided a draft PPA to Madras Solar.

25. On or around September 4, 2018, Madras Solar representatives met in person with PGE representatives to discuss the draft PPA.

26. On or around October 8, 2018, Madras Solar provided certain information to PGE, including that the project nameplate capacity will be approximately 65 MW-AC, subject to final design considerations. Madras Solar also included a revised redline draft of the PPA.

27. On October 15, 2018, Madras Solar emailed PGE to confirm whether it received the October 8 correspondence and revised PPA, and to request a date and time for the parties to meet in person and negotiate the PPA.

28. On or around November 2, 2018, PGE submitted a letter to Madras Solar stating that, until Madras Solar commits to an interconnection method for the project, it cannot enter into substantive PPA negotiations.

29. On or around November 7, 2018, Madras Solar responded via letter, notifying PGE that it should assume, for the purposes of the PPA, that Madras Solar has committed itself to taking Network Resource Interconnection Service and funding any upgrades legitimately required for deliverability. Madras Solar reiterated that its own transmission analysis suggests

that there are no upgrades required for deliverability, and that it will engage a respected third-party to confirm and validate this conclusion.

30. On or around November 12, 2018, Madras Solar emailed PGE to follow-up on its November 7 letter, and reiterated a request for PGE to provide a final, executable PPA.

31. On or around November 14, 2018, PGE responded that it would not provide an executable PPA, because negotiations had not been finalized.

32. On or around November 26, 2018, Madras Solar responded to PGE that, if PGE is unable to provide an executable PPA due to the fact that the parties have not finalized negotiations, then it should immediately proceed to provide a fully-revised version of the draft PPA and propose a date and time for in-person negotiations. Madras Solar also informed PGE that it views PGE's actions as attempting to delay execution of the PPA until such time as it files its proposed avoided cost reduction, and that Madras Solar will be ready to take actions to protect its rights, should Madras Solar not be in possession of a mutually-executed PPA at the time of such filing. Madras Solar also requested that PGE inform it of the date of the anticipated filing for changing its rates.

33. Between November 15, 2018 and December 7, 2018, PGE and Madras Solar continued to exchange information and questions, and on or around December 7, 2018, Madras Solar stated that, notwithstanding the previously-formed LEO, it was awaiting a revised PPA.

34. On or around December 12, 2018, PGE provided Madras Solar with an updated draft PPA and possible dates for an in-person meeting in January.

35. Madras Solar and PGE representatives met in person to discuss the draft PPA on January 8, 2019.

36. On or around January 22, 2019, Madras Solar sent PGE an updated draft of the PPA.

37. On January 25, 2019, Madras Solar and PGE met in person to negotiate the draft PPA.

38. On or around February 12, 2019, Madras Solar sent PGE comments on certain sections of the PPA.

39. On or around February 13, 2019, PGE provided Madras Solar with a draft of the PPA.

40. On February 20, 2019, representatives of PGE and Madras Solar participated in a call regarding the negotiation of the PPA.

41. On or around February 22, 2019, Madras Solar provided PGE an updated draft of the PPA.

42. On or around March 25, 2019, PGE emailed Madras Solar a copy of an updated PPA.

43. On or around March 29, 2019, Madras Solar provided PGE with its final draft of the PPA and accompanying exhibits. Madras Solar also requested an executable version or, if PGE cannot provide an executable version, to let it know as soon as possible, given the pending avoided cost rate reduction.

44. On or around April 5, 2019, Madras Solar reiterated its request for an executable PPA, noting that, if PGE is unable to provide an executable PPA by April 22, to let Madras Solar know as soon as possible. Madras Solar also explained that it seeks to have the PPA executed prior to April 23, 2019, when PGE's rates were expected to be reduced, and that, while it is not

its desire to litigate, Madras Solar would be forced to do so, absent an executed PPA by April 22. Madras Solar also offered to have a discussion about the remaining, outstanding items.

45. On or around April 5, 2019, PGE informed Madras Solar that it was not in agreement as to the terms and conditions of the PPA, and, on or around April 9, 2019, provided Madras Solar with an updated PPA. PGE noted that it was performing research related to several of Madras Solar's previous comments.

46. On or around April 14, 2019, PGE provided Madras Solar with an updated version of the PPA.

47. Madras Solar assessed the updated version of the PPA and determined that it did not resolve Madras Solar's requests and concerns, and that it continued to contain problematic provisions and unclear descriptions of PGE's positions.

48. On or around April 19, 2019, Madras Solar provided a letter to PGE, demanding that PGE sign a PPA that was attached on or before April 22, 2019, or that it would, as previously described, take action at the Commission to seek a review of the PPA and address its complaints, and enforce its LEO.

49. Madras Solar understands that PGE's avoided cost rates will change on April 23, 2019, and believes that it has established a legally enforceable obligation prior to that date, given its actions described above.

50. PGE's has not timely responded to requests for information and documents. For example, despite repeated requests, it took PGE many months to provide indicative prices and many more months to provide a draft power purchase agreement after Madras Solar requested one.

51. After finally providing indicative pricing and a draft PPA, PGE also repeatedly delayed responding to Madras Solar's questions and failed to timely return documents, including PPA redlines.

52. PGE has also imposed unreasonable restrictions in the contracting process. For example, PGE refused to even provide indicative avoided cost pricing for approximately four months after Madras Solar's initial request and then refused to provide a draft PPA for approximately six additional months, all because of alleged constraints at the Round Butte POD and claims Madras Solar had not completed certain interconnection studies.

53. PGE ultimately agreed that Madras Solar could provide for deliveries at the Round Butte POD and that the interconnection studies need not be completed prior to contract execution. Its delay on these topics, however, delayed the negotiation process for many months.

54. Madras Solar has been harmed by PGE's delays because it has been unable to develop its project during the time of these delays.

55. Madras Solar was ready, willing, and able, and remains ready, willing, and able, to abide by the PPA that it executed on May 4, 2018, and is attached to this complaint.

56. If the Commission finds that Madras Solar did not form a LEO as of May 4, 2018, Madras Solar remains ready, willing, and able to agree to the PPA that it executed on April 22, 2019 and is attached to this complaint.

57. There continues to be a dispute over certain terms in the PPA between Madras Solar and PGE, and PGE and Madras Solar have been unable to resolve these disputes.

## VII. INFORMATION REQUIRED BY OAR 860-029-0100

58. Madras Solar provided written comments to PGE on PGE's draft power purchase agreement on or around October 8, 2018, which is more than the 60 days before filing this complaint with the Commission required by the Commission's rules.

59. Madras Solar attempted negotiations with PGE, and also conducted other methods of informal dispute resolution with PGE over the matters addressed in this complaint, through exchange of information and ongoing discussion. These efforts included in the factual descriptions above.

60. A proposed agreement, encompassing all matters, including those on which PGE and Madras Solar have reached agreement, and those that are in dispute is attached to this complaint as **Attachment A**. Provisions that are in dispute are described below.

61. Written direct testimony from Erik Stuebe, Chief Commercial Officer and President, Ecoplexus, and Nathan Rogers, Director of Development – Western Region, Ecoplexus is provided separately, and filed as Exhibits 100 and 200, respectively. That testimony provides information upon which Madras Solar's claims in this complaint are based.

62. The unresolved terms and conditions of Madras Solar's PPA include:

a. The applicable avoided cost rate;

b. The nameplate capacity in DC that is to be listed in the PPA (Exhibit E of the PPA and page 1);

c. Metering (Section 3.6);

d. A PGE-proposed provision that would allow PGE to adjust the price for power under the PPA if redispatch or PGE resource "back down" occurs (Section 6.10, as proposed by PGE);

e. Project Commercial Operation Date milestone related to Generator Interconnection Agreement (Section 2.1(g));

f. The sale of project test energy (Section 2.3);

63. Madras Solar's position on each of the above issues is as follows:

a. The applicable avoided cost rate: Madras Solar is entitled to sell power to PGE at the avoided cost rates applicable to the PPA that Madras Solar executed, and fully committed to on May 4, 2018, attached as **Attachment B**. This was the price in effect at the time Madras Solar formed a legally enforceable obligation to sell its net output to PGE, and it is therefore entitled to these prices. In the alternative, Madras Solar is entitled to sell power to PGE at the avoided cost rates applicable prior to the PGE avoided costs that will take effect on April 23, 2019. Prior to PGE's rate change, Madras Solar committed to sell PGE its net output and created a legally enforceable obligation.

b. The nameplate capacity in DC that is to be listed in the PPA (Page 1 of the PPA (Attachment A), Section 1.69, and Exhibit E):[1] Madras Solar is entitled to indicate in the PPA the actual planned DC nameplate capacity rating of the project. Madras Solar has selected a 65.784 MW DC size generation for its project, and PGE is not entitled to insist that Madras Solar be required to agree that the project will have a 75 MW DC size. Madras Solar has discretion to construct a solar facility of whatever size, as long as the size allows it to comport

[1] Madras Solar disagrees with PGE's characterization of the "Nameplate Capacity" in DC rather an AC. "Nameplate Capacity", if relevant, should be listed in AC, but since the project is less than the 80 MW limitation on QF size eligibility, Madras Solar acquiesced to PGE's incorrect characterization.

with requirements for being a QF. There is no basis in law or policy for PGE to refuse to execute a PPA with Madras Solar that lists a 65 MW DC size for the project.

c. Metering (Section 3.6): PGE has not made it clear what its objection is to the metering language in the PPA that is attached as Attachment A to this complaint, despite the fact that PGE has been in possession of this language for a significant period of time. PGE continues to indicate that it is reviewing Section 3.6, but has not provided sufficient information about why it is reviewing this section, and has not proposed language for resolving any concerns it has with regard to the language. PGE's failure to negotiate in a timely and good faith manner on this provision has caused unreasonable delay in the negotiations process, and PGE should be required to adopt the metering language that is listed in Section 3.6 of the attached PPA.

d. PGE-proposed provision that would allow PGE to adjust the price for power under the PPA if redispatch or PGE resource "back down" occurs (a PGE proposed that would be Section 6.10): PGE has proposed that a new Section 6.10 be added to the PPA, which would give PGE a right to re-evaluate and adjust the fixed price for future power deliveries, upon giving 60 day notice to Madras Solar, in the event that PGE is required to "back down" generation at one or more of its electric generation facilities in order to "accommodate or otherwise facilitate" the dispatch of the Madras Solar project. This provision undermines the price certainty provisions that are an integral part of PURPA, and would give PGE an ambiguous and ill-defined right to change the price it pays Madras Solar

for power. Madras Solar is entitled to a fixed price contract, at avoided cost rates that are set at the time of its legally enforceable obligation, and should not be required to subject those rights to the provision PGE proposes. Additionally, PGE proposed this term on April 14, 2019, after around a year and a half of discussions regarding the PPA, and only several days before PGE's rates for purchases under PURPA are expected to change. PGE had previously proposed language that would have included a price adjustment for redispatch of PGE's generation. After Madras Solar informed PGE of its view that PGE's Open Access Transmission Tariff does not allow PGE to directly assign redispatch costs to any specific Network Resource, such as Madras Solar, PGE removed that provision, but is now insisting on the provision described above. Madras Solar has agreed that it will be responsible for all of network transmission upgrades that PGE and Madras Solar agree are required, or that FERC concludes are appropriate to allow for deliverability to PGE. But Madras Solar does not believe it is reasonable that PGE seek to subordinate its fixed price purchase obligation to Madras Solar to other actions FERC may find are appropriate or required for PGE to take with respect to unknown dispatch of its resources.

e. <u>Project Commercial Operation Date milestone related to Generator Interconnection Agreement (Section 2.1)</u>: Section 2.1 of the PPA identifies "Project Milestones" that Madras Solar agrees to undertake to complete its project by the Commercial Operation Date ("COD"), which is identified as March 1, 2022. Section 5.1(h) of the PPA states that, if Madras Solar misses a Project Milestone, then the it shall be in default, and Section 5.2 provides that PGE may

terminate the PPA for such a default under certain circumstances. Thus, Project Milestones are critical provisions of the PPA. Madras Solar and PGE disagree about whether certain network transmission upgrades are required as part of the interconnection process. Any dispute over the need and cost for any network transmission upgrades will need to be resolved by FERC. In light of this potential need to adjudicate this issue before FERC, Madras Solar has asked PGE to agree that the Project Milestone related to signing an interconnection agreement state that the required action is for Madras Solar to sign a Generation Interconnection Agreement no later than 30 days after Madras Solar and PGE reach agreement with regard to the form of the agreement, including the cost of any network upgrades and/or interconnection facilities, and the timeline for completion of those upgrades or facilities. This provision appears as Section 2.1(g) in the PPA attached to this complaint as Attachment A. Such a provision is reasonable because it ensures that Madras Solar's ability to sell power to PGE under its legally enforceable obligation is not upset solely due to a need to resolve disputes with PGE regarding a position that Madras Solar believes PGE has taken unlawfully, unreasonably, or unjustifiably. Without such a provision, PGE would have the ability to upset the project by continuing to dispute the interconnection requirements until Madras Solar is found to be in default under the PPA and subject to having the PPA terminated.

f. <u>The sale of Project Test Energy (Section 2.3)</u>: Madras solar believes that it has the right to sell some or all of its net output to other parties besides PGE, and wishes to retain the right to sell "Project Test Energy" to a third party and submit

bids into the western Energy Imbalance Market. Madras Solar has requested that PGE agree to allow it to exercise this right, but PGE has objected to this provision. In the PPA attached to this complaint, Section 2.3 provides Madras Solar the rights it seeks, and PGE should adopt this language.

64. To the extent Madras Solar has an understanding of PGE's position on each of the above issues, Madras Solar understands PGE's position to be:

a. The applicable avoided cost rate: Madras Solar expects that PGE's position is that Madras Solar has not created a legally enforceable obligation, and thus is not entitled to fixed prices at rates other than those that went into effect after April 23, 2019 or subsequently.

b. The nameplate capacity in DC that is to be listed in the PPA: Madras Solar understands PGE's position to be that Madras Solar should not be allowed to provide a nameplate DC capacity of 65 MW.

c. Metering (Section 3.6): Madras Solar is unclear on PGE's position on this topic, other than it understands that PGE believes the metering provisions of the agreement have not been resolved and that it continues to review them.

d. The PGE-proposed provision that would allow PGE to adjust the price for power under the PPA if redispatch or PGE resource "back down" occurs: As PGE only proposed this language about a week ago and such language had never been and has yet to be discussed, Madras Solar does not fully understand PGE's position. However, Madras Solar understands that PGE's position is that it is entitled to insist on the ability to on a unilateral basis completely revise the fixed price based on unknown potential events related to the need "back down" or "redispatch"

generation, despite the fact that redispatch costs are not able to be assessed against Madras Solar and that any resources that are "backed down" to accommodate the output of Madras Solar should be fully accounted for in Madras Solar's project-specific avoided costs. Madras Solar also understands PGE to argue that it is seeking to impose a "customer indifference" standard on PURPA in a way that modifies the fixed price after contract execution.

e. Project Commercial Operation Date milestone related to Generator Interconnection Agreement: Madras Solar understands that PGE insists that the PPA should provide a specific date by which the interconnection agreement must be signed, and that PGE should be entitled to terminate the PPA if a dispute regarding the interconnection agreement takes so long to resolve that the milestone and any applicable cure period passes, even if the cure period for failing to reach the commercial operation date has not yet passed.

f. The sale of project test energy: Madras Solar understands PGE's position to be that Madras Solar must agree to sell all of its output, including Project Test Energy to PGE under the PPA.

## VIII. LEGAL CLAIMS

### Complainant's First Claim for Relief

**Madras Solar is entitled to relief under OAR 860-029-0100 through receiving an order requiring PGE to enter into a PPA that contains the terms provided for in the PPA attached to this complaint.**

65. Complainant re-alleges all the preceding paragraphs.

66. PGE is obligated to purchase a QF's net output that is directly or indirectly made available to PGE. 18 CFR 292.303(a), 292.304(d); ORS 758.525(2), 758.535(2)(a)&3(b); OAR 860-029-0030(1).

67. Madras Solar has sought to negotiate a PPA with PGE since October of 2017, but has been unable to reach an agreement with PGE on such PPA due to PGE's delays and insistence on unreasonable terms, and its unreasonable objection of terms proposed by Madras Solar.

68. OAR 860-029-0100 addresses complaints filed under ORS 756.500 related to disputes concerning negotiated PPAs for QFs.

69. Madras Solar is entitled to reasonable terms in its PPA.

70. PGE has insisted on unreasonable terms in Madras Solar's PPA.

71. Madras Solar is entitled to terms in its PPA that are consistent with Oregon and federal law, rules, and policies.

72. PGE has insisted on terms in its PPA that are inconsistent with Oregon and federal law, rules, and policies

73. PGE has not considered Madras Solar's proposed terms and modifications to PGE's draft PPA in good faith.

74. Madras Solar is entitled to seek an adjudication from the Commission of terms in its PPA with PGE that have not been able to be resolved through negotiation.

**Complainant's Second Claim for Relief**

**Madras Solar is entitled to relief because PGE unreasonably delayed during the PPA negotiations process, in contravention of the Commission's rules and its own tariffs.**

75. Complainant re-alleges all the preceding paragraphs.

76. Under PGE's Schedule 202, section 6, PGE is prohibited from unreasonably delaying negotiations.

77. Under PGE's Schedule 202, section 1, PGE is required to provide Madras Solar an indicative pricing proposal within 30 business days following receipt of the information required by PGE.

78. Under PGE's Schedule 202, section 5, PGE is required to provide Madras Solar with a draft PPA within 30 days following receipt of updated information required by the Company.

79. Under PGE's Schedule 202, section 5, PGE is required to provide Madras Solar with indicative pricing and proposed terms and conditions within 30 days following the receipt of updated information required by PGE.

80. Under OAR 860-029-0005(3), PGE is required, within 30 days following the initial contact from a QF to submit informational documents that provide PGE's internal procedural requirements and information needs related to entering into a PPA for a QF.

81. Madras Solar is entitled to relief because PGE did not act in accordance with some or all of these deadlines and requirements, and unreasonably delayed the PPA negotiation process.

## Complainant's Third Claim for Relief

**Madras Solar is entitled to relief because PGE has proposed and insisted on unreasonable terms to the PPA.**

82. Complainant re-alleges all the preceding paragraphs.

83. Under PGE's Schedule 202, section 6, PGE is required to respond in good faith to any additions, deletions or modifications to the draft PPA that are proposed by Madras Solar.

84. Madras Solar is entitled to relief, because PGE did not consider Madras Solar's proposed reasonable terms and conditions in good faith, and insisted on unreasonable terms and conditions being placed or remaining in the PPA.

85. Madras Solar has not been able to reach agreement with PGE on a PPA, because of PGE's insistence on unreasonable terms and conditions, and its rejection of reasonable terms proposed by Madras Solar, and PGE's failure to consider in good faith Madras Solar's proposals.

**Complainant's Fourth Claim for Relief**

**Madras Solar is entitled to sell its output to PGE at the avoided cost prices that were in effect on May 4, 2018.**

86. Complainant re-alleges all the preceding paragraphs.

87. PGE has an obligation to purchase a QF's net output that is directly or indirectly made available to PGE. 18 CFR 292.303(a)&(d), 292.304(d); ORS 758.525(2)(b), 758.535(2)(a)&3(b); OAR 860-029-0030(1).

88. PGE has an obligation to purchase the net output of a QF pursuant to a contract or a legally enforceable obligation. 18 CFR 292.304(d); Order No. 69, FERC Stats. & Regs. ¶ 30,128, 45 Fed. Reg. 12,214 at 12,219-20, 12,224 (1980). A legally enforceable obligation is broader than simply a contract between an electric utility and a QF, and may exist without a contract. *FLS Energy*, 157 FERC ¶ 61,211 at PP 24, 26; *Grouse Creek, LLC*, 142 FERC ¶ 61,187 at P 38 (2013).

89. The establishment of a legally enforceable obligation turns on the QF's commitment to sell its net output to the electric utility. *FLS Energy*, 157 FERC ¶ 61,211 at P 24; *JD Wind 1, LLC*, 129 FERC ¶ 61,148, at P 25 (2009). A QF can enter into a legally enforceable obligation by committing itself to sell power to an electric utility. *FLS Energy*, 157 FERC ¶ 61,211 at P 25; *Cedar Creek Wind, LLC*, 137 FERC ¶ 61,006 at PP 36, 39 (2011); *Snow Mountain*, 734 P.2d at 1371.

90. A QF can require a utility to purchase its net output, even if the utility has refused to enter into a contract. *Id.* at 1370-71; *FLS Energy*, 157 FERC ¶ 61,211 at P 24; *Murphy Flat*

*Power*, 141 FERC ¶ 61,145 at P 24 (2012); *Grouse Creek*, 142 FERC ¶ 61,187 at P 38. A utility cannot refuse to sign a contract "so that a later and lower avoided cost is applicable." *FLS Energy*, 157 FERC ¶ 61,211 at P 25; *Cedar Creek Wind*, 137 FERC ¶ 61,006 at P 36. Similarly, a QF cannot be required to tender an executed interconnection agreement to form a legally enforceable obligation because the requirement would allow "the utility to control whether and when a legally enforceable obligation exists." *FLS Energy*, 157 FERC ¶ 61,211 at PP 23, 26.

91. The Commission has determined that a legally enforceable obligation arises "once a QF signs the final draft of an executable contract provided by a utility to commit itself to sell power to the utility," but that a legally enforceable obligation "may be established earlier if a QF demonstrates delay or obstruction of progress towards a final draft of an executable contract, such as a failure by a utility to provide a QF with required information or documents on a timely basis." *Re Investigation Into QF Contracting and Pricing*, Docket No. UM 1610, Order No. 16-174 at 3 (May 13, 2016).

92. Madras Solar created a legally enforceable obligation on or around May 4, 2018, when it executed a PPA with PGE and provided it to PGE, committing to sell its net output to PGE under the terms of the PPA and at the prices applicable to that contract.

**<u>Complainant's Fifth Claim for Relief</u>**

**In the alternative to being entitled to sell its output to PGE at the avoided cost prices that were in effect on May 4, 2018, Madras Solar is entitled to sell its output to PGE at the avoided cost prices that were in effect for PGE and applicable to its PPA prior to April 23, 2019.**

93. Complainant re-alleges all the preceding paragraphs.

94. Madras Solar created a legally enforceable obligation to sell its net output to PGE prior to PGE's rate change that takes effect on April 23, 2019, because it committed to sell its net output to PGE during the negotiation of its PPA and prior to filing this complaint, and was

entitled to receive reasonable terms under the PPA, in the form of the attached PPA or one with substantially similar terms.

**Complainant's Sixth Claim for Relief**

**Madras Solar is entitled to an extension of its commercial operations date to the extent it is required to litigate the reasonableness of its PPA through this complaint.**

95. Complainant re-alleges all the preceding paragraphs.

96. The Commission has the ability to extend the commercial operations date in Madras Solar's PPA in order to reflect delay that comes about because of a need to litigate through the Commission's processes. *See, e.g., West Penn Power Co.*, 71 FERC ¶ 61,153 (1995) (upholding state Commission's modification to certain milestones of a QFs contract because of delay caused by litigation).

97. The Commission's statutory authority also gives it the right to remedy harm that it identifies in exercising its authority to regulate public utilities. *See, e.g. Dreyer v. Portland GE*, 341 Or 262, 286 (2006) (noting that part of Commission's "regulatory functions" is implementing a remedy when court finds error).

98. Madras Solar will experience uncertainty regarding its PPA during the pendency of this proceeding, and is entitled to relief from the currently scheduled commercial operations date to the extent of time required to conclude this proceeding.

## IX. PRAYER FOR RELIEF

WHEREFORE, Complainant respectfully requests the Commission issue an order:

1. Requiring PGE to enter into the PPA attached hereto;

2. Finding PGE in violation of its obligation to not unreasonably delay the PPA negotiation process;

3. Finding PGE in violation of its obligation to consider Madras Solar's proposed additions and modifications to the PPA in good faith;

4. Finding PGE in violation of the Commission's rules and policies by insisting on unreasonable terms in the PPA;

5. Finding that Madras Solar's commercial operation date should be extended by one day for each day that occurs from the time this complaint was filed, until the Commission issues a final dispositive order on the issues raised in this complaint that resolves the terms of the PPA.

6. Instituting penalties up to $10,000 pursuant to ORS 756.990 against PGE and paid by PGE's shareholders for each violation of ORS 758.525(2), 758.535(2)(b)&(3)(b), 18 CFR 292.303(a)&(c), 292.304(d), OAR 806-029-0030(1)&(3), 806-082-0025(7), and 806-082-0060(5)- (8).

7. Granting any other such relief as the Commission deems necessary.

Dated this 22nd day of April 2019.

Respectfully submitted,

Irion A. Sanger, OSB No. 003750
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**CERTIFICATE OF FILING**

I certify that on April 22, 2019, I filed the foregoing Complaint on behalf of Madras Solar with the Oregon Public Utility Commission by electronic communication as consistent with OAR 860-001-0170.

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# Attachment A

## Proposed Power Purchase Agreement

## (in accordance with OAR 860-029-0100(5)(e))

## (Filed Confidentially)

# Attachment B

# May 4, 2018 Partially Executed Power Purchase Agreement

# NON-STANDARD RENEWABLE IN-SYSTEM NON-VARIABLE POWER PURCHASE AGREEMENT

THIS AGREEMENT is between Fresh Air Energy II, LLC ("Seller") and Portland General Electric Company ("PGE") (hereinafter each a "Party" or collectively, "Parties") and is effective upon execution by both Parties ("Effective Date").

## RECITALS

Seller intends to construct, own, operate and maintain a solar photovoltaic facility for the generation of electric power located in Jefferson County, Oregon with a Nameplate Capacity Rating of 80,000 kilowatt-AC ("kW-AC"), as further described in Exhibit B ("Facility"); and

Seller intends to operate the Facility as a "Qualifying Facility," as such term is defined in Section 3.1.3, below.

Seller shall sell and PGE shall purchase the entire Net Output, as such term is defined in Section 1.19, below, from the Facility in accordance with the terms and conditions of this Agreement.

## AGREEMENT

NOW, THEREFORE, the Parties mutually agree as follows:

## SECTION 1: DEFINITIONS

When used in this Agreement, the following terms shall have the following meanings:

1.1. "As-built Supplement" means the supplement to Exhibit B provided by Seller in accordance with Section 4.4 following completion of construction of the Facility, describing the Facility as actually built.

1.2. "Billing Period" means a period between PGE's readings of its power purchase billing meter at the Facility in the normal course of PGE's business. Such periods may vary and may not coincide with calendar months, however, PGE shall use best efforts to read the power purchase billing meter in 12 equally spaced periods per year.

1.3. "Cash Escrow" means an agreement by two parties to place money into the custody of a third party for delivery to a grantee only after the fulfillment of the conditions specified.

1.4. "Commercial Operation Date" means the date that the Facility is deemed by PGE to be fully operational and reliable. PGE may, at its reasonable discretion, require, among other things, that all of the following events have occurred:

1.4.1. (facilities with nameplate under 500 kW exempt from following requirement) PGE has received a certificate addressed to PGE from a Licensed

Professional Engineer ("LPE") acceptable to PGE in its reasonable judgment stating that the Facility is able to generate electric power reliably in amounts required by this Agreement and in accordance with all other terms and conditions of this Agreement (certifications required under this Section 1.4 can be provided by one or more LPEs);

1.4.2. Start-Up Testing of the Facility has been completed in accordance with Section 1.29;

1.4.3. (facilities with nameplate under 500 kW exempt from following requirement) After PGE has received notice of completion of Start-Up Testing, PGE has received a certificate addressed to PGE from an LPE stating that the Facility has operated for testing purposes under this Agreement uninterrupted for a Test Period at a rate in kW of at least 75 percent of average annual Net Output divided by 8,760 based upon any sixty (60) minute period for the entire testing period. The Facility must provide ten (10) working days written notice to PGE prior to the start of the initial testing period. If the operation of the Facility is interrupted during this initial testing period or any subsequent testing period, the Facility shall promptly start a new Test Period and provide PGE forty-eight (48) hours written notice prior to the start of such testing period;

1.4.4. (facilities with nameplate under 500 kW exempt from following requirement) PGE has received a certificate addressed to PGE from an LPE stating that in accordance with the Generation Interconnection Agreement, all required interconnection facilities have been constructed, all required interconnection tests have been completed; and the Facility is physically interconnected with PGE's electric system.

1.4.5. (facilities with nameplate under 500 kW exempt from following requirement) PGE has received a certificate addressed to PGE from an LPE stating that Seller has obtained all Required Facility Documents and if requested by PGE in writing, has provided copies of any or all such requested Required Facility Documents;

1.5. "Contract Price" means the applicable price, including on-peak and off-peak prices, as specified in the Exhibit F.

1.6. "Contract Year" means each twelve (12) month period commencing upon the Commercial Operation Date or its anniversary during the Term, except the final contract year will be the period from the last anniversary of the Commercial Operation Date during the Term until the end of the Term.

1.7. "Effective Date" has the meaning set forth in Section 2.1.

1.8. "Environmental Attributes" shall mean any and all claims, credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, resulting from the avoidance of the emission of any gas, chemical, or other substance to the air, soil or water. Environmental Attributes include but are not limited to: (1) any avoided emissions of pollutants to the air, soil, or water such as (subject to the foregoing) sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), and other pollutants; and (2) any avoided emissions of carbon dioxide (C02), methane (CH4), and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental

Panel on Climate Change to contribute to the actual or potential threat of altering the Earth's climate by trapping heat in the atmosphere.

1.9. "Facility" has the meaning set forth in the Recitals.

1.10. “Forward Replacement Price” means the price at which PGE, acting in a commercially reasonable manner, purchases for delivery at the Point of Delivery a replacement for any Net Output that Seller is required to deliver under this Agreement plus (i) costs reasonably incurred by PGE in purchasing such replacement Net Output, and (ii) additional transmission charges, if any, reasonably incurred by PGE in causing replacement energy to be delivered to the Point of Delivery. If PGE elects not to make such a purchase, costs of purchasing replacement Net Output shall be at the Mid-C Index Price for such energy not delivered, plus any additional cost or expense incurred as a result of Seller’s failure to deliver, as determined by PGE in a commercially reasonable manner (but not including any penalties, ratcheted demand or similar charges).

1.11. “Generation Interconnection Agreement” means the generation interconnection agreement to be entered into separately between Seller and PGE, providing for the construction, operation, and maintenance of interconnection facilities required to accommodate deliveries of Seller's Net Output.

1.12. “Letter of Credit” means an engagement by a bank or other person made at the request of a customer that the issuer will honor drafts or other demands for payment upon compliance with the conditions specified in the letter of credit.

1.13. "Licensed Professional Engineer" or “LPE” means a person who is licensed to practice engineering in the state where the Facility is located, who has no economic relationship, association, or nexus with the Seller, and who is not a representative of a consulting engineer, contractor, designer or other individual involved in the development of the Facility, or of a manufacturer or supplier of any equipment installed in the Facility. Such Licensed Professional Engineer shall be licensed in an appropriate engineering discipline for the required certification being made and be acceptable to PGE in its reasonable judgment.

1.14. “Lost Energy Value” means for a Contract Year: zero plus any reasonable costs incurred by PGE to purchase replacement power and/or transmission to deliver the replacement power to the Point of Delivery, unless the Contract Year’s Net Output is less than the Minimum Net Output and the Contract Year’s time weighted average of the Mid-C Index Price for On-Peak Hours and Off-Peak Hours is greater than the time weighted average of the Contract Price for On-Peak Hours and Off-Peak Hours for that Contract Year, in which case Lost Energy Value equals: (Minimum Net Output - Net Output for the Contract Year) X (the lower of: the time weighted average of the Contract Price for On-Peak and Off-Peak Hours; or the time weighted average of the Mid-C Index Price for On-Peak Hours and Off-Peak Hours – the time-weighted average of the Contract Price for On-Peak Hours and Off-Peak Hours) plus any reasonable costs incurred by PGE to purchase replacement power and/or transmission to deliver the replacement power to the Point of Delivery.

1.15. “Mid-C Index Price” means the Day Ahead Intercontinental Exchange (“ICE”) index price for the bilateral OTC market for energy at the Mid-C Physical for Average On Peak Power and Average Off Peak Power found on the following website: https://www.theice.com/products/OTC/Physical-Energy/Electricity. In the event ICE no longer publishes this index, PGE and the Seller agree to select an alternative successor index representative of the Mid-C trading hub.

1.16. “Minimum Net Output” shall have the meaning provided in Section 4.2 of this Agreement.

1.17. “Nameplate Capacity Rating” means the maximum capacity of the Facility as stated by the manufacturer, expressed in kW, which shall not exceed 80,000 kW-AC.

1.18. “Net Dependable Capacity” means the maximum capacity Facility can sustain over a specified period modified for seasonal limitations, if any, and reduced by the capacity required for station service or auxiliaries.

1.19. "Net Output" means the energy expressed in kWhs produced by the Facility.

1.20. “Off-Peak Hours” has the meaning provided in the Schedule.

1.21. “On-Peak Hours” has the meaning provided in the Schedule.

1.22. "Point of Delivery" means the high side of the generation step up transformer(s) located at the point of interconnection between the Facility and PGE's distribution or transmission system, as specified in the Generation Interconnection Agreement.

1.23. “Prime Rate” means the publicly announced prime rate or reference rate for commercial loans to large businesses with the highest credit rating in the United States in effect from time to time quoted by Citibank, N.A. If a Citibank, N.A. prime rate is not available, the applicable Prime Rate shall be the announced prime rate or reference rate for commercial loans in effect from time to time quoted by a bank with
$10 billion or more in assets in New York City, N.Y., selected by the Party to whom interest based on the prime rate is being paid.

1.24. "Prudent Electrical Practices" means those practices, methods, standards and acts engaged in or approved by a significant portion of the electric power industry in the Western Electricity Coordinating Council that at the relevant time period, in the exercise of reasonable judgment in light of the facts known or that should reasonably have been known at the time a decision was made, would have been expected to accomplish the desired result in a manner consistent with good business practices, reliability, economy, safety and expedition, and which practices, methods, standards and acts reflect due regard for operation and maintenance standards recommended by applicable equipment suppliers and manufacturers, operational limits, and all applicable laws and regulations. Prudent Electrical Practices are not intended to be limited to the optimum practice, method, standard or act to the exclusion of all others, but rather to those practices, methods and acts generally acceptable or approved by a significant

portion of the electric power generation industry in the relevant region, during the relevant period, as described in the immediate preceding sentence.

1.25. "Required Facility Documents" means all licenses, permits, authorizations, and agreements necessary for construction, operation, interconnection, and maintenance of the Facility including without limitation those set forth in Exhibit C.

1.26. “RPS Attributes” means all attributes related to the Net Output generated by the Facility that are required in order to provide PGE with “qualifying electricity,” as that term is defined in Oregon’s Renewable Portfolio Standard Act, Ore. Rev. Stat. 469A.010, in effect at the time of execution of this Agreement. RPS Attributes do not include Environmental Attributes that are greenhouse gas offsets from methane capture not associated with the generation of electricity and not needed to ensure that there are zero net emissions associated with the generation of electricity.

1.27. “Schedule” shall mean PGE Schedule 202 filed with the Oregon Public Utilities Commission (“Commission”) in effect on the Effective Date of this Agreement and attached hereto as Exhibit E, the terms of which are hereby incorporated by reference.

1.28. “Senior Lien” means a prior lien which has precedence as to the property under the lien over another lien or encumbrance.

1.29. "Start-Up Testing" means the completion of applicable required factory and start-up tests as set forth in Exhibit D.

1.30. “Step-in Rights” means the right of one party to assume an intervening position to satisfy all terms of an agreement in the event the other party fails to perform its obligations under the agreement.

1.31. “Term” shall mean the period beginning on the Effective Date and ending on the Termination Date.

1.32. “Test Energy” shall mean any and all energy generated by the Facility prior to the Commercial Operation Date.

1.33. “Test Period” shall mean a period of sixty (60) days or a commercially reasonable period determined by the Seller.

References to Recitals, Sections, and Exhibits are to be the recitals, sections and exhibits of this Agreement.

## SECTION 2: TERM; COMMERCIAL OPERATION DATE

2.1. This Agreement shall become effective upon execution by both Parties (“Effective Date”).

2.2. Time is of the essence of this Agreement, and Seller's ability to meet certain requirements prior to the Commercial Operation Date and to complete all requirements to establish the Commercial Operation Date is critically important. Therefore,

2.2.2. By May 4, 2021 Seller shall have completed all requirements under Section 1.4 and shall have established the Commercial Operation Date.

2.2.3. Unless the Parties agree in writing that a later Commercial

Operation Date is reasonable and necessary, the Commercial Operation Date shall be no more than three (3) years from the Effective Date. PGE will not unreasonably withhold agreement to a Commercial Operation Date that is more than three (3) years from the Effective date if the Seller has demonstrated that a later Commercial Operation Date is reasonable and necessary.

2.3. This Agreement shall terminate on May 4, 2041, or the date the Agreement is terminated in accordance with Section 9 or 11.2, whichever is earlier ("Termination Date").

## SECTION 3: REPRESENTATIONS AND WARRANTIES

3.1. Seller and PGE represent, covenant, and warrant as follows:

3.1.1. Seller warrants it is a limited liability company duly organized under the laws of California.

3.1.2. Seller warrants that the execution and delivery of this Agreement does not contravene any provision of, or constitute a default under, any indenture, mortgage, or other material agreement binding on Seller or any valid order of any court, or any regulatory agency or other body having authority to which Seller is subject.

3.1.3. Seller warrants that the Facility is and shall for the Term of this Agreement continue to be a "Qualifying Facility" ("QF") as that term is defined in the version of 18 C.F.R. Part 292 in effect on the Effective Date. Seller has provided the appropriate QF certification, which may include a Federal Energy Regulatory Commission ("FERC") self-certification to PGE prior to PGE's execution of this Agreement. At any time during the Term of this Agreement, PGE may require Seller to provide PGE with evidence satisfactory to PGE in its reasonable discretion that the Facility continues to qualify as a QF under all applicable requirements.

3.1.4. Seller warrants that it has not within the past two (2) years been the debtor in any bankruptcy proceeding, and Seller is and will continue to be for the Term of this Agreement current on all of its financial obligations.

3.1.5. Seller warrants that during the Term of this Agreement, all of Seller's right, title and interest in and to the Facility shall be free and clear of all liens and encumbrances other than liens and encumbrances arising from third-party financing of the Facility, other than workers', mechanics', suppliers' or similar liens, or tax liens, in each case arising in the ordinary course of business that are either not yet due and payable or that have been released by means of a performance bond acceptable to PGE posted within eight thirty (8) calendar days of the commencement of any proceeding to foreclose the lien.

3.1.6. Seller warrants that it will design and operate the Facility consistent with Prudent Electrical Practices.

3.1.7. Seller warrants that the Facility has a Nameplate Capacity Rating not greater than 80,000 kW.

3.1.8. Seller warrants that Net Dependable Capacity of the Facility is 79,980 kW.

3.1.9. Seller estimates that the average annual Net Output to be delivered by

by the Facility to PGE is 174,392,420 kilowatt-hours ("kWh"), declining at 0.5% per year, which amount PGE will include in its resource planning.

3.1.10. Seller will deliver from the Facility to PGE at the Point of Delivery Net Output not to exceed a maximum of 200,551,283 kWh of Net Output during each Contract Year ("Maximum Net Output").

3.1.11. By the Commercial Operation Date, Seller has entered into a Generation Interconnection Agreement for a term not less than the term of this Agreement.

3.1.12. PGE warrants that it has not within the past two (2) years been the debtor in any bankruptcy proceeding, and PGE is and will continue to be for the Term of this Agreement current on all of its financial obligations.

3.1.13. Seller warrants that the Facility satisfies the eligibility requirements specified in the Definition of a Small Cogeneration Facility or Small Power Production Facility Eligible to Receive the Non-Standard Renewable Rates and Non-Standard Renewable PPA in PGE's Schedule 202 and Seller will not make any changes in its ownership, control or management of the Facility during the term of this Agreement that would cause it to not be in compliance with the Definition of a Small Cogeneration Facility or Small Power Production Facility Eligible to Receive the Non-Standard Renewable Rates and Non-Standard Renewable PPA provided for in PGE's Schedule 202. Seller will provide, upon request by PGE not more frequently than every 36 months, such documentation and information as may be reasonably required to establish Seller's continued compliance with such Definition. PGE agrees to take reasonable steps to maintain the confidentiality of any portion of the above described documentation and information that the Seller identifies as confidential except PGE will provide all such confidential information to the Commission upon the Commission's request.

3.1.14. Seller warrants that it will comply with all requirements necessary for all Transferred RECs (as defined in Section 4.6) associated with Net Output to be issued, monitored, accounted for, and transferred by and through the Western Renewable Energy Generation System consistent with the provisions of OAR 330-160-0005 through OAR 330-160-0050. PGE warrants that it will reasonably cooperate in Seller's efforts to meet such requirements, including, for example serving as the qualified reporting entity for the Facility if the Facility is located in PGE's balancing authority.

## SECTION 4: DELIVERY OF POWER, PRICE AND RPS ATTRIBUTES

4.1. Commencing on the Effective Date and continuing through the Term of this Agreement, Seller shall sell to PGE the entire Net Output delivered from the Facility at the Point of Delivery. PGE shall pay Seller the Contract Price for all delivered Net Output. For the first 15 years measured from the date in Section 2.2.2, the Contract Price will be the amounts shown in Exhibit F; thereafter and for the remainder of the Term, the Contract Price will be equal to the Mid-C Index Price.

4.2. If and to the extent that the Facility generates Test Energy, Seller shall have the right to sell such Test Energy to third parties free and clear of any obligations hereunder to PGE. Seller shall retain any remuneration or other benefits associated with such Test Energy.

4.3. Seller shall deliver to PGE from the Facility for each Contract Year Net Output equal to or greater than the Minimum Net Output (either (a) if Seller does not select the Alternative Minimum Amount as defined in Exhibit A of this Agreement, seventy-five percent (75%) of its average annual Net Output or (b) if selected by Seller, the Alternative Minimum Amount designated for each Contract Year), provided that such Minimum Net Output shall be reduced on a pro-rata basis for any periods during a Contract Year that the Facility was prevented from generating electricity for reasons of Force Majeure.

4.4. Seller agrees that if Seller does not deliver the Minimum Net Output each Contract Year, PGE will suffer losses equal to the Lost Energy Value. As damages for Seller's failure to deliver the Minimum Net Output (subject to adjustment for reasons of Force Majeure as provided in Section 4.2) in any Contract Year, notwithstanding any other provision of this Agreement, the purchase price payable by PGE for future deliveries shall be reduced until Lost Energy Value is recovered. PGE and Seller shall work together in good faith to establish the period, in monthly amounts (not more than 24 months), of such reduction so as to avoid Seller's default on its commercial or financing agreements necessary for its continued operation of the Facility. For QF Facilities sized at 100 kW or smaller, the provisions of this section shall not apply.

4.5. Upon completion of construction of the Facility, Seller shall provide PGE an As-built Supplement to specify the actual Facility as built. Seller shall not increase the Nameplate Capacity Rating above that specified in Exhibit B or increase the ability of the Facility to deliver Net Output in quantities in excess of the Net Dependable Capacity, or the Maximum Net Output as described in Section 3.1.10 above, through any means including, but not limited to, replacement, modification, or addition of existing equipment, except with prior written notice to PGE. In the event Seller increases the Nameplate Capacity Rating of the Facility to no more than 80,000 kW-AC pursuant to this section, PGE shall pay the Contract Price for the additional delivered Net Output. In the event Seller increases the Nameplate Capacity Rating to greater than 80,000 kW-AC, then Seller shall be required to enter into a new power purchase agreement for all delivered Net Output proportionally related to the increase of Nameplate Capacity above 80,000 kW-AC.

4.6. To the extent not otherwise provided in the Generation Interconnection Agreement, all costs associated with the modifications to PGE's interconnection facilities or electric system occasioned by or related to the interconnection of the Facility with PGE's system, or any increase in generating capability of the Facility, or any increase of delivery of Net Dependable Capacity from the Facility, shall be borne by Seller, excepting, however, the costs for any network upgrades for which Seller is entitled a refund under the Generation Interconnection Agreement.

4.7. From the start of the Renewable Resource Deficiency Period through the remainder of the Term of this Agreement, Seller shall provide and PGE shall acquire the RPS Attributes for the Contract Years as specified in Exhibit F and Seller shall retain ownership of all other Environmental Attributes (if any). During the Renewable Resource Sufficiency Period, Seller shall retain all Environmental Attributes. The Contract Price includes full payment for the Net Output and any RPS

Attributes transferred to PGE under this Agreement. With respect to Environmental Attributes not transferred to PGE under this Agreement ("Seller- Retained Environmental Attributes") Seller may report under §1605(b) of the Energy Policy Act of 1992 or under any applicable program as belonging to Seller any of the Seller-Retained Environmental Attributes, and PGE shall not report under such program that such Seller-Retained Environmental Attributes belong to it. With respect to RPS Attributes transferred to PGE under this Agreement ("Transferred RECs"), PGE may report under §1605(b) of the Energy Policy Act of 1992 or under any applicable program as belonging to it any of the Transferred RECs, and Seller shall not report under such program that such Transferred RECs belong to it.

## SECTION 5: OPERATION AND CONTROL

5.1. Seller shall operate and maintain the Facility in a safe manner in accordance with the Generation Interconnection Agreement, and Prudent Electrical Practices. PGE shall have no obligation to purchase Net Output from the Facility to the extent the interconnection of the Facility to PGE's electric system is disconnected, suspended or interrupted, in whole or in part, pursuant to the Generation Interconnection Agreement, or to the extent generation curtailment is required as a result of Seller's noncompliance with the Generation Interconnection Agreement. Seller is solely responsible for the operation and maintenance of the Facility. PGE shall not, by reason of its decision to inspect or not to inspect the Facility, or by any action or inaction taken with respect to any such inspection, assume or be held responsible for any liability or occurrence arising from the operation and maintenance by Seller of the Facility.

5.2. Seller agrees to provide sixty (60) days advance written notice of any scheduled maintenance that would require shut down of the Facility for any period of time.

5.3. If the Facility ceases operation for unscheduled maintenance, Seller immediately shall notify PGE of the necessity of such unscheduled maintenance, the time when such maintenance has occurred or will occur, and the anticipated duration of such maintenance. Seller shall take all reasonable measures and exercise its best efforts to avoid unscheduled maintenance, to limit the duration of such unscheduled maintenance, and to perform unscheduled maintenance during Off-Peak hours.

## SECTION 6: CREDITWORTHINESS

In the event Seller: a) is unable to represent or warrant as required by Section 3 that it has not been a debtor in any bankruptcy proceeding within the past two (2) years; b) becomes such a debtor during the Term; or c) is not or will not be current on all its financial obligations to PGE, Seller shall immediately notify PGE and shall promptly (and in no less than 10 days after notifying PGE) provide default security in an amount reasonably acceptable to PGE in one of the following forms: Senior Lien, Step-in Rights, a Cash Escrow or Letter of Credit. The amount of such default security that shall be acceptable to PGE shall be equal to: (annual On Peak Hours) X (On Peak Price – Off Peak Price) X (Minimum Net Output / 8760). Notwithstanding the foregoing, in the event Seller is not current on construction related financial obligations, Seller shall notify PGE of such delinquency and PGE may, in its discretion, grant an exception to the requirements to provide default security if the

QF has negotiated financial arrangements with the construction loan lender that mitigate Seller's financial risk to PGE.

## SECTION 7: METERING

7.1. PGE shall design, furnish, install, own, inspect, test, maintain and replace all metering equipment at Seller's cost and as required pursuant to the Generation Interconnection Agreement.

7.2. Metering shall be performed at the location and in a manner consistent with this Agreement and as specified in the Generation Interconnection Agreement. All Net Output purchased hereunder shall be adjusted to account for electrical losses, if any, between the point of metering and the Point of Delivery, so that he purchased amount reflects the net amount of power flowing into PGE's system at the Point of Delivery.

7.3. PGE shall periodically inspect, test, repair and replace the metering equipment as provided in the Generation Interconnection Agreement. If any of the inspections or tests discloses an error exceeding two (2%) percent of the actual energy delivery, either fast or slow, proper correction, based upon the inaccuracy found, shall be made of previous readings for the actual period during which the metering equipment rendered inaccurate measurements if that period can be ascertained. If the actual period cannot be ascertained, the proper correction shall be made to the measurements taken during the time the metering equipment was in service since last tested, but not exceeding three (3) months, in the amount the metering equipment shall have been shown to be in error by such test. Any correction in billings or payments resulting from a correction in the meter records shall be made in the next billing or payment rendered. Such correction, when made, shall constitute full adjustment of any claim between Seller and PGE arising out of such inaccuracy of metering equipment.

7.4. To the extent not otherwise provided in the Generation Interconnection Agreement, all of PGE's costs relating to all metering equipment installed to accommodate Seller's Facility shall be borne by Seller.

## SECTION 8: BILLINGS, COMPUTATIONS AND PAYMENTS

8.1. On or before the thirtieth (30th) day following the end of each Billing Period, PGE shall send to Seller payment for Seller's deliveries of Net Output to PGE, together with computations supporting such payment. PGE may offset any such payment to reflect amounts owing from Seller to PGE pursuant to this Agreement, the

Generation Interconnection Agreement, and any other agreement related to the Facility between the Parties or otherwise.

8.2. Any amounts owing after the due date thereof shall bear interest at the Prime Rate plus two percent (2%) from the date due until paid; provided, however, that the interest rate shall at no time exceed the maximum rate allowed by applicable law.

## SECTION 9: DEFAULT, REMEDIES AND TERMINATION

9.1. In addition to any other event that may constitute a default under this Agreement, the following events shall constitute defaults under this Agreement:

9.1.1. Breach by Seller or PGE of a representation or warranty, except for Section 3.1.4, set forth in this Agreement.

9.1.2. Seller's failure to provide default security, if required by Section 6, prior to delivery of any Net Output to PGE or within 10 days of notice.

9.1.3. Seller's failure to deliver the Minimum Net Output for two consecutive Contract Years.

9.1.4. If the Facility is no longer a Qualifying Facility.

9.1.5. Failure of PGE to make any required payment pursuant to Section 8.1.

9.1.6. Seller's failure to meet the Commercial Operation Date.

9.2. In the event of a default under Section 9.1.6, PGE may provide Seller with written notice of default. Seller shall have one year in which to cure the default during which time the Seller shall pay PGE damages equal to the Lost Energy Value. If Seller is unable to cure the default, PGE may immediately terminate this Agreement as provided in Section 9.3. PGE's resource sufficiency/deficiency position shall have no bearing on PGE's right to terminate the Agreement under this Section 9.2

9.3. In the event of a default hereunder, the non-defaulting party may immediately terminate this Agreement at its sole discretion by delivering written notice to the other Party, and, except for damages related to a default pursuant to Section 9.1.3 by a QF sized at 100 kW or smaller, may pursue any and all legal or equitable remedies provided by law or pursuant to this Agreement including damages related to the need to procure replacement power. Such termination shall be effective upon the date of delivery of notice, as provided in Section 20.1. The rights provided in this Section 9 are cumulative such that the exercise of one or more rights shall not constitute a waiver of any other rights.

9.4. If this Agreement is terminated as provided in this Section 9 PGE shall make all payments, within thirty (30) days, that, pursuant to the terms of this Agreement, are owed to Seller as of the time of receipt of notice of default. PGE shall not be required to pay Seller for any Net Output delivered by Seller after such notice of default, unless such default qualifies as a default under Section 9.1.5, in which case PGE shall be obligated to continue to make payments under the terms of this Agreement.

9.5. If this Agreement is terminated as a result of Seller's default, Seller shall pay PGE the positive difference, if any, obtained by subtracting the Contract Price from the sum of the Forward Replacement Price for the Minimum Net Output that Seller was otherwise obligated to provide for a period of twenty-four (24) months from the date of termination. Accounts owed by Seller pursuant to this paragraph shall be due within five (5) business days after any invoice from PGE for the same.

9.6. In the event PGE terminates this Agreement pursuant to this Section 9, and Seller wishes to again sell Net Output to PGE following such termination, PGE in its sole discretion may require that Seller shall do so subject to the terms of this Agreement, including but not limited to the Contract Price until the Term of this Agreement (as set forth in Section 2.3) would have run in due course had the

Agreement remained in effect. At such time Seller and PGE agree to execute a written document ratifying the terms of this Agreement.

9.7. Sections 9.1, 9.4, 9.5, 9.6, 10, and 19.2 shall survive termination of this Agreement.

## SECTION 10: INDEMNIFICATION AND LIABILITY

10.1. Seller agrees to defend, indemnify and hold harmless PGE, its directors, officers, agents, and representatives against and from any and all loss, claims, actions or suits, including costs and attorney's fees, both at trial and on appeal, resulting from, or arising out of or in any way connected with Seller's delivery of electric power to PGE or with the facilities at or prior to the Point of Delivery, or otherwise arising out of this Agreement, including without limitation any loss, claim, action or suit, for or on account of injury, bodily or otherwise, to, or death of, persons, or for damage to, or destruction or economic loss of property belonging to PGE, Seller or others, excepting to the extent such loss, claim, action or suit may be caused by the negligence of PGE, its directors, officers, employees, agents or representatives.

10.2. PGE agrees to defend, indemnify and hold harmless Seller, its directors, officers, agents, and representatives against and from any and all loss, claims, actions or suits, including costs and attorney's fees, both at trial and on appeal, resulting from, or arising out of or in any way connected with PGE's receipt of electric power from Seller or with the facilities at or after the Point of Delivery, or otherwise arising out of this Agreement, including without limitation any loss, claim, action or suit, for or on account of injury, bodily or otherwise, to, or death of, persons, or for damage to, or destruction or economic loss of property belonging to PGE, Seller or others, excepting to the extent such loss, claim, action or suit may be caused by the negligence of Seller, its directors, officers, employees, agents or representatives.

10.3. Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any person not a Party to this Agreement. No undertaking by one Party to the other under any provision of this Agreement shall constitute the dedication of that Party's system or any portion thereof to the other Party or to the public, nor affect the status of PGE as an independent public utility corporation or Seller as an independent individual or entity.

10.4. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR SPECIAL, PUNITIVE, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER ARISING FROM CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE.

## SECTION 11: INSURANCE

11.1. Prior to the connection of the Facility to PGE's electric system, provided such Facility has a design capacity of 200 kW or more, Seller shall secure and continuously carry for the Term hereof, with an insurance company or companies rated not lower than "B+" by the A. M. Best Company, insurance policies for bodily injury and property damage liability. Such insurance shall include provisions or endorsements naming PGE, it directors, officers and employees as additional insureds; provisions that such insurance is primary insurance with respect to the

interest of PGE and that any insurance or self-insurance maintained by PGE is excess and not contributory insurance with the insurance required hereunder; a cross-liability or severability of insurance interest clause; and provisions that such policies shall not be canceled or their limits of liability reduced without thirty (30) days' prior written notice to PGE. Initial limits of liability for all requirements under this section shall be $1,000,000 million single limit, which limits may be required to be increased or decreased by PGE as PGE determines in its reasonable judgment economic conditions or claims experience may warrant.

11.2. Prior to the connection of the Facility to PGE's electric system, provided such facility has a design capacity of 200 kW or more, Seller shall secure and continuously carry for the Term hereof, in an insurance company or companies rated not lower than "B+" by the A. M. Best Company, insurance acceptable to PGE against property damage or destruction in an amount not less than the cost of replacement of the Facility. Seller promptly shall notify PGE of any loss or damage to the Facility. Unless the Parties agree otherwise, Seller shall repair or replace the damaged or destroyed Facility, or if the facility is destroyed or substantially destroyed, it may terminate this Agreement. Such termination shall be effective upon receipt by PGE of written notice from Seller. Seller shall waive its insurers' rights of subrogation against PGE regarding Facility property losses.

11.3. Prior to the connection of the Facility to PGE's electric system and at all other times such insurance policies are renewed or changed, Seller shall provide PGE with a copy of each insurance policy required under this Section, certified as a true copy by an authorized representative of the issuing insurance company or, at the discretion of PGE, in lieu thereof, a certificate in a form satisfactory to PGE certifying the issuance of such insurance. If Seller fails to provide PGE with copies of such currently effective insurance policies or certificates of insurance, PGE at its sole discretion and without limitation of other remedies, may upon ten (10) days advance written notice by certified or registered mail to Seller either withhold payments due Seller until PGE has received such documents, or purchase the satisfactory insurance and offset the cost of obtaining such insurance from subsequent power purchase payments under this Agreement.

## SECTION 12: FORCE MAJEURE

12.1. As used in this Agreement, “Force Majeure” or “an event of Force Majeure” means any cause beyond the reasonable control of the Seller or of PGE which, despite the exercise of due diligence, such Party is unable to prevent or overcome. By way of example, Force Majeure may include but is not limited to acts of God, fire, flood, storms, wars, hostilities, civil strife, strikes, and other labor disturbances, earthquakes, fires, lightning, epidemics, sabotage, restraint by court order or other delay or failure in the performance as a result of any action or inaction on behalf of a public authority which by the exercise of reasonable foresight such Party could not reasonably have been expected to avoid and by the exercise of due diligence, it shall be unable to overcome, subject, in each case, to the requirements of the first sentence of this paragraph. Force Majeure, however, specifically excludes the cost or availability of resources to operate the Facility, changes in market conditions that affect the price of energy or transmission, wind or water droughts, and obligations for the payment of money when due.

12.2. If either Party is rendered wholly or in part unable to perform its obligation under this Agreement because of an event of Force Majeure, that Party shall be excused from whatever performance is affected by the event of Force Majeure to the extent and for the duration of the Force Majeure, after which such Party shall re- commence performance of such obligation, provided that:

12.2.1. the non-performing Party, shall, promptly, but in any case within one (1) week after the occurrence of the Force Majeure, give the other Party written notice describing the particulars of the occurrence; and

12.2.2. the suspension of performance shall be of no greater scope and of no longer duration than is required by the Force Majeure; and

12.2.3. the non-performing Party uses its best efforts to remedy its inability to perform its obligations under this Agreement.

12.3. No obligations of either Party which arose before the Force Majeure causing the suspension of performance shall be excused as a result of the Force Majeure.

12.4. Neither Party shall be required to settle any strike, walkout, lockout or other labor dispute on terms which, in the sole judgment of the Party involved in the dispute, are contrary to the Party's best interests.

## SECTION 13: SEVERAL OBLIGATIONS

Nothing contained in this Agreement shall ever be construed to create an association, trust, partnership or joint venture or to impose a trust or partnership duty, obligation or liability between the Parties. If Seller includes two or more parties, each such party shall be jointly and severally liable for Seller's obligations under this Agreement.

## SECTION 14: CHOICE OF LAW

This Agreement shall be interpreted and enforced in accordance with the laws of the state of Oregon, excluding any choice of law rules which may direct the application of the laws of another jurisdiction.

## SECTION 15: PARTIAL INVALIDITY AND PURPA REPEAL

It is not the intention of the Parties to violate any laws governing the subject matter of this Agreement. If any of the terms of the Agreement are finally held or determined to be invalid, illegal or void as being contrary to any applicable law or public policy, all other terms of the Agreement shall remain in effect. If any terms are finally held or determined to be invalid, illegal or void, the Parties shall enter into negotiations concerning the terms affected by such decision for the purpose of achieving conformity with requirements of any applicable law and the intent of the Parties to this Agreement.

In the event the Public Utility Regulatory Policies Act (PURPA) is repealed, this Agreement shall not terminate prior to the Termination Date, unless such termination is mandated by state or federal law.

## SECTION 16: WAIVER

Any waiver at any time by either Party of its rights with respect to a default

under this Agreement or with respect to any other matters arising in connection with this Agreement must be in writing, and such waiver shall not be deemed a waiver with respect to any subsequent default or other matter.

## SECTION 17: GOVERNMENTAL JURISDICTION AND AUTHORIZATIONS

This Agreement is subject to the jurisdiction of those governmental agencies having control over either Party or this Agreement. Seller shall at all times maintain in effect all local, state and federal licenses, permits and other approvals as then may be required by law for the construction, operation and maintenance of the Facility, and shall provide upon request copies of the same to PGE.

## SECTION 18: SUCCESSORS AND ASSIGNS

This Agreement and all of the terms hereof shall be binding upon and inure to the benefit of the respective successors and assigns of the Parties. No assignment hereof by either Party shall become effective without the written consent of the other Party being first obtained and such consent shall not be unreasonably withheld. Notwithstanding the foregoing, either Party may assign this Agreement without the other Party's consent as part of (a) a sale of all or substantially all of the assigning Party's assets, or (b) a merger, consolidation or other reorganization of the assigning Party.

## SECTION 19: ENTIRE AGREEMENT

19.1. This Agreement supersedes all prior agreements, proposals, representations, negotiations, discussions or letters, whether oral or in writing, regarding PGE's purchase of Net Output from the Facility. No modification of this Agreement shall be effective unless it is in writing and signed by both Parties.

19.2. By executing this Agreement, Seller releases PGE from any third party claims related to the Facility, known or unknown, which may have arisen prior to the Effective Date.

## SECTION 20: NOTICES

20.1. All notices except as otherwise provided in this Agreement shall be in writing, shall be directed as follows and shall be considered delivered if delivered in person or when deposited in the U.S. Mail, postage prepaid by certified or registered mail and return receipt requested:

To Seller: Fresh Air Energy II, LLC
ATTN: Erik Stuebe
101 2nd Street, Suite 1250
San Francisco, CA 94105
eriks@ecoplexus.com

with a copy to: Ecoplexus, Inc.
ATTN: Paul Esformes
807 East Main Street, Suite 6-050

Durham, NC 97204
pesformes@ecoplexus.com and jlynch@ecoplexus.com

To PGE: Contracts Manager
QF Contracts,
3WTC0306 PGE - 121
SW Salmon St. Portland,
Oregon 97204

20.2. The Parties may change the person to whom such notices are addressed, or their addresses, by providing written notices thereof in accordance with this Section 20.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed in their respective names as of the Effective Date.

PGE

By: _____ Name: ____ Title: _ Date: _____

Fresh Air Energy II, LLC

(Name Seller)

By: _____

Name: Erik Stuebe

Title: President, Ecoplexus Inc., the Sole Member and Manager of Fresh Air Energy II, LLC

Date: 5/4/18

# EXHIBIT A
# MINIMUM NET OUTPUT

In this Exhibit, Seller may designate an alternative Minimum Net Output to the default of seventy-five (75%) percent of annual average Net Output specified in Section 3.1.9 of the Agreement ("Alternative Minimum Amount"). Such Alternative Minimum Amount, if provided, shall exceed zero, and shall be established in accordance with Prudent Electrical Practices and documentation supporting such a determination shall be provided to PGE upon execution of the Agreement. Such documentation shall be commercially reasonable, and may include, but is not limited to, documents used in financing the project, and data on output of similar projects operated by seller, PGE or others.

# EXHIBIT B
# DESCRIPTION OF SELLER'S FACILITY

**The Facility will consist of solar photovoltaic modules; inverters; GSU transformers; a customer substation and additional included protection equipment; and required communication, metering, control, and monitoring equipment. The solar photovoltaic modules connect to the inverters. The inverter outputs are collected at multiple transformers. The inverter transformers are connected in a loop configuration and sent to the customer substation and connect to the utility lines via the customer substation. The facility will feature the standard suite of utility revenue-grade SCADA, metering, and telemetry equipment. The Facility will interconnect to Portland General Electric's 230 kV Pelton to Round Butte transmission line at approximately GPS 44.665646, -121.229479. The Nameplate Capacity Rating of the Facility is 80,000 kW-AC.**

| Year | Average Energy (kWh) |
|---|---|
| **2021** | 114,808,343 |
| **2022** | 173,520,457 |
| **2023** | 172,652,855 |
| **2024** | 171,789,591 |
| **2025** | 170,930,643 |
| **2026** | 170,075,990 |
| **2027** | 169,225,610 |
| **2028** | 168,379,482 |
| **2029** | 167,537,584 |
| **2030** | 166,699,896 |
| **2031** | 165,866,397 |
| **2032** | 165,037,065 |
| **2033** | 164,211,880 |
| **2034** | 163,390,820 |
| **2035** | 162,573,866 |
| **2036** | 55,268,341 |

| Year | Maximum Energy (kWh) |
|---|---|
| **2021** | 132,029,594 |
| **2022** | 199,548,526 |
| **2023** | 198,550,783 |
| **2024** | 197,558,030 |
| **2025** | 196,570,239 |
| **2026** | 195,587,388 |
| **2027** | 194,609,451 |
| **2028** | 193,636,404 |
| **2029** | 192,668,222 |
| **2030** | 191,704,881 |
| **2031** | 190,746,356 |
| **2032** | 189,792,625 |
| **2033** | 188,843,662 |
| **2034** | 187,899,443 |
| **2035** | 186,959,946 |
| **2036** | 63,558,592 |

| Year | Minimum Energy (kWh) |
|---|---|
| **2021** | 86,106,257 |
| **2022** | 130,140,343 |
| **2023** | 129,489,641 |
| **2024** | 128,842,193 |
| **2025** | 128,197,982 |
| **2026** | 127,556,992 |
| **2027** | 126,919,207 |
| **2028** | 126,284,611 |
| **2029** | 125,653,188 |
| **2030** | 125,024,922 |
| **2031** | 124,399,798 |
| **2032** | 123,777,799 |
| **2033** | 123,158,910 |
| **2034** | 122,543,115 |
| **2035** | 121,930,400 |
| **2036** | 41,451,255 |

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 <u>except</u> 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 <u>all</u> 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)
FRESH AIR ENERGY II, LLC

**1b** Applicant street address
101 2nd Street, Suite 1250

**1c** City
San Francisco

**1d** State/province
CA

**1e** Postal code
94105

**1f** Country (if not United States)

**1g** Telephone number
(415)626-1802

**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 5/1/20 and to begin operation on 6/1/20

☐ 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
John Gorman

**2b** Telephone number
(415)626-1802

**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) ☐
FRESH AIR ENERGY II, LLC

**2e** Street address (if same as Applicant, check here and skip to line 3a) ☒

**2f** City

**2g** State/province

**2h** Postal code

**2i** Country (if not United States)

## Facility Identification and Location

**3a** Facility name
Madras PV1

**3b** Street address (if a street address does not exist for the facility, check here and skip to line 3c) ☒

**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 (-) 121.230 degrees

Latitude ☒ North (+) ☐ South (-) 44.661 degrees

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

**3e** State/province
OR

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

**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
Portland General Electric

**4b** Identify utilities providing wheeling service or check here if none ☒

**4c** Identify utilities purchasing the useful electric power output or check here if none ☐
Portland General Electric

**4d** Identify utilities providing supplementary power, backup power, maintenance power, and/or interruptible power service or check here if none ☐
Portland General Electric

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) | FRESH AIR ENERGY II, LLC | Yes ☐ No ☒ | % |
| 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) | | % |
| 2) | | % |
| 3) | | % |
| 4) | | % |
| 5) | | % |
| 6) | | % |
| 7) | | % |
| 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

FRESH AIR ENERGY II, LLC

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)
- ☐ Waste (specify type below in line 6b)
- ☒ 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)
- ☐ 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 | 0 Btu/h | 0 % |
| 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 | 80,000 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. | 0 kW |
| **7c** Electrical losses in interconnection transformers | 247.3 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 | 89.9 kW |
| **7f** Total deductions from gross power production capacity = 7b + 7c + 7d + 7e | 337.2 kW |
| **7g** Maximum net power production capacity = 7a - 7f | 79,662.8 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 facility will consist of solar photovoltaic modules, inverters, GSU transformers, a POI collector substation, and additional protection equipment. The solar photovoltaic modules connect to the inverters. The inverter outputs are collected at multiple transformers. The transformers are connected in a "loop" configuration and sent to the utility system. After stepping up matching the utility voltage, the facility connects to the Utility lines via the POI collector substation.

# 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 | MWh |
| **11h** Total amount of electrical, thermal, chemical and mechanical energy expected to be sold to an electric utility | 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) | 0 % |

**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) | | Select thermal host's relationship to facility<br>Select thermal host's use of thermal output | Btu/h |
| 2) | | Select thermal host's relationship to facility<br>Select thermal host's use of thermal output | Btu/h |
| 3) | | Select thermal host's relationship to facility<br>Select thermal host's use of thermal output | Btu/h |
| 4) | | Select thermal host's relationship to facility<br>Select thermal host's use of thermal output | Btu/h |
| 5) | | Select thermal host's relationship to facility<br>Select thermal host's use of thermal output | Btu/h |
| 6) | | Select thermal host's relationship to facility<br>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.

## 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 | Btu/h |
| **13b** Indicate the annual average rate of net electrical energy output | kW |
| **13c** Multiply line 13b by 3,412 to convert from kW to Btu/h | 0 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) | hp |
| **13e** Multiply line 13d by 2,544 to convert from hp to Btu/h | 0 Btu/h |
| **13f** Indicate the annual average rate of energy input from natural gas and oil | Btu/h |
| **13g** Topping-cycle operating value = 100 * 13a / (13a + 13c + 13e) | 0 % |
| **13h** Topping-cycle efficiency value = 100 * (0.5*13a + 13c + 13e) / 13f | 0 % |

**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<br>Select thermal host's process type | Yes ☐ No ☐ |
| 2) | | Select thermal host's relationship to facility<br>Select thermal host's process type | Yes ☐ No ☐ |
| 3) | | Select thermal host's relationship to facility<br>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 |
|---|---|---|
| Nathan Rogers | 101 2nd Street, Suite 1250<br>San Francisco, CA 94105 | 9/15/2017 |

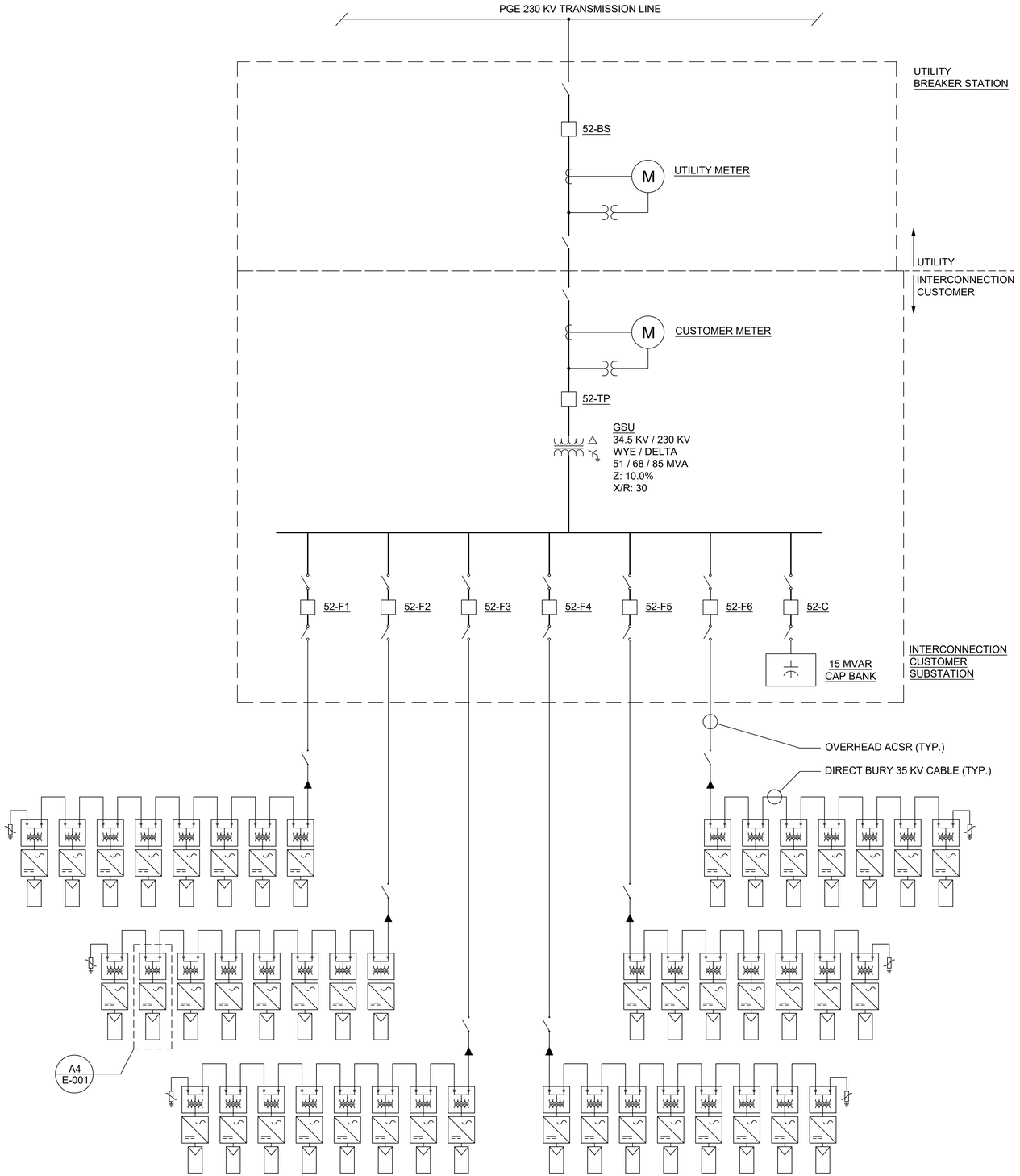
Audit Notes

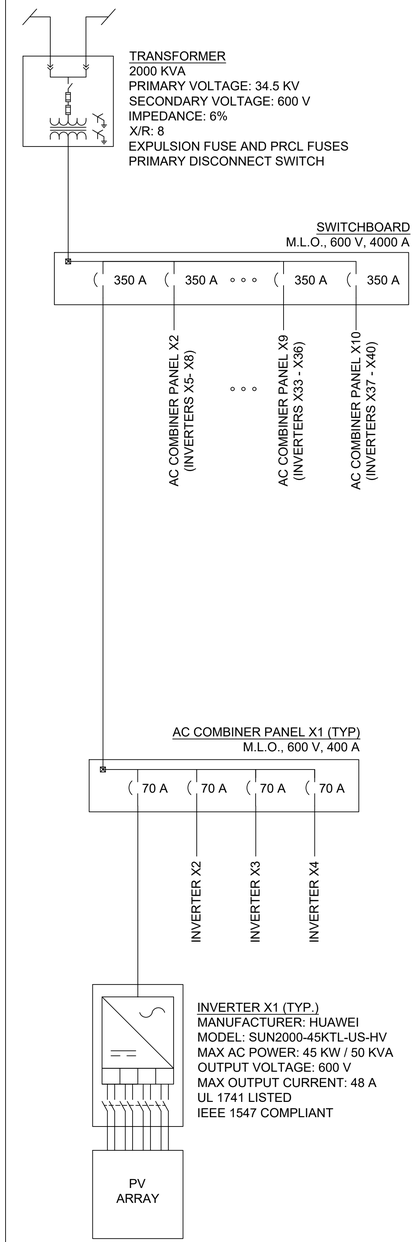
Commission Staff Use Only: ☐

# 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.




SYSTEM CAPACITY

80 MW (@ 0.95 PF)

EQUIPMENT

(1) 51 / 68 / 85 MVA GSU TRANSFORMER
(1840) HUAWEI SUN2000-45KTL-US-HV INVERTERS
(46) 2000 KVA Yg/yg TRANSFORMERS

INTERCONNECTION VOLTAGE: 230 KV

UTILITY: PORTLAND GENERAL ELECTRIC

APPLICANT: FRESH AIR ENERGY II, LLC

## D5 SYSTEM SUMMARY

SCALE: NA

1. THE INVERTERS SHALL PROVIDE DYNAMIC REACTIVE CAPABILITY OF 0.95 LEADING TO 0.95 LAGGING AT THE POINT OF INTERCONNECTION.
2. THE CAPACITOR BANK SHALL OFFSET THE PLANT REACTIVE LOSSES FROM THE INVERTER STEP-UP TRANSFORMERS AND GSU TRANSFORMER. THE SIZING OF THE CAPACITOR BANK IS PRELIMINARY. THE CAPACITY OF THE CAPACITOR BANK WILL BE INCREASED TO THE MAXIMUM SIZE ALLOWED BY THE UTILITY IF THE UTILITY DETERMINES THAT THE CAPACITY INDICATED IS NOT SUFFICIENT TO MEET THE REACTIVE REQUIREMENTS AT THE POINT OF INTERCONNECTION.
3. DC ARRAY SYSTEM SIZE AND CONFIGURATION MAY VARY BASED UPON FINAL DESIGN.
4. LOW VOLTAGE AC COLLECTION SYSTEM CONFIGURATION MAY VARY BASED UPON FINAL SYSTEM DESIGN.
5. MEDIUM VOLTAGE COLLECTION SYSTEM CONFIGURATION MAY VARY BASED UPON FINAL SYSTEM DESIGN.

ISSUED FOR:
INTERCONNECTION APPROVAL
**NOT FOR CONSTRUCTION**

## B5 NOTES

SCALE: NA

CIRCUIT BREAKER
INVERTER
CABLE TERMINATION
CONTACTOR
DISCONNECT
FUSE
LOW VOLTAGE CIRCUIT BREAKER
SURGE ARRESTER


BRUCKE | ENGINEERING PLLC
109 E POPLAR AVE
CARRBORO, NC 27510
www.bruckeengineering.com


SEAL:

REGISTERED PROFESSIONAL ENGINEER
91231PE
OREGON
MAY 5, 2016
PAUL E. BRUCKE
9/17/2017
RENEWS: 12/31/2017

DEVELOPER:

ecoplexus


ECOPLEXUS, INC.
101 2ND ST., STE. 1250
SAN FRANCISCO, CA 94105
www.ecoplexus.com


MADRAS

MADRAS, OR

ISSUED FOR:
INTERCONNECTION APPROVAL
NOT FOR CONSTRUCTION

| | |
|---|---|
| ISSUED: | 09/17/2017 |
| DRAWN BY: | PEB |
| REVISON #: | 0 |

DRAWING:

SINGLE LINE DIAGRAM

E-001

## A1 SINGLE LINE DIAGRAM

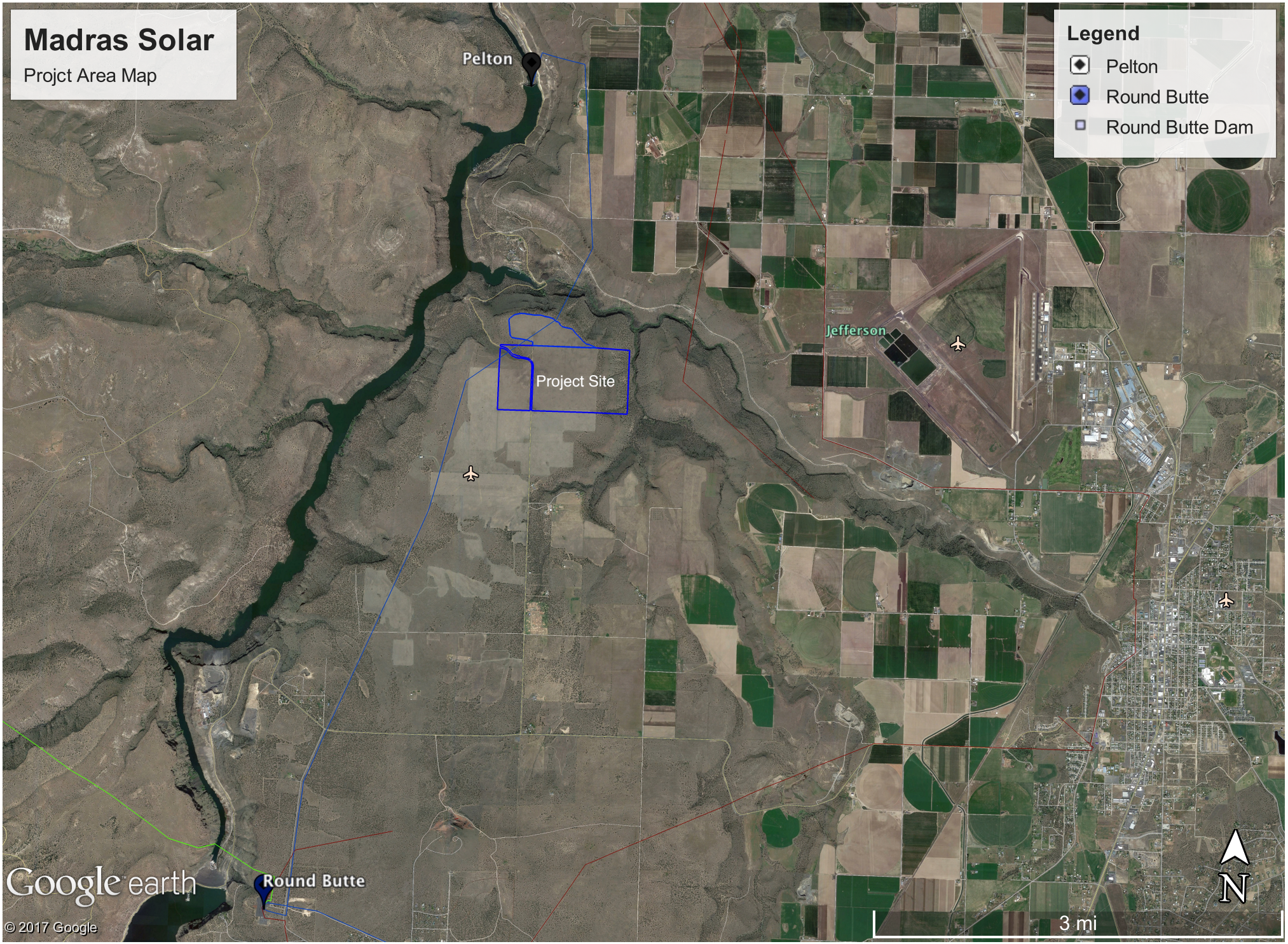
SCALE: NTS

## A4 POWER BLOCK

SCALE: NTS

## A5 SYMBOLS

SCALE: NA


Madras Solar
Projct Area Map
Legend
Pelton
Round Butte
Round Butte Dam
Pelton
Jefferson
Project Site
Round Butte
Google earth
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3 mi
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# EXHIBIT C
# REQUIRED FACILITY DOCUMENTS

**[Seller list all permits and authorizations required for this project]**

- Seller's Generation Interconnection Agreement
- Site Certificate
- Building/Electrical Permit
- Erosion and Sediment Control NPDES Stormwater Discharge 1200-C Permit
- Approach Permit
- Jurisdictional Determination
- FERC Qualifying Facility Self-Certification

# EXHIBIT D
# START-UP
# TESTING

Required factory testing includes such checks and tests necessary to determine that the equipment systems and subsystems have been properly manufactured and installed, function properly, and are in a condition to permit safe and efficient start-up of the Facility, which may include but are not limited to (as applicable):

1. Alarms, signals, and fail-safe or system shutdown control tests;
2. Insulation resistance and point-to-point continuity tests;
3. Bench tests of all protective devices;
4. Tests required by manufacturer of equipment; and
5. Complete pre-parallel checks with PGE.

Required start-up test are those checks and tests necessary to determine that all features and equipment, systems, and subsystems have been properly designed, manufactured, installed and adjusted, function properly, and are capable of operating simultaneously in such condition that the Facility is capable of continuous delivery into PGE's electrical system, which may include but are not limited to (as applicable):

1. Energization of transformers;
2. Synchronizing tests (manual and auto);
3. Stator windings dielectric test;
4. Armature and field windings resistance tests;
5. Load rejection tests in incremental stages from 5, 25, 50, 75 and 100 percent load;
6. Tests required by manufacturer of equipment;
7. Excitation and voltage regulation operation tests;
8. Open circuit and short circuit; saturation tests;
9. Phase angle and magnitude of all PT and CT secondary voltages and currents to protective relays, indicating instruments and metering;
10. Level control system tests; and
11. Completion of all state and federal environmental testing requirements.

# EXHIBIT E

# SCHEDULE

**[Attach currently in-effect Schedule 202]**

# SCHEDULE 202
# QUALIFYING FACILITIES GREATER THAN 10MW
# AVOIDED COST POWER PURCHASE INFORMATION

## PURPOSE

To provide information regarding procedures and timelines leading to a power purchase agreement between the Company and a Qualifying Facility (QF) with an aggregate nameplate capacity greater than 10,000 kW.

## AVAILABLE

To owners of QFs making sales of electricity to the Company in the State of Oregon (Seller).

## APPLICABLE

To qualifying cogeneration facilities or qualifying small power production facilities within the meaning of section 201 and 210 of the Public Utility Regulatory Act of 1978 (PURPA), 16 U.S.C. 796 and 824a-3.

A QF with nameplate capacity greater than 10,000 kW will be required to enter into a negotiated written power purchase agreement (Negotiated Agreement) with the Company.

A QF with nameplate capacity less than 10,000 kW or less may elect the option of a Standard Contract with terms and pricing as defined in Schedule 201.

## POWER PURCHASE INFORMATION

A QF may call the Power Production Coordinator at (503) 464-8000 to obtain more information about being a Seller or how to apply for service under this schedule.

## GUIDELINES

The Company will purchase any Energy in excess of station service (power necessary to produce generation) and amounts attributable to conversion losses, that is made available to Company by the Seller, pursuant to a Negotiated Agreement with the Company executed prior to delivery of such power. The Negotiated Agreement will comply with the requirements of the Federal Energy Regulatory Commission (FERC) and the guidelines established by Commission Order No. 07-360.

The Negotiated Agreement may have a term of up to 20 years, as selected by the Seller.

## SCHEDULE 202 (Continued)

## PROCEDURES TO DEVELOP A NEGOTIATED AGREEMENT

1. The Seller may request indicative power purchase prices. To obtain an indicative pricing proposal for a proposed project, the Seller must provide in writing, general project information reasonably required for the development of indicative pricing, including, but not limited to:

   - Demonstration of ability to obtain QF status.
   - Design capacity (MW), station service requirements, and net amount of power to be delivered to the Company's electric system.
   - Generation technology and other related technology applicable to the site.
   - Quantity and timing of monthly power deliveries (including project ability to respond to dispatch orders from the Company).
   - Proposed site location and electrical interconnection point.
   - Status of interconnection and transmission arrangements.
   - Proposed on-line date and outstanding permitting requirements.
   - Motive force or fuel plan consisting of fuel type(s) and source(s).
   - Proposed contract term and pricing provisions.

2. The Company will not be obligated to provide an indicative pricing proposal until all the information described above has been received in writing from the Seller. Within 30 business days following receipt of all required information, the Company will provide the Seller with an indicative pricing proposal, which may include other terms and conditions, tailored to the individual characteristics of the proposed project. Such proposal may be used by the Seller to make determinations regarding project planning, financing and feasibility. However, such prices are indicative and are not final and binding. Prices and other terms and conditions are only final and binding to the extent contained in Negotiated Agreement, once executed by both parties. The Company will provide with the indicative prices a description of the methodology used to develop the prices.

**SCHEDULE 202 (Continued)**

PROCEDURES TO DEVELOP A NEGOTIATED AGREEMENT (Continued)

3. The Avoided Cost Prices specified in Schedule 201 provide a starting point for indicative prices, and will be modified to address the following specific factors established in OPUC Order No. 07-360 and FERC 18 § CFR 292.304(e):

*(e) Factors affecting rates for purchases. In determining avoided costs, the following factors will, to the extent practicable, be taken into account.*

*(1) The data provided pursuant to 18 CFR § 292.302(b), (c), or (d), including State review of any such data;*

*(2) The availability of capacity or energy from a qualifying facility during the system daily and seasonal peak periods, including:*

*(i) The ability of the Company to dispatch the qualifying facility;*

*(ii) The expected or demonstrated reliability of the qualifying facility;*

*(iii) The terms of any contract or other legally enforceable obligation, including the duration of the obligation, termination notice requirement and sanctions for non-compliance;*

*(iv) The extent to which scheduled outages of the qualifying facility can be usefully coordinated with scheduled outages of the Company's facilities;*

*(v) The usefulness of energy and capacity supplied from a qualifying facility during system emergencies, including its ability to separate its load from its generation;*

*(vi) The individual and aggregate value of energy and capacity from qualifying facilities on the Company's system; and*

*(vii) The smaller capacity increments and the shorter lead time available with additions of capacity from qualifying facilities; and*

*(3) The relationship of the availability of energy or capacity from the qualifying facility as derived in part (e) (2) of this section, to the ability of the Company to avoid costs, including the deferral of capacity additions and the reduction of fossil fuel use; and*

*(4) The costs or savings resulting from variations in line losses from those that would have existed in the absence of purchases from a qualifying facility, if the Company generated an equivalent amount of energy itself or purchased an equivalent amount of electric energy or capacity.*

**SCHEDULE 202 (Continued)**

PROCEDURES TO DEVELOP A NEGOTIATED AGREEMENT (Continued)

4. If the Seller desires to proceed with negotiations after reviewing the Company's indicative price proposal, the Seller must request in writing that the Company prepare a draft Negotiated Agreement to serve as the basis for negotiations between the parties. In connection with such request, the Seller must provide the Company with any additional project information that the Company reasonably determines to be necessary for the preparation of the Negotiated Agreement, which may include, but will not be limited to:

   - Updated information for the project information listed above in paragraphs 1 and 3.
   - Evidence of adequate control of proposed site.
   - Timelines for obtaining any necessary governmental permits, approvals or authorizations.
   - Assurance of fuel supply or motive force.
   - Anticipated timelines for completion of key project milestones.
   - Evidence that any necessary interconnection studies have been completed and assurance that the necessary interconnection arrangements have been executed or are under negotiation.

5. Within 30 days following receipt of updated information required by the Company, the Company will provide the Seller with a draft Negotiated Agreement. The draft agreement will contain proposed terms and conditions in addition to indicative pricing. The draft agreement is not binding; however; it will serve as the basis for subsequent negotiations.

6. After reviewing the draft Negotiated Agreement, the Seller will notify the Company in writing of its intent to proceed with negotiations. The Seller may prepare an initial set of written comments and proposals regarding the agreement and forward them to the Company. The Company will not be obligated to begin negotiations with a Seller until the Company has received an initial set of written comments. After the Company's receipt of comments and proposals, the Seller may contact the Company to schedule contract negotiations at such times and places as are mutually agreeable to the parties. In connection with such negotiations, the Company:

   - Will not unreasonably delay negotiations and will respond in good faith to any additions, deletions or modifications to the draft Negotiated Agreement that are proposed by the Seller.
   - May request to visit the site of the proposed project if such a visit has not previously occurred.
   - Will update its pricing proposals at appropriate intervals to accommodate any changes to the Company's avoided-cost calculations, the proposed project or proposed terms of the draft Negotiated Agreement.
   - May request any additional information from the Seller necessary to finalize the terms of the Negotiated Agreement and satisfy the Company's due diligence regarding the QF project.

**SCHEDULE 202 (Concluded)**

PROCEDURES TO DEVELOP A NEGOTIATED AGREEMENT (Continued)

7. When both parties are in full agreement as to all terms and conditions of the draft Negotiated Agreement, the Company will prepare and forward to the Seller a final, executable version of the agreement within 15 business days. Prices and other terms and conditions in the Negotiated Agreement will not be final and binding until the agreement has been executed by both parties.

8. If parties are not in full agreement within 60 days from the date of written notice, the Seller may file a complaint with the Commission asking the Commission to adjudicate the disputed contract terms.

**OFF SYSTEM POWER PURCHASE AGREEMENT**

A QF that interconnects with an electric system other than the Company's electric system may enter into a power purchase agreement with the Company after following the applicable negotiated contract guidelines and making the arrangements necessary for transmission of power to the Company's system.

# EXHIBIT F
# CONTRACT PRICE

| Indicative Pricing Proposal: Madras Solar | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| On-Peak Forecast ($/MWH) | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2020 | | | | | | | | | | | | 31.04 |
| 2021 | 29.96 | 28.27 | 22.59 | 18.72 | 18.31 | 19.71 | 31.35 | 35.22 | 31.96 | 27.02 | 28.27 | 32.74 |
| 2022 | 31.61 | 29.82 | 23.82 | 19.75 | 19.32 | 20.78 | 33.07 | 37.15 | 33.72 | 28.51 | 29.81 | 34.54 |
| 2023 | 28.12 | 28.04 | 24.36 | 22.18 | 20.65 | 19.89 | 26.36 | 28.38 | 30.54 | 30.76 | 29.98 | 30.92 |
| 2024 | 31.31 | 29.79 | 27.27 | 23.02 | 20.77 | 14.59 | 27.05 | 29.95 | 32.73 | 32.66 | 32.51 | 33.64 |
| 2025 | 113.57 | 94.73 | 81.83 | 63.11 | 56.03 | 39.85 | 93.28 | 116.79 | 99.29 | 91.25 | 111.38 | 132.39 |
| 2026 | 115.84 | 96.63 | 83.47 | 64.37 | 57.15 | 40.64 | 95.14 | 119.12 | 101.28 | 93.08 | 113.60 | 135.03 |
| 2027 | 118.15 | 98.56 | 85.14 | 65.66 | 58.29 | 41.46 | 97.05 | 121.51 | 103.30 | 94.94 | 115.87 | 137.74 |
| 2028 | 120.25 | 100.28 | 86.61 | 66.79 | 59.30 | 42.18 | 98.78 | 123.70 | 105.11 | 96.57 | 117.92 | 140.20 |
| 2029 | 122.93 | 102.54 | 88.58 | 68.31 | 60.65 | 43.13 | 100.97 | 126.42 | 107.48 | 98.78 | 120.56 | 143.30 |
| 2030 | 125.39 | 104.60 | 90.35 | 69.68 | 61.87 | 44.00 | 102.99 | 128.95 | 109.63 | 100.75 | 122.97 | 146.17 |
| 2031 | 127.90 | 106.69 | 92.16 | 71.08 | 63.10 | 44.88 | 105.05 | 131.53 | 111.82 | 102.77 | 125.43 | 149.10 |
| 2032 | 130.17 | 108.55 | 93.76 | 72.30 | 64.19 | 45.66 | 106.93 | 133.90 | 113.78 | 104.54 | 127.65 | 151.77 |
| 2033 | 133.06 | 111.00 | 95.88 | 73.95 | 65.65 | 46.69 | 109.29 | 136.84 | 116.34 | 106.92 | 130.50 | 155.11 |
| 2034 | 135.73 | 113.22 | 97.80 | 75.43 | 66.97 | 47.63 | 111.48 | 139.58 | 118.67 | 109.06 | 133.11 | 158.22 |
| 2035 | 138.45 | 115.49 | 99.76 | 76.94 | 68.31 | 48.58 | 113.71 | 142.37 | 121.04 | 111.24 | 135.77 | 161.39 |
| 2036 | 140.90 | 117.50 | 101.48 | 78.26 | 69.48 | 49.42 | 115.74 | 144.93 | 123.15 | 113.15 | 138.17 | 164.27 |
| 2037 | 144.04 | 120.15 | 103.79 | 80.05 | 71.07 | 50.54 | 118.31 | 148.12 | 125.93 | 115.74 | 141.26 | 167.91 |
| 2038 | 146.91 | 122.55 | 105.86 | 81.64 | 72.48 | 51.55 | 120.67 | 151.08 | 128.45 | 118.05 | 144.08 | 171.26 |
| 2039 | 149.86 | 125.01 | 107.98 | 83.28 | 73.94 | 52.59 | 123.09 | 154.11 | 131.02 | 120.41 | 146.97 | 174.69 |
| 2040 | 152.51 | 127.18 | 109.85 | 84.71 | 75.21 | 53.50 | 125.28 | 156.88 | 133.30 | 122.48 | 149.56 | 177.81 |

| Indicative Pricing Proposal: Madras Solar | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Peak Forecast ($/MWH) | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2020 | | | | | | | | | | | | 30.82 |
| 2021 | 27.26 | 27.48 | 21.28 | 14.47 | 10.93 | 10.52 | 21.11 | 28.00 | 28.55 | 25.98 | 27.79 | 33.05 |
| 2022 | 29.17 | 29.40 | 22.77 | 15.48 | 11.67 | 11.24 | 22.59 | 29.97 | 30.56 | 27.81 | 29.74 | 35.38 |
| 2023 | 29.49 | 28.50 | 26.17 | 21.82 | 20.26 | 18.32 | 24.28 | 27.26 | 29.95 | 30.17 | 30.59 | 31.81 |
| 2024 | 31.51 | 28.97 | 28.36 | 23.85 | 20.57 | 12.83 | 24.46 | 28.63 | 31.08 | 31.29 | 33.43 | 34.82 |
| 2025 | 80.58 | 73.61 | 71.92 | 59.56 | 50.54 | 29.31 | 61.23 | 72.68 | 79.39 | 79.99 | 85.85 | 89.67 |
| 2026 | 82.20 | 75.08 | 73.36 | 60.75 | 51.55 | 29.89 | 62.46 | 74.14 | 80.97 | 81.59 | 87.57 | 91.47 |
| 2027 | 83.84 | 76.58 | 74.83 | 61.96 | 52.59 | 30.49 | 63.71 | 75.62 | 82.59 | 83.22 | 89.32 | 93.30 |
| 2028 | 85.28 | 77.90 | 76.11 | 63.03 | 53.49 | 31.01 | 64.80 | 76.92 | 84.01 | 84.65 | 90.86 | 94.90 |
| 2029 | 87.23 | 79.68 | 77.85 | 64.47 | 54.71 | 31.72 | 66.28 | 78.68 | 85.93 | 86.58 | 92.93 | 97.07 |
| 2030 | 88.98 | 81.27 | 79.41 | 65.76 | 55.81 | 32.36 | 67.61 | 80.25 | 87.65 | 88.31 | 94.79 | 99.01 |
| 2031 | 90.76 | 82.90 | 81.00 | 67.08 | 56.93 | 33.01 | 68.96 | 81.86 | 89.41 | 90.08 | 96.69 | 100.99 |
| 2032 | 92.32 | 84.33 | 82.39 | 68.23 | 57.90 | 33.58 | 70.15 | 83.27 | 90.95 | 91.63 | 98.35 | 102.73 |
| 2033 | 94.42 | 86.25 | 84.27 | 69.78 | 59.22 | 34.34 | 71.74 | 85.16 | 93.02 | 93.72 | 100.59 | 105.07 |
| 2034 | 96.31 | 87.97 | 85.96 | 71.18 | 60.41 | 35.03 | 73.18 | 86.87 | 94.88 | 95.60 | 102.61 | 107.17 |
| 2035 | 98.24 | 89.74 | 87.68 | 72.61 | 61.62 | 35.73 | 74.65 | 88.61 | 96.78 | 97.51 | 104.66 | 109.32 |
| 2036 | 99.92 | 91.27 | 89.18 | 73.85 | 62.67 | 36.34 | 75.93 | 90.13 | 98.44 | 99.18 | 106.45 | 111.19 |
| 2037 | 102.21 | 93.36 | 91.22 | 75.54 | 64.11 | 37.18 | 77.66 | 92.19 | 100.69 | 101.45 | 108.89 | 113.74 |
| 2038 | 104.25 | 95.22 | 93.04 | 77.05 | 65.39 | 37.91 | 79.21 | 94.03 | 102.70 | 103.47 | 111.06 | 116.00 |
| 2039 | 106.34 | 97.14 | 94.91 | 78.59 | 66.70 | 38.68 | 80.80 | 95.92 | 104.76 | 105.55 | 113.29 | 118.33 |
| 2040 | 108.16 | 98.80 | 96.53 | 79.94 | 67.84 | 39.34 | 82.19 | 97.56 | 106.55 | 107.36 | 115.23 | 120.36 |