BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 2009

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

Respondent's Attorney Douglas Tingey Portland General Electric Company doug.tingey@pgn.com

cc: Barbara Parr

Complainant's Attorney(s) & Representative(s) Irion Sanger Sanger Thompson PC <u>irion@sanger-law.com</u>

Mark R. Thompson Sanger Thompson PC <u>mark@sanger-law.com</u>

Nathan Rogers Madras Solar PV1, LLC nrogers@ecoplexux.com

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

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 <u>www.puc.state.or.us</u>. 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 <u>http://legalassistance.law.af.mil</u>. 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.

MADRAS PV1, LLC,

Complainant,

COMPLAINT OF MADRAS PV1, LLC

v.

PORTLAND GENERAL ELECTRIC COMPANY,

Respondent.

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I. INTRODUCTION

This is a complaint ("Complaint") filed by Madras PV1, LLC ("Madras Solar" or

3 "Complainant") with the Oregon Public Utility Commission (the "Commission" or "OPUC")

4 against Portland General Electric Company ("PGE") under ORS 756.500, OAR 860-029-0100,

5 and OAR 860-001-0400.

6 This complaint relates to the negotiation of a power purchase agreement ("PPA")

7 between PGE and Madras Solar, which has a capacity greater than the eligibility threshold for a

8 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.

3 Madras Solar has sought to enter into a PPA with PGE in order to sell its net output as a 4 qualifying facility ("QF") since October of 2017. During that process, PGE has caused delay, 5 and has also insisted on unreasonable terms and conditions being included in Madras Solar's 6 PPA. PGE delayed, for example, when it refused to provide indicative pricing, as required by its 7 tariff and the Commission's regulations, because of its incorrect view that the point of delivery 8 ("POD") for the project could not be accommodated. It also delayed by insisting, unlawfully, 9 that Madras Solar must enter into an interconnection agreement or certain related agreements 10 prior to receiving a draft PPA. Even after eventually providing this basic information, in time 11 frames contrary to applicable rules and regulations, PGE sometimes failed to respond within 12 reasonable timeframes to Madras Solar's requests to negotiate the PPA, or to move the 13 negotiations forward through exchanges of information. Ultimately, PGE has refused to enter 14 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

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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.

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

12 While necessary to provide background, and to evaluate and understand the parties' 13 actions and positions, Madras Solar is not requesting that the Commission focus on PGE's 14 specific intentions or past actions. Madras Solar's goal with this requested adjudication is to 15 have the Commission determine reasonable contract provisions, and move forward, rather than 16 conduct a contentious proceeding that focuses on past behavior. The vast majority of the 17 contract terms and conditions in the negotiated PPA are not subject to dispute, even though PGE 18 has insisted upon Madras Solar agreeing to variety of unreasonable and illegal contract terms. In 19 the end, however, Madras Solar and PGE have reached a point of disagreement about the 20 appropriateness and reasonableness of a few remaining disputed provisions, which can happen 21 during the negotiations of a non-standard power purchase agreement. Madras Solar requests that 22 the Commission limit its time and resources to review the specific disputed contract provisions, 23 and issue an order directing PGE to enter into the attached, or a substantially similar, PPA.

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1	II. SERVICE
2	Copies of all pleadings and correspondence should be served on Complainant's counsel
3	and representatives at the addresses below:
	Irion SangerNathan RogersSanger Thompson PCDirector of Project Development -1041 SE 58th PlaceWestern RegionPortland, Oregon 97215Ecoplexus, Inc.(503) 756-7533101 Second Street, Suite 1250irion@sanger-law.comSan Francisco, CA 94105(415) 626-1802 Ext. 108nrogers@ecoplexus.com
	Mark R. Thompson Sanger Thompson PC 1041 SE 58th Place Portland, Oregon 97215 (503) 706-0434 mark@sanger-law.com
4	
5	In support of this Complaint, Complainant alleges as follows:
6	III. IDENTITY OF THE PARTIES
7	1. PGE is an investor-owned public utility regulated by the Commission under ORS
8	Chapter 757. PGE is headquartered at 121 Southwest Salmon Street, Portland, Oregon 97204.
9	2. Madras Solar is a limited liability company organized under the laws of the state
10	of Oregon. Madras Solar is owned by Ecoplexus, Inc., and Madras Solar's address is 101
11	Second Street, Suite 1250, San Francisco, CA 94105. Madras Solar is a "qualifying facility"
12	("QF") under the Public Utility Regulatory Policies Act ("PURPA"), and the Federal Energy
13	Regulatory Commission's ("FERC's") regulations, 18 CFR 203-207.
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1	IV. APPLICABLE STATUTES AND RULES
2	3. The Oregon statutes expected to be involved in this case include: ORS 756.040,
3	756.500-558, 756.990, 757.325 and 758.505-758.555. The Oregon rules expected to be involved
4	in this case include: OAR 860-001 and 860-029.
5	4. The federal statute expected to be involved in this case is PURPA, 16 USC 824a-
6	3, and 2601 et seq. The federal rules expected to be involved in this case include: 18 CFR
7	292.101-292.602.
8	V. JURISDICTION
9	5. FERC adopted regulations and policies governing utility purchases from QFs
10	under PURPA. 18 CFR 292.101-292.602. State regulatory agencies are required to implement
11	FERC's regulations. See 16 USC 824a-3(f); FERC v. Mississippi, 456 U.S. 742, 751 (1982).
12	6. The Commission is the Oregon state agency that implements the state and federal
13	PURPA statutes. ORS 758.505(3); OAR 860-029-0001; Snow Mountain Pine Co. v. Maudin, 84
14	Or App 590, 593 (1987). Public utilities are defined in ORS 758.505(7), and include PGE. The
15	Commission has the power and jurisdiction to hear complaints by QFs against public utilities,
16	including PGE. ORS 756.040, 756.500-756.558, and 758.505-758.555; OAR 860-001-0010(3),
17	860-029-0030, and 860-029-100.
18	VI. FACTUAL BACKGROUND
19	7. The Madras Solar project will be a 63 megawatt ("MW") alternating current
20	("AC") Net Available Capacity and a Nameplate Capacity Rating of approximately 65
21	Nameplate Capacity direct current ("DC") solar QF located in Jefferson County, Oregon.
22	8. The Madras Solar project is seeking to establish sales to PGE under PGE's
23	Schedule 202, which applies to QFs with an aggregate nameplate capacity greater than 10 MW.

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

3 10. On or about October 18, 2017, PGE responded, asking for information to be
4 provided, and describing its Schedule 202 process for negotiating a PPA. On or around the same
5 day, Madras Solar responded to PGE with a completed Schedule 202 Initial Information Request
6 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 12. On or about December 19, 2017, PGE responded to Madras Solar that the
13 assumed POD is PGE's Round Butte substation, and that PGE is not able to accept deliveries at
14 that point and, that until a valid POD is provided, PGE cannot offer indicative pricing.

15 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.

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

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

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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.

4 16. On or around February 23, 2018, PGE responded with indicative pricing.
5 17. On or around March 5, 2018, Madras Solar requested a draft PPA, as well as
6 responding to other questions and asking PGE for further information.

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

11 19. On or about May 4, 2018, Madras Solar responded that it had satisfied the 12 interconnection and transmission arrangement requirements of Schedule 202, such that PGE 13 should provide a draft PPA. Madras Solar outlined the history of the Madras Solar 14 interconnection process, and detailed delays by PGE's transmission function that resulted in 15 Madras Solar not yet being able to enter into the system impact study process.

16 20. On or about May 4, 2018, Madras Solar provided PGE with an executed PPA 17 (Attachment B to this complaint), in substantially the form of PGE's standard contract under 18 Schedule 201, and committed itself to selling the energy and capacity from Madras Solar in 19 accordance with that PPA and the legally enforceable obligation ("LEO") established as of that 20 date. Madras Solar asked PGE to provide a draft negotiated PPA, notwithstanding the 21 establishment of the LEO that it had established on that date.

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

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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.

- 4 22. On or around July 23, 2018, PGE requested certain information and asserted that 5 a LEO had not been formed, but stated that it would provide a draft PPA.
- 6 23. On or around August 28, 2018, Madras Solar emailed PGE to follow-up on the
 7 status of PGE's commitment to provide a draft PPA.

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

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

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.

14 27. On October 15, 2018, Madras Solar emailed PGE to confirm whether it received 15 the October 8 correspondence and revised PPA, and to request a date and time for the parties to 16 meet in person and negotiate the PPA.

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

20 29. On or around November 7, 2018, Madras Solar responded via letter, notifying 21 PGE that it should assume, for the purposes of the PPA, that Madras Solar has committed itself 22 to taking Network Resource Interconnection Service and funding any upgrades legitimately 23 required for deliverability. Madras Solar reiterated that its own transmission analysis suggests

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

- 3 30. On or around November 12, 2018, Madras Solar emailed PGE to follow-up on its
 4 November 7 letter, and reiterated a request for PGE to provide a final, executable PPA.
- 5 31. On or around November 14, 2018, PGE responded that it would not provide an 6 executable PPA, because negotiations had not been finalized.

7 32. On or around November 26, 2018, Madras Solar responded to PGE that, if PGE is 8 unable to provide an executable PPA due to the fact that the parties have not finalized 9 negotiations, then it should immediately proceed to provide a fully-revised version of the draft 10 PPA and propose a date and time for in-person negotiations. Madras Solar also informed PGE 11 that it views PGE's actions as attempting to delay execution of the PPA until such time as it files 12 its proposed avoided cost reduction, and that Madras Solar will be ready to take actions to 13 protect its rights, should Madras Solar not be in possession of a mutually-executed PPA at the 14 time of such filing. Madras Solar also requested that PGE inform it of the date of the anticipated 15 filing for changing its rates.

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.

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1	36.	On or around January 22, 2019, Madras Solar sent PGE an updated draft of the
2	PPA.	
3	37.	On January 25, 2019, Madras Solar and PGE met in person to negotiate the draft
4	PPA.	
5	38.	On or around February 12, 2019, Madras Solar sent PGE comments on certain
6	sections of th	e PPA.
7	39.	On or around February 13, 2019, PGE provided Madras Solar with a draft of the
8	PPA.	
9	40.	On February 20, 2019, representatives of PGE and Madras Solar participated in a
10	call regarding	g the negotiation of the PPA.
11	41.	On or around February 22, 2019, Madras Solar provided PGE an updated draft of
12	the PPA.	
13	42.	On or around March 25, 2019, PGE emailed Madras Solar a copy of an updated
14	PPA.	
15	43.	On or around March 29, 2019, Madras Solar provided PGE with its final draft of
16	the PPA and	accompanying exhibits. Madras Solar also requested an executable version or, if
17	PGE cannot p	provide an executable version, to let it know as soon as possible, given the pending
18	avoided cost	rate reduction.
19	44.	On or around April 5, 2019, Madras Solar reiterated its request for an executable
20	PPA, noting t	hat, if PGE is unable to provide an executable PPA by April 22, to let Madras Solar
21	know as soon	as possible. Madras Solar also explained that it seeks to have the PPA executed
22	prior to April	23, 2019, when PGE's rates were expected to be reduced, and that, while it is not

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1	its desire to litigate, Madras Solar would be forced to do so, absent an executed PPA by April 22.
2	Madras Solar also offered to have a discussion about the remaining, outstanding items.
3	45. On or around April 5, 2019, PGE informed Madras Solar that it was not in
4	agreement as to the terms and conditions of the PPA, and, on or around April 9, 2019, provided
5	Madras Solar with an updated PPA. PGE noted that it was performing research related to several
6	of Madras Solar's previous comments.
7	46. On or around April 14, 2019, PGE provided Madras Solar with an updated
8	version of the PPA.
9	47. Madras Solar assessed the updated version of the PPA and determined that it did
10	not resolve Madras Solar's requests and concerns, and that it continued to contain problematic
11	provisions and unclear descriptions of PGE's positions.
12	48. On or around April 19, 2019, Madras Solar provided a letter to PGE, demanding
13	that PGE sign a PPA that was attached on or before April 22, 2019, or that it would, as
14	previously described, take action at the Commission to seek a review of the PPA and address its
15	complaints, and enforce its LEO.
16	49. Madras Solar understands that PGE's avoided cost rates will change on April 23,
17	2019, and believes that it has established a legally enforceable obligation prior to that date, given
18	its actions described above.
19	50. PGE's has not timely responded to requests for information and documents. For
20	example, despite repeated requests, it took PGE many months to provide indicative prices and
21	many more months to provide a draft power purchase agreement after Madras Solar requested
22	one.

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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.

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

9 53. PGE ultimately agreed that Madras Solar could provide for deliveries at the
10 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.

12 54. Madras Solar has been harmed by PGE's delays because it has been unable to 13 develop its project during the time of these delays.

14 55. Madras Solar was ready, willing, and able, and remains ready, willing, and able,

15 to abide by the PPA that it executed on May 4, 2018, and is attached to this complaint.

16 56. If the Commission finds that Madras Solar did not form a LEO as of May 4, 2018,

17 Madras Solar remains ready, willing, and able to agree to the PPA that it executed on April 22,

18 2019 and is attached to this complaint.

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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.

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VII. INFORMATION REQUIRED BY OAR 860-029-0100

2	58.	Madras Solar provided written comments to PGE on PGE's draft power purchase
3	agreement on	or around October 8, 2018, which is more than the 60 days before filing this
4	complaint with	th the Commission required by the Commission's rules.
5	59.	Madras Solar attempted negotiations with PGE, and also conducted other methods
6	of informal d	ispute resolution with PGE over the matters addressed in this complaint, through
7	exchange of i	nformation and ongoing discussion. These efforts included in the factual
8	descriptions a	above.
9	60.	A proposed agreement, encompassing all matters, including those on which PGE
10	and Madras S	olar have reached agreement, and those that are in dispute is attached to this
11	complaint as	Attachment A. Provisions that are in dispute are described below.
12	61.	Written direct testimony from Erik Stuebe, Chief Commercial Officer and
13	President, Eco	oplexus, and Nathan Rogers, Director of Development – Western Region,
14	Ecoplexus is	provided separately, and filed as Exhibits 100 and 200, respectively. That
15	testimony pro	ovides information upon which Madras Solar's claims in this complaint are based.
16	62.	The unresolved terms and conditions of Madras Solar's PPA include:
17	a.	The applicable avoided cost rate;
18	b.	The nameplate capacity in DC that is to be listed in the PPA (Exhibit E of the
19		PPA and page 1);
20	c.	Metering (Section 3.6);
21	d.	A PGE-proposed provision that would allow PGE to adjust the price for power
22		under the PPA if redispatch or PGE resource "back down" occurs (Section 6.10,
23		as proposed by PGE);

1	e.	Project Commercial Operation Date milestone related to Generator
2		Interconnection Agreement (Section 2.1(g));
3	f.	The sale of project test energy (Section 2.3);
4	63.	Madras Solar's position on each of the above issues is as follows:
5	a.	The applicable avoided cost rate: Madras Solar is entitled to sell power to PGE at
6		the avoided cost rates applicable to the PPA that Madras Solar executed, and fully
7		committed to on May 4, 2018, attached as Attachment B. This was the price in
8		effect at the time Madras Solar formed a legally enforceable obligation to sell its
9		net output to PGE, and it is therefore entitled to these prices. In the alternative,
10		Madras Solar is entitled to sell power to PGE at the avoided cost rates applicable
11		prior to the PGE avoided costs that will take effect on April 23, 2019. Prior to
12		PGE's rate change, Madras Solar committed to sell PGE its net output and created
13		a legally enforceable obligation.
14	b.	The nameplate capacity in DC that is to be listed in the PPA (Page 1 of the PPA
15		(Attachment A), Section 1.69, and Exhibit $E_{\underline{i}}$: ¹ Madras Solar is entitled to
16		indicate in the PPA the actual planned DC nameplate capacity rating of the
17		project. Madras Solar has selected a 65.784 MW DC size generation for its
18		project, and PGE is not entitled to insist that Madras Solar be required to agree
19		that the project will have a 75 MW DC size. Madras Solar has discretion to
20		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.

4 c. Metering (Section 3.6): PGE has not made it clear what its objection is to the 5 metering language in the PPA that is attached as Attachment A to this complaint, 6 despite the fact that PGE has been in possession of this language for a significant 7 period of time. PGE continues to indicate that it is reviewing Section 3.6, but has 8 not provided sufficient information about why it is reviewing this section, and has 9 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 10 11 provision has caused unreasonable delay in the negotiations process, and PGE 12 should be required to adopt the metering language that is listed in Section 3.6 of the attached PPA. 13

14 d. PGE-proposed provision that would allow PGE to adjust the price for power 15 under the PPA if redispatch or PGE resource "back down" occurs (a PGE 16 proposed that would be Section 6.10): PGE has proposed that a new Section 6.10 17 be added to the PPA, which would give PGE a right to re-evaluate and adjust the 18 fixed price for future power deliveries, upon giving 60 day notice to Madras 19 Solar, in the event that PGE is required to "back down" generation at one or more 20 of its electric generation facilities in order to "accommodate or otherwise 21 facilitate" the dispatch of the Madras Solar project. This provision undermines 22 the price certainty provisions that are an integral part of PURPA, and would give 23 PGE an ambiguous and ill-defined right to change the price it pays Madras Solar

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1		for power. Madras Solar is entitled to a fixed price contract, at avoided cost rates
2		that are set at the time of its legally enforceable obligation, and should not be
3		required to subject those rights to the provision PGE proposes. Additionally, PGE
4		proposed this term on April 14, 2019, after around a year and a half of discussions
5		regarding the PPA, and only several days before PGE's rates for purchases under
6		PURPA are expected to change. PGE had previously proposed language that
7		would have included a price adjustment for redispatch of PGE's generation. After
8		Madras Solar informed PGE of its view that PGE's Open Access Transmission
9		Tariff does not allow PGE to directly assign redispatch costs to any specific
10		Network Resource, such as Madras Solar, PGE removed that provision, but is
11		now insisting on the provision described above. Madras Solar has agreed that it
12		will be responsible for all of network transmission upgrades that PGE and Madras
13		Solar agree are required, or that FERC concludes are appropriate to allow for
14		deliverability to PGE. But Madras Solar does not believe it is reasonable that
15		PGE seek to subordinate its fixed price purchase obligation to Madras Solar to
16		other actions FERC may find are appropriate or required for PGE to take with
17		respect to unknown dispatch of its resources.
18	e.	Project Commercial Operation Date milestone related to Generator
19		Interconnection Agreement (Section 2.1): Section 2.1 of the PPA identifies
20		"Project Milestones" that Madras Solar agrees to undertake to complete its project
21		by the Commercial Operation Date ("COD"), which is identified as March 1,
22		2022. Section 5.1(h) of the PPA states that, if Madras Solar misses a Project
23		Milestone, then the it shall be in default, and Section 5.2 provides that PGE may

1		terminate the PPA for such a default under certain circumstances. Thus, Project
2		Milestones are critical provisions of the PPA. Madras Solar and PGE disagree
3		about whether certain network transmission upgrades are required as part of the
4		interconnection process. Any dispute over the need and cost for any network
5		transmission upgrades will need to be resolved by FERC. In light of this potential
6		need to adjudicate this issue before FERC, Madras Solar has asked PGE to agree
7		that the Project Milestone related to signing an interconnection agreement state
8		that the required action is for Madras Solar to sign a Generation Interconnection
9		Agreement no later than 30 days after Madras Solar and PGE reach agreement
10		with regard to the form of the agreement, including the cost of any network
11		upgrades and/or interconnection facilities, and the timeline for completion of
12		those upgrades or facilities. This provision appears as Section 2.1(g) in the PPA
13		attached to this complaint as Attachment A. Such a provision is reasonable
14		because it ensures that Madras Solar's ability to sell power to PGE under its
15		legally enforceable obligation is not upset solely due to a need to resolve disputes
16		with PGE regarding a position that Madras Solar believes PGE has taken
17		unlawfully, unreasonably, or unjustifiably. Without such a provision, PGE would
18		have the ability to upset the project by continuing to dispute the interconnection
19		requirements until Madras Solar is found to be in default under the PPA and
20		subject to having the PPA terminated.
21	f.	The sale of Project Test Energy (Section 2.3): Madras solar believes that it has
22		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

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23

1		bids into the western Energy Imbalance Market. Madras Solar has requested that
2		PGE agree to allow it to exercise this right, but PGE has objected to this
3		provision. In the PPA attached to this complaint, Section 2.3 provides Madras
4		Solar the rights it seeks, and PGE should adopt this language.
5	64.	To the extent Madras Solar has an understanding of PGE's position on each of the
6	above issues,	Madras Solar understands PGE's position to be:
7	a.	The applicable avoided cost rate: Madras Solar expects that PGE's position is that
8		Madras Solar has not created a legally enforceable obligation, and thus is not
9		entitled to fixed prices at rates other than those that went into effect after April 23,
10		2019 or subsequently.
11	b.	The nameplate capacity in DC that is to be listed in the PPA: Madras Solar
12		understands PGE's position to be that Madras Solar should not be allowed to
13		provide a nameplate DC capacity of 65 MW.
14	с.	Metering (Section 3.6): Madras Solar is unclear on PGE's position on this topic,
15		other than it understands that PGE believes the metering provisions of the
16		agreement have not been resolved and that it continues to review them.
17	d.	The PGE-proposed provision that would allow PGE to adjust the price for power
18		under the PPA if redispatch or PGE resource "back down" occurs: As PGE only
19		proposed this language about a week ago and such language had never been and
20		has yet to be discussed, Madras Solar does not fully understand PGE's position.
21		However, Madras Solar understands that PGE's position is that it is entitled to
22		insist on the ability to on a unilateral basis completely revise the fixed price based
23		on unknown potential events related to the need "back down" or "redispatch"

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1		generation, despite the fact that redispatch costs are not able to be assessed against
2		Madras Solar and that any resources that are "backed down" to accommodate the
3		output of Madras Solar should be fully accounted for in Madras Solar's project-
4		specific avoided costs. Madras Solar also understands PGE to argue that it is
5		seeking to impose a "customer indifference" standard on PURPA in a way that
6		modifies the fixed price after contract execution.
7	e.	Project Commercial Operation Date milestone related to Generator
8		Interconnection Agreement: Madras Solar understands that PGE insists that the
9		PPA should provide a specific date by which the interconnection agreement must
10		be signed, and that PGE should be entitled to terminate the PPA if a dispute
11		regarding the interconnection agreement takes so long to resolve that the
12		milestone and any applicable cure period passes, even if the cure period for failing
13		to reach the commercial operation date has not yet passed.
14	f.	The sale of project test energy: Madras Solar understands PGE's position to be
15		that Madras Solar must agree to sell all of its output, including Project Test
16		Energy to PGE under the PPA.
17		VIII. LEGAL CLAIMS
18		Complainant's First Claim for Relief
19 20 21	order requir	as Solar is entitled to relief under OAR 860-029-0100 through receiving an ing PGE to enter into a PPA that contains the terms provided for in the PPA his complaint.
22	65.	Complainant re-alleges all the preceding paragraphs.
23	66.	PGE is obligated to purchase a QF's net output that is directly or indirectly made
24	available to P	GE. 18 CFR 292.303(a), 292.304(d); ORS 758.525(2), 758.535(2)(a)&3(b); OAR
25	860-029-0030)(1).

1	67.	Madras Solar has sought to negotiate a PPA with PGE since October of 2017, but
2	has been unabl	le to reach an agreement with PGE on such PPA due to PGE's delays and
3	insistence on u	inreasonable terms, and its unreasonable objection of terms proposed by Madras
4	Solar.	
5	68.	OAR 860-029-0100 addresses complaints filed under ORS 756.500 related to
6	disputes conce	erning negotiated PPAs for QFs.
7	69.	Madras Solar is entitled to reasonable terms in its PPA.
8	70.	PGE has insisted on unreasonable terms in Madras Solar's PPA.
9	71.	Madras Solar is entitled to terms in its PPA that are consistent with Oregon and
10	federal law, ru	les, and policies.
11	72.	PGE has insisted on terms in its PPA that are inconsistent with Oregon and
12	federal law, ru	les, and policies
13	73.	PGE has not considered Madras Solar's proposed terms and modifications to
14	PGE's draft PI	PA in good faith.
15	74.	Madras Solar is entitled to seek an adjudication from the Commission of terms in
16	its PPA with P	GE that have not been able to be resolved through negotiation.
17		Complainant's Second Claim for Relief
18 19		as Solar is entitled to relief because PGE unreasonably delayed during the ions process, in contravention of the Commission's rules and its own tariffs.
20	75.	Complainant re-alleges all the preceding paragraphs.
21	76.	Under PGE's Schedule 202, section 6, PGE is prohibited from unreasonably
22	delaying negot	tiations.

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.

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

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

10 80. Under OAR 860-029-0005(3), PGE is required, within 30 days following the

11 initial contact from a QF to submit informational documents that provide PGE's internal

12 procedural requirements and information needs related to entering into a PPA for a QF.

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

16

Complainant's Third Claim for Relief

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

19 82. Complainant re-alleges all the preceding paragraphs.

20 83. Under PGE's Schedule 202, section 6, PGE is required to respond in good faith to

21 any additions, deletions or modifications to the draft PPA that are proposed by Madras Solar.

22 84. Madras Solar is entitled to relief, because PGE did not consider Madras Solar's

23 proposed reasonable terms and conditions in good faith, and insisted on unreasonable terms and

24 conditions being placed or remaining in the PPA.

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1	85. Madras Solar has not been able to reach agreement with PGE on a PPA, because
2	of PGE's insistence on unreasonable terms and conditions, and its rejection of reasonable terms
3	proposed by Madras Solar, and PGE's failure to consider in good faith Madras Solar's proposals.
4	Complainant's Fourth Claim for Relief
5 6	Madras Solar is entitled to sell its output to PGE at the avoided cost prices that were in effect on May 4, 2018.
7	86. Complainant re-alleges all the preceding paragraphs.
8	87. PGE has an obligation to purchase a QF's net output that is directly or indirectly
9	made available to PGE. 18 CFR 292.303(a)&(d), 292.304(d); ORS 758.525(2)(b),
10	758.535(2)(a)&3(b); OAR 860-029-0030(1).
11	88. PGE has an obligation to purchase the net output of a QF pursuant to a contract or
12	a legally enforceable obligation. 18 CFR 292.304(d); Order No. 69, FERC Stats. & Regs. ¶
13	30,128, 45 Fed. Reg. 12,214 at 12,219-20, 12,224 (1980). A legally enforceable obligation is
14	broader than simply a contract between an electric utility and a QF, and may exist without a
15	contract. <i>FLS Energy</i> , 157 FERC ¶ 61,211 at PP 24, 26; <i>Grouse Creek, LLC</i> , 142 FERC ¶
16	61,187 at P 38 (2013).
17	89. The establishment of a legally enforceable obligation turns on the QF's
18	commitment to sell its net output to the electric utility. FLS Energy, 157 FERC ¶ 61,211 at P 24;
19	JD Wind 1, LLC, 129 FERC ¶ 61,148, at P 25 (2009). A QF can enter into a legally enforceable
20	obligation by committing itself to sell power to an electric utility. <i>FLS Energy</i> , 157 FERC ¶
21	61,211 at P 25; Cedar Creek Wind, LLC, 137 FERC ¶ 61,006 at PP 36, 39 (2011); Snow
22	Mountain, 734 P.2d at 1371.
23	90. A QF can require a utility to purchase its net output, even if the utility has refused
24	to enter into a contract. Id. at 1370-71; FLS Energy, 157 FERC ¶ 61,211 at P 24; Murphy Flat

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1	Power, 141 FERC ¶ 61,145 at P 24 (2012); Grouse Creek, 142 FERC ¶ 61,187 at P 38. A utility
2	cannot refuse to sign a contract "so that a later and lower avoided cost is applicable." FLS
3	<i>Energy</i> , 157 FERC ¶ 61,211 at P 25; <i>Cedar Creek Wind</i> , 137 FERC ¶ 61,006 at P 36. Similarly,
4	a QF cannot be required to tender an executed interconnection agreement to form a legally
5	enforceable obligation because the requirement would allow "the utility to control whether and
6	when a legally enforceable obligation exists." FLS Energy, 157 FERC ¶ 61,211 at PP 23, 26.
7	91. The Commission has determined that a legally enforceable obligation arises "once
8	a QF signs the final draft of an executable contract provided by a utility to commit itself to sell
9	power to the utility," but that a legally enforceable obligation "may be established earlier if a QF
10	demonstrates delay or obstruction of progress towards a final draft of an executable contract,
11	such as a failure by a utility to provide a QF with required information or documents on a timely
12	basis." Re Investigation Into QF Contracting and Pricing, Docket No. UM 1610, Order No. 16-
13	174 at 3 (May 13, 2016).
14	92. Madras Solar created a legally enforceable obligation on or around May 4, 2018,
15	when it executed a PPA with PGE and provided it to PGE, committing to sell its net output to
16	PGE under the terms of the PPA and at the prices applicable to that contract.
17	Complainant's Fifth Claim for Relief
18 19 20 21	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.
22	93. Complainant re-alleges all the preceding paragraphs.
23	94. Madras Solar created a legally enforceable obligation to sell its net output to PGE
24	prior to PGE's rate change that takes effect on April 23, 2019, because it committed to sell its net
25	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.

3	Complainant's Sixth Claim for Relief
4 5 6	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.
6 7	95. Complainant re-alleges all the preceding paragraphs.
8	96. The Commission has the ability to extend the commercial operations date in
9	Madras Solar's PPA in order to reflect delay that comes about because of a need to litigate
10	through the Commission's processes. See, e.g., West Penn Power Co., 71 FERC ¶ 61,153 (1995)
11	(upholding state Commission's modification to certain milestones of a QFs contract because of
12	delay caused by litigation).
13	97. The Commission's statutory authority also gives it the right to remedy harm that it
14	identifies in exercising its authority to regulate public utilities. See, e.g. Dreyer v. Portland GE,
15	341 Or 262, 286 (2006) (noting that part of Commission's "regulatory functions" is
16	implementing a remedy when court finds error).
17	98. Madras Solar will experience uncertainty regarding its PPA during the pendency
18	of this proceeding, and is entitled to relief from the currently scheduled commercial operations
19	date to the extent of time required to conclude this proceeding.
20 21	IX. PRAYER FOR RELIEF
22	WHEREFORE, Complainant respectfully requests the Commission issue an order:
23	1. Requiring PGE to enter into the PPA attached hereto;
24	2. Finding PGE in violation of its obligation to not unreasonably delay the PPA
25	negotiation process;

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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 5. Finding that Madras Solar's commercial operation date should be extended by 6 one day for each day that occurs from the time this complaint was filed, until the Commission 7 issues a final dispositive order on the issues raised in this complaint that resolves the terms of the 8 PPA.
- 9 6. Instituting penalties up to \$10,000 pursuant to ORS 756.990 against PGE and paid
- 10 by PGE's shareholders for each violation of ORS 758.525(2), 758.535(2)(b)&(3)(b), 18 CFR
- 11 292.303(a)&(c), 292.304(d), OAR 806-029-0030(1)&(3), 806-082-0025(7), and 806-082-
- 12 0060(5)- (8).
- 13 7. Granting any other such relief as the Commission deems necessary.

Dated this 22nd day of April 2019.

Respectfully submitted, Trion A. Sanger, OSB No. 003750

Irion A. Sanger, OSB No. 003750 Mark R. Thompson, OSB No. 044334 Sanger Thompson PC 1041 SE 58th Place Portland, Oregon 97215 503-756-7533 (tel.) 503-334-2235 (fax) irion@sanger-law.com mark@sanger-law.com

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.

Irion A. Sanger, OSB No. 003750 Mark R. Thompson, OSB No. 044334 Sanger Thompson PC 1041 SE 58th Place Portland, Oregon 97215 503-756-7533 (tel.) 503-334-2235 (fax) irion@sanger-law.com mark@sanger-law.com Attachment A

Proposed Power Purchase Agreement

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

POWER PURCHASE AND SALE AGREEMENT

FOR SOLAR QUALIFYING FACILITY GREATER THAN 10 MW

This Power Purchase and Sale Agreement for Solar Qualifying Facility Greater than 10 MW ("Agreement") is made as of April 22, 2019 ("Effective Date") by and between Portland General Electric Company, an Oregon corporation ("Buyer") and Madras PV1, LLC, an Oregon limited liability company ("Seller"). For purposes of this Agreement, Buyer and Seller may each be referred to as a "Party" or collectively as the "Parties."

WHEREAS, Seller intends to construct, own, operate and maintain a solar facility for generation of electric power located in Jefferson County, Oregon, with a Net Available Capacity of 63 MW_{AC} and a Nameplate Capacity Rating of 65.784 MW_{DC} (the "Project"); and

WHEREAS, this Agreement is being entered into pursuant to Buyer's Tariff Schedule 202 for on-system Qualifying Facilities with a Nameplate Capacity Rating greater than 10 MW and less than 80 MW; and

WHEREAS, Seller intends to operate the Project as a "Qualifying Facility," as that term is utilized in the version of 18 C.F.R. Part 292 in effect on the Effective Date.

NOW THEREFORE, for good and valuable consideration, the adequacy of which is hereby acknowledged, the Parties mutually agree to the following:

ARTICLE 1 GENERAL DEFINITIONS

1.1 "Affiliate" means, with respect to any person or entity, any other person (other than an individual) or entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such person or entity. For this purpose, "control" means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

1.2 "Agreement" has the meaning set forth in the preamble and in Section 10.8.

1.3 "Ancillary Services" means any of the services identified by a Transmission Provider in its transmission tariff as "ancillary services" including, but not limited to, energy imbalance services, generation imbalance services, regulation and frequency response services, reactive supply services, voltage control services, inadvertent energy flow services, control area services, system integration services, operating spinning reserve services, and operating supplemental reserve services.

1.4 "Applicable Law" means all legally binding constitutions, treaties, statutes, laws, ordinances, rules, regulations, orders, interpretations, permits, judgments, decrees, injunctions, writs and orders of any Governmental Authority that apply to any one or both of the Parties and the terms hereof, including but not limited to the Public Utility Regulatory Policies Act of 1978 and the Public Utility Holding Company Act of 2005.

1.5 "As-Available Energy" means any Firm Energy, measured in MWh, scheduled and delivered from the Project to the Delivery Point during a month that exceeds the Specified Amounts for such month.

1.6 "Balancing Authority" means Portland General Electric acting in its transmission function as the entity responsible for maintaining the load-interchange-generation balance within the balancing areas in which the Project is located.

1.7 "Bankrupt" means with respect to any entity, such entity (i) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it and such petition filed or commenced against it is not dismissed within ninety (90) days of such filing or commencement, (ii) makes an assignment or any general arrangement for the benefit of creditors, (iii) otherwise becomes bankrupt or insolvent (however evidenced), (iv) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets, or (v) is generally unable to pay its debts as they fall due.

1.8 "Bundled Project REC" means a REC that, subject to the terms and conditions of this Agreement, is generated by the Project and delivered simultaneously and directly to Buyer together with the equivalent quantity of Energy generated by the Project as a single bundled Product, as represented by the Project Meter on an hourly basis.

1.9 "Business Day" means any day except a Saturday, Sunday, or a Federal Reserve Bank holiday. A Business Day shall open at 8:00 a.m. and close at 5:00 p.m. PPT.

1.10 "Buyer" means Portland General Electric Company.

1.11 "Capacity Attributes" means any current or future attribute, as may be currently defined or otherwise defined in the future, including but not limited to a characteristic, certificate, tag, credit, ancillary service or attribute thereof, or accounting construct, associated with the electric generation capability and capacity of the Project or the Project's capability and ability to produce or curtail energy, including any attribute counted towards any current or future resource adequacy or reserve requirements. Capacity Attributes are measured in MW. Notwithstanding any other provision of this Agreement, "Capacity Attributes" do not include: (i) any PTCs, ITCs, or any other tax credits, deductions, or tax benefits associated with the Project, or (ii) any state, federal, local, or private cash payments, grants, or costs relating in any way to the Project or the electric power output of the Project.

1.12 "Claiming Party" has the meaning set forth in Section 10.15.

1.13 "Claims" means all third party claims or actions, threatened or filed, and, whether groundless, false, fraudulent or otherwise, that directly or indirectly relate to the subject matter of an indemnity, and the resulting losses, damages, reasonable expenses, attorneys' fees and court costs, whether incurred by settlement or otherwise, and whether such claims or actions are threatened or filed prior to or after the termination of this Agreement.

1.14 "Commercial Operation Date" means the date that the Project is deemed by Buyer to be fully operational, consistent with Section 2.4.

1.15 "Costs" means any brokerage fees, commissions and other similar third party transaction costs and expenses reasonably incurred by a Party in entering into new arrangements to either purchase (in the case of the Buyer) or to sell (in the case of the Seller) Energy or RECs that would have otherwise been purchased and sold pursuant to this Agreement but for the material non-performance of the other Party; and all reasonable attorneys' fees and expenses incurred by the Non-Defaulting Party in connection with the termination of this Agreement. Costs shall not include any expenses incurred by such Party in either entering into or terminating any arrangement pursuant to which it has hedged its obligations.

1.16 "Credit Rating" means (i) with respect to any entity other than a financial institution, the (a) current ratings issued or maintained by S&P or Moody's with respect to such entity's long-term senior, unsecured, unsubordinated debt obligations (not supported by third party credit enhancements) or (b) corporate credit rating or long-term issuer rating issued or maintained with respect to such entity by S&P or Moody's, or (ii) if such entity is a financial institution, the ratings issued or maintained by S&P or Moody's with respect to such entity's long-term, unsecured, unsubordinated deposits.

1.17 "DBRS" means DBRS, Inc. or its successor.

1.18 "Defaulting Party" has the meaning set forth in Section 5.1.

1.19 "Deficiency Period" means the Renewable Resource Deficiency Period as defined in Buyer's Schedule 201, Qualifying Facility 10 MW or Less Avoided Cost Power Purchase Information, approved by the Public Utility Commission of Oregon for service on and after the Effective Date.

1.20 "Delivered Energy Quantity" means the sum of the Specified Energy and As-Available Energy delivered to Buyer by or on behalf of Seller to the Delivery Point each hour as represented on the Project Meter. The Delivered Energy Quantity shall not exceed Net Available Capacity in any hour.

1.21 "Delivery Period" shall begin on the Commercial Operation Date and end on the last day and hour of the Term of this Agreement.

1.22 "Delivery Point" means the high side of the generation step-up transformer(s) located at the point of interconnection between the Facility and the Transmission Provider's transmission system as identified in the Interconnection Agreement and shown on the one-line diagram in the project description contained in Exhibit F.

1.23 "Early Termination Date" has the meaning set forth in Section 5.2.

1.24 "Effective Date" has the meaning set forth in the preamble.

1.25 "EIM" means the western Energy Imbalance Market, of which Buyer is a participating entity.

1.26 "Energy" means three-phase, 60-cycle alternating current electric energy, expressed in MWh, generated by the Project and delivered to Buyer at the Delivery Point as required by this Agreement.

1.27 "Energy Shortfall" is defined in Section 4.1.

1.28 "Equitable Defenses" means any bankruptcy, insolvency, reorganization and other laws affecting creditors' rights generally, and with regard to equitable remedies, the discretion of the court before which proceedings to obtain same may be pending.

1.29 "Event of Default" has the meaning set forth in Section 5.1.

1.30 "FERC" means the Federal Energy Regulatory Commission or any successor government agency.

1.31 "Firm Energy" means carbon free Energy that is to be scheduled, delivered, sold, received and purchased on an uninterruptible basis. Firm Energy shall be scheduled in hourly increments and delivered from the Project to the Delivery Point, in accordance with the provisions in Article 3 (Obligations and Deliveries). Neither Party shall be relieved without liability of its obligations to sell and deliver or to receive and purchase Firm Energy except for any period during which such performance is prevented or delayed by Force Majeure or as otherwise expressly allowed herein.

1.32 "Fixed Price" means the respective monthly On-Peak and Off-Peak prices per MWh to be paid by Buyer to Seller for Specified Energy scheduled and delivered during each month of the Delivery Period as set forth in the price schedule attached to this Agreement as Exhibit C.

1.33 "Fixed Price Term" means March 1, 2022 through and including February 28, 2037.

1.34 "Fitch" means Fitch Ratings, Inc. or its successor.

"Force Majeure" means an event or circumstance that prevents one Party from 1.35 performing its obligations under the Agreement, which event or circumstance was not foreseeable, which is not within the reasonable control of, or the result of the negligence of, the Claiming Party, and which, by the exercise of due diligence, the Claiming Party is unable to overcome or avoid or cause to be avoided. Force Majeure shall not be based on (i) the loss of Buyer's markets; (ii) Buyer's inability economically to use or resell the Product purchased hereunder; (iii) Buyer's ability to purchase Energy or RECs at a price lower than the price set forth in Article 6 (Price, Payment and Netting); (iv) either Party's inability to pay when due any amounts owed under this Agreement; (v) Seller's ability to sell the Product at a price greater than the price set forth in Article 6 (Price, Payment and Netting); or (vi) a Reliability Entity Curtailment Event. Seller may not raise a claim of Force Majeure with respect to the unavailability of Energy or RECs from the Project based on any of the following: (i) routine or scheduled maintenance of the Project; (ii) any unscheduled outage undertaken to address normal wear and tear of the Project during the Term; (iii) any outage caused by Seller's failure to design, construct, operate or maintain the Project consistent with Prudent Electrical Practices;

(iv) normal climactic conditions (e.g. cloud cover); (v) smoke, haze or other obstruction of sunlight caused by events or circumstances that may impact the Project's generation output but without causing a Project outage (e.g., forest fire located outside of the Project site); (vi) financial inability to perform; (vii) changes in cost or availability of materials, equipment, or services; or (viii) strikes or labor disturbances involving the employees of Seller or any of its subcontractors.

1.36 "Forecasting Agent" shall have the meaning set forth in Section 3.13.

1.37 "Gains" means, with respect to any Party, an amount equal to the present value of the economic benefit to it, if any (net of Costs), resulting from the termination of this Agreement, determined in a commercially reasonable manner.

1.38 "Generation Forecast" has the meaning set forth in Section 3.2(a).

1.39 "Governmental Authority" means any and all foreign, national, federal, state, county, city, municipal, local or regional authorities, departments, bodies, commissions, corporations, branches, directorates, agencies, ministries, courts, tribunals, judicial authorities, legislative bodies, administrative bodies, regulatory bodies, autonomous or quasi-autonomous entities taxing authorities or any department, municipality or other political subdivision thereof; provided, however, that "Governmental Authority" shall not in any event include either Party.

1.40 "Governmental Charges" has the meaning set forth in Section 9.2.

"Green Attributes" means any and all claims, credits, benefits, emissions 1 41 reductions, offsets and allowances, however named, resulting from the avoidance of the emission of any gas, chemical, or other substance to the air, soil or water or otherwise attributable to the Project regardless of whether or not (i) such environmental attributes have been verified or certified, (ii) such environmental attributes are creditable under any applicable legislative or regulatory program, or (iii) such environmental attributes are recognized as of the Effective Date or at any time during the Term. Environmental Attributes include but are not limited to: (a) 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; (b) all Emissions Reduction Credits; (c) any avoided emissions of carbon dioxide (CO2), methane (CH4), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the Earth's climate by trapping heat in the atmosphere; and (d) the reporting rights to these avoided emissions, such as the carbon content of the Energy generated by the Project and REC Reporting Rights. Environmental Attributes do not include production tax credits associated with the construction or operation of the Project and other financial incentives in the form of credits, reductions, or allowances associated with the Project that are applicable to a state or federal income taxation obligation.

1.42 "Interconnection Agreement" means the generator interconnection agreement to be executed between Seller and Portland General Electric Company acting in its Transmission function. Seller shall provide the fully executed Interconnection Agreement to Buyer, and at

such time the Interconnection Agreement shall be included as an addendum to Exhibit D of this Agreement.

1.43 "Interest Rate" means, for any date, the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in *The Wall Street Journal* under "Money Rates" on such day (or if not published on such day on the most recent preceding day on which published), or (b) the maximum rate permitted by Applicable Law. Notwithstanding the foregoing, in no case shall the Interest Rate be less than zero (0).

1.44 "Initial Specified Amounts" means Seller's designated Specified Amounts for the Delivery Period as provided to Buyer pursuant to Section 2.5 of this Agreement and as reflected in Exhibit C.

1.45 "Interest Rate on Cash Collateral" means the lesser of (i) the maximum amount allowed by Applicable Law or (ii) the Federal Funds Rate for the holding period. The "Federal Funds Rate" means the sum of the effective Federal Funds Rate, as published daily by the Federal Reserve Bank H.15 Statistical Release website for each day of the holding period, less 50 basis points (0.50). Such interest shall be calculated on the basis of the actual number of days elapsed over a year of 360 days. Notwithstanding the foregoing, in no case shall the Interest Rate on Cash Collateral be less than zero (0).

1.46 "Letter(s) of Credit" means one or more irrevocable, transferable, unconditional, standby letters of credit issued by a Qualified Institution, in an amount, form and substance reasonably acceptable to the Buyer. Costs of a Letter of Credit shall be borne by the Seller for such Letter of Credit.

1.47 "Losses" means, with respect to any Party, an amount equal to the present value of the economic loss to it, if any, resulting from termination of this Agreement, determined in a commercially reasonable manner.

1.48 "Market Index Disruption Event" means any of the following events: (a) the failure of the index to announce or publish necessary information; (b) the failure of trading to commence or the permanent discontinuation or material suspension of trading in the relevant options contract or commodity on the exchange or market acting as the index; (c) the temporary or permanent discontinuance or unavailability of the Market Index Price; (d) the temporary or permanent closing of any exchange acting as the index; or (e) a material change in the formula for or the method of determining the Market Index Price.

1.49 "Market Index Price" means the EIM real-time pre-dispatch nodal price for the Delivery Point. In the event Buyer is participating in an organized market other than the EIM, then the Market Index Price will mean the Locational Marginal Price associated with the Pricing Node or Aggregate Pricing Node for the Delivery Point within such organized market. The Parties intend to utilize the price that most accurately represents the market price for Energy as delivered at the Delivery Point.

1.50 "Market Index Settlement Price" means 93% of the production-weighted average of the Market Index Price for each hour during the delivery month. For the avoidance of doubt, if the Market Index Price is negative, the Market Index Price will be multiplied by 107% when

calculating the Market Index Settlement Price. Exhibit E sets forth an accurate and indicative example of a Market Index Settlement Price calculation.

1.51 "Maximum Annual Volume" means the maximum annual production of Specified Energy equal to the annual total of the Initial Specified Amounts for each calendar year during the Delivery Period, prorated for any partial calendar years during the Term.

1.52 "Merger Event" means an entity consolidates or amalgamates with, or merges into or with, or transfers all or substantially all of its assets to another entity, and (i) the resulting, surviving or transferee entity fails, at the time of such consolidation, amalgamation, merger or transfer, to assume each and all of the obligations of such other entity hereunder including any Letter(s) of Credit, Payment Bond(s) or other Performance Assurance required pursuant to this Agreement, or (ii) the benefits of any Letter(s) of Credit, Payment Bond(s) or other Performance Assurance or credit support provided pursuant to this Agreement fail, at any time following such consolidation, amalgamation, merger or transfer, to extend to the performance of its obligations arising hereunder, or (iii) the Credit Rating of the resulting, surviving or transferee entity is not equal to or higher than that of the transferring entity, or is not at least BBB, by S&P and Baa3 by Moody's, immediately prior to such consolidation, amalgamation, merger, or transfer.

1.53 "Minimum Annual Volume" means the annual production of Specified Energy equal to eighty percent (80%) of the annual total of the Initial Specified Amounts for each calendar year during the Delivery Period, prorated for any partial calendar years during the Term.

1.54 "Moody's" means Moody's Investor Services, Inc. or its successor.

1.55 "MW" and "MWh" means megawatt, and megawatt-hour, respectively. One megawatt equals one (1) million watts.

1.56 "Nameplate Capacity Rating" is set forth in the Project Operating Parameters and means the full (maximum) gross power capability of a power station, prime mover or other electric power production equipment (e.g., photovoltaic solar panel) under optimal conditions designated by the manufacturer, expressed in MW_{DC} .

1.57 "NERC" means the North American Electric Reliability Council or any successor organization thereto.

1.58 "Negative Price Event" has the meaning set forth in Section 1.1(c).

1.59 "Net Available Capacity" is set forth in the Project Operating Parameters and means the full (maximum) net Energy the Project is capable of delivering to the interconnecting Balancing Authority, which is equivalent to the Nameplate Capacity Rating of a generating unit less station service (parasitic power and electrical losses) and inverter limitations, expressed in MW_{AC} .

1.60 "Non-Defaulting Party" has the meaning set forth in Section 5.2.

1.61 "Off-Peak" means all hours other than On-Peak hours.

1.62 "On-Peak" means 6×16 (Monday through Saturday, HE 0700 — HE 2200 PPT, excluding NERC holidays).

1.63 "Oregon Renewable Portfolio Standard" means the renewable portfolio standard contemplated by ORS Chapter 469A, and its implementing regulations, in each case as amended from time to time.

1.64 "Open Access Transmission Tariff" or "OATT" means the Transmission Provider's FERC approved Open Access Transmission Tariff.

1.65 "Payment Bond(s)" means one or more payment bonds issued by a Qualified Institution, in an amount, form and substance reasonably acceptable to Buyer. Costs of a Payment Bond shall be borne by Seller.

1.66 "Performance Assurance" means collateral posted by Seller as required by the terms of this Agreement in the form of either cash, Payment Bond(s), Letter(s) of Credit, a combination of the foregoing, or other security reasonably acceptable to Buyer.

1.67 "PPT" means Pacific Prevailing Time.

1.68 "Product" means each and together, carbon free Specified Energy and As-Available Energy that is scheduled and delivered and sold by Seller and is received and purchased by Buyer pursuant to this Agreement, together with any associated Green Attributes and Capacity Attributes.

1.69 "Project" means that solar generation facility to be designed, constructed, owned, operated and maintained by Seller in Jefferson County, Oregon, having a Net Available Capacity of 63 MW_{AC} and a Nameplate Capacity Rating of 65.784 MW_{DC} as further described in Exhibit E and Section 2.1.

1.70 "Project Meter" means the metering equipment designed, furnished, installed, owned, inspected, tested, maintained and replaced as provided for in the Interconnection Agreement and located at the point of interconnection with the Balancing Authority.

1.71 "Project Output" means all electric Energy produced by the Project, less station service (parasitic power and electrical losses), if any, all as measured at the Project Meter.

1.72 "Project Operating Parameters" means the Project's operational and dispatch characteristics and constraints as of the Effective Date and set forth on Exhibit E.

1.73 "Projected Contract Costs" has the meaning set forth in Section 8.2.

1.74 "Projected Power Replacement Costs" has the meaning set forth in Section 8.2.

1.75 "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 WECC 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 immediately preceding sentence.

1.76 "Qualifying Facility" has the same meaning as that term is utilized in the version of 18 C.F.R. Part 292 in effect on the Effective Date.

1.77 "Qualifying Replacement RECs" means environmental attributes (including renewable energy credits and renewable energy credit reporting rights) that are (i) delivered at a delivery point agreeable to Buyer bundled with energy produced simultaneously by a generating source that (A) is an Oregon Renewable Portfolio Standard eligible renewable energy resource, (B) produces environmental attributes (including renewable energy credits and renewable energy credit reporting rights) of the same type and quality as Green Attributes (including Bundled Project RECs and REC Reporting Rights), (C) is located in Oregon or Washington, and (D) achieves commercial operation after the Commercial Operation Date, or (ii) RECs from As-Available Energy that were not conveyed by Seller to Buyer under this Agreement, if any, or (iii) a combination thereof.

1.78 "Qualified Institution" means a major U.S. commercial bank, a trust company, or a U.S. branch office of a major foreign commercial bank (which is not an Affiliate of such party) organized under the laws of the United States (or any state or political subdivision thereof) with such bank having shareholders' equity of at least \$10 billion (U.S. Dollars) and a Credit Rating of at least A+ by S&P, A1 by Moody's, A+ by Fitch, or A (high) by DBRS.

1.79 "RAS Obligation Event" means an action taken by a Reliability Entity which may include changes in demand, generation (MW and Mvar), or system configuration to maintain system reliability, stability, acceptable voltage, or power flows as prescribed by a Remedial Action Scheme.

1.80 "REC(s)" means the Green Attributes and the REC Reporting Rights associated with Project Output, however commercially transferred or traded under any or other product names, such as "green tags," "Green-e Certified," or otherwise. RECs are accumulated on a MWh basis and one REC represents the Green Attributes made available by the generation of one MWh of Project Output. All RECs delivered to Buyer under this Agreement must comply with the Oregon Renewable Portfolio Standard.

1.81 "REC Reporting Rights" are the right of a buyer to report the ownership of accumulated RECs in compliance with federal or state law, if applicable, and to a federal or state agency or any other party at such buyer's discretion, and include without limitation those REC Reporting Rights accruing under Section 1605(b) of The Energy Policy Act of 1992 and any

present federal, state, or local law, regulation or bill, and international or foreign emissions trading program.

1.82 "REC Shortfall" is defined in Section 4.2.

1.83 "Reliability Entity Curtailment Event" is defined in Section 3.11.

1.84 "Reliability Entity" may include, without limitation, NERC, WECC, the Balancing Authority, Transmission Provider, regional transmission organization, independent system operator, reliability coordinator or any other entity that has, or that may have in the future (i) responsibility over the reliability of the bulk power system and (ii) by virtue of such responsibility the legal authority to affect the operations of the Project or delivery of the Product.

1.85 "Remedial Action Scheme" means an automatic protection system designed to detect abnormal or predetermined system conditions and take corrective actions other than or in addition to the isolation of faulted components to maintain system reliability. Such action may include changes in demand, generation (MW and Mvar), or system configuration to maintain system stability, acceptable voltage, or power flows.

1.86 "S&P" means the Standard & Poor's Global Ratings (a division of McGraw-Hill, Inc.) or its successor.

1.87 "Sales Price" means the price at which Seller, acting in a commercially reasonable manner, resells any Product not accepted by Buyer in breach of Buyer's obligations under this Agreement, deducting from such proceeds any (i) Costs reasonably incurred by Seller in reselling such Product and (ii) additional transmission charges, if any, reasonably incurred by Seller in delivering such Product to the third party purchasers. "Costs" shall not include any negative price amounts for the Product, penalties, ratcheted demand or similar charges. In no event shall the Sales Price be less than zero dollars (\$0.00).

1.88 "Schedule" or "Scheduling" means the actions of Seller, Buyer, a Transmission Provider and all other impacted entities, or their representatives, of notifying, requesting, and confirming/implementing the quantity and type of Product, transmission arrangements, and timing of delivery, subject to Article 3 (Obligations and Deliveries) and the prevailing Western EIM, NAESB, WECC, and NERC scheduling requirements.

1.89 "Seller" means Madras PV1, LLC.

1.90 "Settlement Amount" means the net Losses, Gains and Costs, as calculated by the Non-Defaulting Party, that each Party would incur as of an Early Termination Date designated by the Non-Defaulting Party following an Event of Default pursuant to Section 5.2.

1.91 "Specified Amount(s)" means the amount of Firm Energy generated by the Project that Seller is required to deliver to Buyer at the Delivery Point for each monthly On-Peak period and for each monthly Off-Peak period during the Delivery Period. The Specified Amounts for each month during the following calendar year shall be established by Seller pursuant to Sections 2.5 and 3.1.

1.92 "Specified Energy" means Firm Energy simultaneously bundled with the Project's associated Green Attributes, including Bundled Project RECs, as generated and metered net of all Project losses and station service at the Project Meter, scheduled in hourly blocks, and delivered to the Delivery Point, up to the Specified Amounts according to the Scheduling Procedure in Section 3.9. Each MWh of Specified Energy delivered shall include one (1) Bundled Project REC.

1.93 "Sufficiency Period" means the Renewable Resource Sufficiency Period as defined in Portland General Electric Company's Schedule 201, Qualifying Facility 10 MW or Less Avoided Cost Power Purchase Information, approved by the Public Utility Commission of Oregon for service on and after the Effective Date.

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

1.95 "Tax" means all taxes, rates, levies, adders, assessments, surcharges, duties and other fees and charges of any nature, including but not limited to ad valorem, consumption, excise, franchise, gross receipts (including any Oregon business and occupation tax and Oregon public utility tax and any successor tax thereto), import, export, license, property, sales, stamp, storage, transfer, turnover, use, or value-added taxes, and any and all items of withholding, deficiency, penalty, addition to tax, interest, or assessment related thereto.

1.96 "Term" has the meaning set forth in Section 10.1.

1.97 "Test Energy" means all Energy generated by the Project prior to the Commercial Operation Date.

1.98 "Trading Day" means a day that the Market Index Price source published the relevant Market Index Price.

1.99 "Transmission Provider" means Portland General Electric Company acting in its transmission function and any entity (including any FERC-authorized regional transmission organization) transmitting Energy from the Delivery Point.

1.100 "WECC" means the Western Electricity Coordinating Council or its successor organizations.

1.101 "WREGIS" means the Western Renewable Energy Generation Information System or its successor system(s).

1.102 "WECC Pre-Scheduling Day" means the WECC Pre-Scheduling Day prior to the delivery day or day(s) as defined by the most recent WECC Pre-Schedule calendar. For example, if Seller pre-schedules on a Thursday, the relevant WECC Pre-Scheduling Day for that day will typically be for delivery days of Friday and Saturday.

ARTICLE 2 THE PROJECT

2.1 <u>Project Milestones</u>. Seller shall design, construct, own, operate, repair, and maintain the Project in accordance and consistent with the Project Documentation listed in Section 2.2 and Prudent Electrical Practices so as to ensure the continuous ability of the Project to meet Seller's obligations to Buyer under this Agreement. Seller shall exercise its best efforts, consistent with Prudent Electrical Practices, to complete development of the Project in accordance with the milestones set forth below in this Section 2.1. If Seller materially fails to meet a Project milestone, Seller shall communicate to the Buyer in writing the following no more than 10 Business Days after receiving notice from Buyer: (i) further information concerning the status of Project development; (ii) a written report containing Seller's analysis of the reasons behind the failure to meet the original milestone(s), including a description of the remedial actions that Seller agrees to undertake to complete the Project by the Commercial Operation Date; and (iii) further assurances that the Project will be completed consistent with the terms of this Agreement.

- (a) Seller shall demonstrate site control as of the Effective Date of this Agreement by ownership, lease, or option to lease of real property sufficient to enable Seller to finance, construct and operate the Project, with any such lease (or future lease referenced in such option to lease) having a term equal to or greater than the Term of this Agreement. Seller shall provide Buyer an executed lease agreement within 180 days after the Effective Date of this Agreement.
- (b) Seller shall have executed with a qualified contractor an enforceable engineering, procurement and construction contract ("EPC Contract") no later than June 1, 2021.
- (c) Seller shall receive in final, non-appealable form all permits and licenses needed to construct and operate the Project no later than March 1, 2021.
- (d) Seller shall apply for and obtain financing approval as demonstrated by Seller providing a copy of the bank approval letter to Buyer no later than June 1, 2021.
- (e) Seller shall break ground on construction of the Project no later than June 1, 2021.
- (f) Seller shall execute the Facilities Study Agreement no later than April 12, 2019.
- (g) Seller shall execute a Generation Interconnection Agreement no later than thirty (30) days after Seller and PGE (acting in it transmission function) have come to mutual agreement with regard to the form of generation Interconnection Agreement, including the cost of any network upgrades and/or interconnection facilities and the timeline for completion of any network upgrades and/or interconnection facilities.

- (h) Seller shall take all necessary steps and actions prior to the Commercial Operation Date to allow the Project RECs that will be transferred to Buyer pursuant to this Agreement to be tracked in WREGIS. Seller shall register the Project in WREGIS as an eligible renewable resource for Oregon, and, if the Applicable Law then in effect so provide, for Washington, California, and any other state reasonably requested by the Buyer during the Delivery Period. Commencing on the Commercial Operation Date and continuing through the end of the Delivery Period, Seller shall comply with all applicable WREGIS operating rules and maintain its registration in WREGIS for the Project.
- (i) Seller shall coordinate with Buyer to register and model the Project as a PGE EIM Participating Resource with the CAISO EIM, as defined in the OATT, in a manner agreeable to Buyer no later than March 1, 2021.

Seller shall have the right, but not the obligation, to toll, on a day-for-day basis, but in no event for a period lasting longer than three-hundred and sixty five (365) days, any or all of the foregoing milestones in this Section 2.1 as a result of (i) any delay by the Transmission Provider in issuing the Facilities Study report, or (ii) any dispute brought forth by Seller against Transmission Provider related to the System Impact Study report, Facilities Study report, the generation Interconnection Agreement, or any studies performed by Transmission Provider or actions of Buyer required in order for Buyer to designate the Facility as a Network Resource. Without limiting the generality of the foregoing, "dispute" shall include Seller's right to request that the Transmission Provider file the unexecuted Generation Interconnection Agreement with FERC.

2.2 <u>Project Documentation</u>. Seller shall provide Buyer with the documents listed below detailing the project design, each of which shall be attached as Exhibit F on the Effective Date, except for the executed Generation Interconnection Agreement, which shall be attached within ten (10) days after becoming available. As the Project develops pursuant to this Agreement, Seller may submit updates to such documents to the Buyer; provided, however, Seller may not materially amend such documents, or Exhibit F, during the Term, without Buyer's written consent, which may not be unreasonably withheld or delayed. Any increase in the Nameplate Capacity Rating or Net Available Capacity will be deemed a material amendment for this Agreement.

- (a) Seller's proposed Level 1 schedule, including significant Project activities, milestones and deliverables.
- (b) A list of permits and approvals required for the construction and operation of the Project.
- (c) Project layout drawings, including all major equipment and balance of plant equipment.
- (d) An electrical single-line diagram for the Project.
- (e) 8760 net energy production estimate and 12x24 energy profile with supporting PV-Syst or equivalent modeling inputs.

- (f) System Impact Study
- (g) Executed Generation Interconnection Agreement

Any review by Buyer of the design, construction, operation or maintenance of the Project or documents pertaining thereto is solely for Buyer's information, and Buyer shall have no responsibility or liability to Seller or any third party in connection with such review. Seller is solely responsible and liable for the economic and technical feasibility, operational capability and reliability of the Project.

2.3 <u>Project Test Energy</u>. If and to the extent the Project generates Test Energy, Seller shall have the right to sell such Test Energy to a third party, including submitting bids into the EIM, free and clear of any obligations hereunder to Buyer. If and to the extent that the Project generates Test Energy and such Test Energy is sold to Buyer, the price for such Test Energy received by Buyer shall be fifty percent (50%) of the Market Index Settlement Price in excess of \$15.00. To the extent the Market Index Settlement Price is less than \$15.00 or the Test Energy Integration Cost exceeds \$15.00 in any given hour, Seller shall pay any incremental costs or expenses that are required for Buyer to receive such Test Energy, including but not limited to reimbursement for negative pricing and any necessary capacity costs, reserves costs, and imbalance costs necessary to make Buyer whole ("Test Energy Integration Cost"). Seller shall schedule Test Energy according to the Scheduling Procedure in Section 3.10.

2.4 <u>Commercial Operation</u>. Seller shall place the Project in commercial operation on March 1, 2022 (the "Commercial Operation Date"). Seller shall demonstrate in writing, in accordance with the requirements in this Section 2.4, that the following events have occurred prior to the Commercial Operation Date:

- (a) Buyer has received a certificate addressed to Buyer from a Licensed Professional Engineer acceptable to Buyer in its reasonable judgment ("LPE") stating that the Project is able to generate electric power reliably and in accordance with the terms and conditions of this Agreement (certifications required under this Section can be provided by the same or different LPEs).
- (b) Start-Up Testing of the Project has been completed.
- (c) After Buyer has received notice of completion of Start-Up Testing, Buyer has received a certificate addressed to Buyer from an LPE stating that (a) the Project has operated for testing purposes under this Agreement, and (b) the Project was continuously mechanically available for operation for a minimum of 120 hours. Seller must provide five (5) Business Days written notice to Buyer prior to the start of the initial testing period. If the mechanical availability of the Project is interrupted during this initial testing period or any subsequent testing period, the Project shall promptly start a new testing period and provide Buyer forty-eight (48) hours written notice prior to the start of such testing period.
- (d) Buyer has received a certificate addressed to Buyer from an LPE stating that all required interconnection facilities have been constructed and all required interconnection tests have been completed.

- (e) Buyer has received confirmation from the Transmission Provider(s) that (a) the Project has successfully achieved interconnected operations using Network Resource Interconnection Service, and (b) Seller has paid all amounts due under the Interconnection Agreement, including, but not limited to required network upgrades.
- (f) Buyer has received a certificate addressed to Buyer from an LPE stating that Seller has obtained all required permits and, if requested by Buyer in writing, has provided copies of any or all such requested permits.
- (g) Buyer shall have received all Performance Assurance required by this Agreement.

Seller shall provide written notice to Buyer stating when Seller believes that the Project has achieved Commercial Operation accompanied by the certificates and other documentation described above. Buyer shall have ten (10) days after receipt of Seller's notice either to confirm to Seller that all of the conditions to Commercial Operation have been satisfied or have occurred, or to state with specificity what Buyer reasonably believes has not been satisfied. If, within such ten (10) day period, Buyer does not respond or notifies Seller confirming that the Project has achieved Commercial Operation, the original date of receipt of Seller's notice shall be the Commercial Operation Date. If Buyer notifies Seller within such ten (10) day period that Buyer reasonably believes the Project has not achieved Commercial Operation, the Commercial Operation Date shall not occur until Seller has addressed the concerns stated in Buyer's notice to the mutual satisfaction of both Parties.

2.5 <u>Initial Specified Amounts</u>. Seller shall provider Buyer with written notice setting forth the Specified Amounts for each month during the Delivery Period, as represented in Exhibit C on the Effective Date.

2.6 <u>Project Remedial Action Scheme</u>. Buyer shall have the right to utilize the Project for Buyer's Transmission Provider's Remedial Action Scheme. Before the Commercial Operation Date, Seller shall at its expense make necessary arrangements, including installing any equipment contemplated in the generation Interconnection Agreement, reasonably required to enable the Project to participate in such Remedial Action Scheme for Buyer's benefit.

2.7 <u>Insurance</u>. Seller shall acquire and maintain insurance for the Project in amounts and at coverage levels reasonably acceptable to Buyer as set forth in Exhibit A. Such insurance policies shall name Buyer, its Affiliates, and its and their employees, officers and directors as additional insureds for the purpose of liability associated with this Agreement.

2.8 <u>Qualifying Facility Certification</u>. On or before the Effective Date, Seller shall certify the Project as a "Qualifying Facility," as that term is utilized in the version of 18 C.F.R. Part 292 in effect on the Effective Date. Seller shall not design, construct, operate, repair, upgrade or maintain the Project in a manner that violates the requirements to maintain such status as a Qualifying Facility for the entire Term. Furthermore, Seller shall use its best efforts, subject to Section 10.12 below, to maintain such Project status as a Qualifying Facility for the entire Term.

2.9 <u>Sale of Project Output</u>. Seller shall sell one hundred percent (100%) of the Energy generated by the Project to Buyer and may not sell any Energy generated by the Project to any other purchaser, unless such sale is expressly allowed by this Agreement or by Buyer in writing. To the extent the Seller retains the right to sell RECs associated to the Project's generation during the Delivery Period to a third party, such RECs shall be deemed unbundled.

ARTICLE 3 OBLIGATIONS AND DELIVERIES

3.1 <u>Specified Amounts</u>. For the first three (3) years of the Delivery Period, Seller's Specified Amounts for each monthly On-Peak and Off-Peak period shall equal the corresponding Initial Specified Amount identified in Exhibit C. Beginning on September 1 of the third year during the Delivery Period, and thereafter on or before September 1 of each year during the Delivery Period, Seller shall provide Buyer with updated Specified Amounts for each month during the following calendar year (except for any months outside the Delivery Period) consistent with Sections 3.1(a) and 3.1(b) below.

- (a) The Specified Amounts for each month shall be consistent with the greater of (i) the Project's demonstrated rolling three (3) year average of Project Output for such month adjusted for actual solar panel output degradation during the 3 year period, but in no event shall the degradation adjustment be greater than 0.5% per year, or (ii) eighty percent (80%) of the Initial Specified Amounts for such monthly On-Peak or Off-Peak period.
- (b) In the event that the Parties mutually agree that the Project Output in any particular month or months during the rolling 3-year period was caused by materially unusual circumstances, the Parties may agree to exclude such month or months from the rolling 3-year calculation of Project Output. The Parties agree that the intent of using the three (3) year rolling Project Output is to develop generation forecasts that accurately reflect the actual generating characteristics of the Project.
- (c) Subject to terms and conditions of the Scheduling Services Agreement, Buyer may submit curtailment bids to the CAISO EIM equal to the Fixed Price for the applicable hour on behalf of Seller so that when the Market Index Prices is less than zero, and Seller expects to receive little or no net payment for its output ("Negative Price Event"), Seller shall have the right, but not the obligation, to suspend part or all of its deliveries through CAISO EIM dispatch, via a reduction in Project Output Seller's obligation to deliver the Specified Amount shall be reduced by one (1) MWh for each substantiated MWh reduced due to a Negative Price Event during such month.
- (d) In the event of a RAS Obligation Event at the Project pursuant to Section 2.8, Seller's obligation to deliver the Specified Amount during the month of the

RAS Obligation Event at the Project shall be reduced by one (1) MWh for each MWh reduced due to the RAS Obligation Event at the Project.

3.2 <u>Energy Delivery</u>. Unless excused by (i) Force Majeure, (ii) Seller's voluntary curtailment under Section 3.1(c) associated with a Negative Price Event, (iii) Buyer's Refusal (as set forth in Section 4.3), or (iv) a Reliability Entity Curtailment Event (as set forth in Section 3.11), during the Delivery Period, Seller shall schedule and deliver the Product to Buyer at the Delivery Point, commencing on the Commercial Operation Date and continuing through the end of the Delivery Period, subject to the terms and conditions herein.

- (a) Seller shall provide Buyer with a generation forecast for the Project that contains all information reasonably requested by Buyer in order to facilitate the Parties' compliance with requirements of each Reliability Entity ("Generation Forecast"). Each Generation Forecast shall be performed by an independent Forecasting Agent. The Forecasting Agent shall utilize methodology consistent with the requirements set forth in Exhibit H. At Buyer's request, Seller will cause the Forecasting Agent to provide PGE with an Application Program Interface from which Buyer may access raw forecasting files. The Forecasting Agent and Buyer shall have real time access to information and forecasts concerning the Project's availability. Seller shall maintain, and from time to time Buyer may request copies of, an archive of observed generation, hourly generation forecasts, and hourly schedules.
- (b) Seller shall schedule the Product in accordance with Section 3.10 for delivery to Buyer at the Delivery Point in the amount of Energy expected to be generated by the Project consistent with the Generation Forecast. Seller's Energy delivery Schedule may not intentionally exceed the Generation Forecast in any hour. Seller's Energy delivery Schedule may not exceed the Net Available Capacity in any hour. Seller and Buyer agree that the intent of this Section 3.2(b) is for Seller to Schedule and deliver Energy resembling actual production for each hour.
- (c) Seller shall provide Buyer with a real-time ICCP and EIDE communications link to the Project Meter.
- (d) Unless otherwise provided in this Agreement, Seller shall deliver to Buyer a quantity of Specified Energy for each monthly On-Peak and Off-Peak period during the Delivery Period in an amount equal to Specified Amounts as set forth in Section 3.1.
- (e) Seller shall be responsible for any costs or charges imposed on or associated with the Product or its receipt, provided such costs or charges are either (a) imposed on the Seller's side of the Delivery Point, or (b) as a result of schedule deviations, or (c) schedule deviations, or (c) Seller's actions.

- (f) Seller shall maintain records of energy forecasts, schedules, and Net Output. Seller shall maintain a minimum of forty-two (42) months of records and shall agree to allow PGE to have access to such records.
- (g) Seller is responsible for all costs and ensuring the Project is designated as a PGE EIM Participating Resource (as defined in the OATT), including designing, constructing, installing, repairing and maintaining all requisite technology requirements set forth in the OATT.

3.3 <u>Green Attributes Delivery</u>. Unless excused by (i) Force Majeure, (ii) Seller's voluntary curtailment under Section 3.1(c) associated with a Negative Price Event, (iii) Buyer's Refusal (as set forth in Section 4.3), or (iv) a Reliability Entity Curtailment Event (as set forth in Section 3.11), during the Deficiency Period, Seller shall convey to Buyer all Green Attributes, including Bundled Project RECs, associated with all Specified Energy. Seller represents and warrants that Seller will hold good title, free and clear of any liens or encumbrances, to all Green Attributes from the Project during the Deficiency Period, including all Bundled Project RECs, conveyed to Buyer.

- (a) Title to RECs transferred by Seller to Buyer pursuant to this Agreement shall be settled through WREGIS.
- (b) Unless otherwise specified herein or by written notification by Buyer, for each month of the Delivery Period after the beginning of the Deficiency Period, Seller shall deliver and convey the Bundled Project RECs associated with the Specified Energy delivered to Buyer within ten (10) Business Days after the end of the month in which the WREGIS certificates for such Bundled Project RECs are created.
- (c) Buyer and Seller may mutually agree during the Deficiency Period for the purchase and conveyance of Bundled Project RECs and Green Attributes associated with any As-Available Energy delivered by Seller to Buyer.
- (d) Each calendar year, Seller shall offer to sell all Sufficiency Period RECs to Buyer for the applicable year. Seller shall provide Buyer 30 days to consider any of Seller's offer to purchase all the RECs or a portion thereof under this Section, prior to selling the RECs to a third party. In the event Buyer declines any offer to purchase the RECs, Seller may not sell the RECs to a third party at a lower price than what was offered to Buyer without first offering to sell the RECs to Buyer at such lower price.

3.4 <u>Carbon Emissions</u>. Seller is responsible for and shall pay for all future costs, if any, whether incurred by Seller or Buyer, resulting from any carbon emissions generated by or associated with the Delivered Energy Quantity. Seller may provide Buyer with carbon emissions offsets that are reasonably satisfactory to Buyer in lieu of a monetary settlement. Within ten (10) Business Days after Buyer's request, Seller shall provide Buyer with the carbon emissions data for the Delivered Energy Quantity delivered during the Delivery Period. 3.5 <u>Buyer's Obligations</u>. Buyer shall purchase and receive the Product delivered by Seller to the Delivery Point up to the Net Available Capacity in any hour during the Delivery Period in accordance with and subject to the terms of this Agreement. Buyer shall pay Seller the applicable price for all Specified Energy and As-Available Energy delivered to the Delivery Point as set forth in Article 6 (Price, Payment and Netting). Buyer shall be responsible for any costs or charges imposed on or associated with the Product or its receipt, provided such costs or charges are imposed at or on the Buyer's side of the Delivery Point and the not the result of Seller's actions.

36 Metering. Seller shall design, furnish, install, own, inspect, test, and maintain metering equipment for the Project. Seller shall periodically (but no less than once every six (6) months) inspect, test, repair or replace the metering equipment at Seller's cost and provide such results to Buyer upon Buyer's request. If any of the inspections or tests disclose an error exceeding 0.5 percent, either fast or slow, proper correction, based upon the inaccuracy found, shall be made of previous readings for the actual period during which the Project Meter 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 Project Meter 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 Such correction, when made, shall constitute full monthly billing or payment rendered. adjustment of any claim between Seller and Buyer arising out of such inaccuracy of metering equipment.

3.7 <u>Planned Outages</u>. Beginning on September 1, 2021, and thereafter on or before September 1 of each year during the Delivery Period (except for the last partial year of the Delivery Period), Seller shall provide Buyer with an annual schedule of all planned maintenance at the Project for the upcoming calendar year that is expected to result in an outage of more than ten percent (10%) of the generating capacity of the Project for two (2) or more consecutive On-Peak hours, as represented in Exhibit G. Seller shall use commercially reasonable efforts to plan scheduled maintenance to (i) maximize the productive output of the Project and (ii) not to occur between July 1 and September 30 or between December 1 and February 28.

3.8 <u>Forced Outages</u>. Seller shall give Buyer immediate telephonic notice (within 20 minutes) of any forced or unplanned outage events at the Project if such events will curtail or adversely affect scheduled Energy deliveries or any Generation Forecasts provided to Buyer, by contacting the Buyer's Scheduling Desk. Such notice must include a description of the cause of the outage and an estimate of the duration of the outage. Seller shall provide Buyer regular and frequent updates regarding any changes of status set forth in the initial notice. Seller shall use reasonable efforts to avoid or mitigate outages during the Delivery Period, and Seller shall use best efforts to avoid or mitigate outages during Buyer's system emergencies.

- 3.9 Intentionally Left Blank.
- (a)
- 3.10 Scheduling Procedure.

- (a) For each day during the Delivery Period, Seller shall, by 5:00 a.m. PPT of the customary WECC Pre-Scheduling Day, communicate to PGE's Pre-schedule Desk via API or as directed by PGE, the expected energy to be delivered each hour at the Delivery Point for the delivery day, consistent with the Generation Forecast.
- (b) Seller shall communicate to PGE's Real-time Desk via API or as directed by PGE energy deliveries consistent with the Generation Forecast described in Section 3.2 (iii) no later than ninety (90) minutes prior to the flow hour ("Base Schedule").
- (c) Seller and PGE agree that the intent of Section 3.10 is for Seller to schedule and deliver energy resembling actual production from the Facility for each interval.
- (d) In the event the regional market design, CAISO EIM, Balancing Authority, or other Reliability Entity causes PGE's scheduling practices to change after the Effective Date, PGE shall have the right but not the obligation to update the scheduling and forecasting procedures described in this Sections 3.2 and 3.10 by giving sixty (60) days' prior written notice to Seller of such update.

3.11 <u>Reliability Entity Curtailment.</u> Buyer shall not be liable to Seller if curtailment of Energy is due to the action of a Reliability Entity to mitigate system emergencies or extreme light loading conditions ("Reliability Entity Curtailment Event").

3.12 <u>Approval for Seller to Join Organized Markets</u>. During the Term of this Agreement, Seller shall not register as participating resource in an independent system operator market or other organized market without prior written consent from Buyer, which consent may be granted in Buyer's sole discretion.

3.13 <u>Seller to Designate Forecasting and Scheduling Coordinator</u>. At least thirty (30) days before it begins to Schedule and deliver Test Energy under this Agreement, Seller shall engage at its expense a top-tier third-party forecasting agent (the "Forecasting Agent"), subject to Buyer's prior approval. At least thirty (30) days before it begins to deliver Test Energy under this Agreement, Seller agrees to enter into a separate agreement with Buyer for scheduling services ("Scheduling Services Agreement"). Under the Scheduling Services Agreement, Buyer shall perform Seller's Scheduling for the Product obligations under this Section 3.13 based exclusively on forecasts supplied by the Forecasting Agent. Seller is responsible for all expenses related to the Forecasting Agent and the Scheduling Services Agreement.

3.14 <u>Maximum Delivery Amounts</u>. Seller shall sell and deliver, and Buyer shall buy and receive, the Delivered Energy Quantity delivered pursuant to this Agreement, up to the Net Available Capacity per hour and Maximum Annual Volume. Seller shall not increase (i) the Project's ability to deliver Project Output, (ii) Nameplate Capacity Rating, or (iii) Net Available Capacity through any means, including but not limited to replacement or modification of equipment or related infrastructure.

ARTICLE 4 REMEDIES FOR FAILURE TO DELIVER/RECEIVE

4.1 <u>Seller Failure to Deliver Specified Energy</u>. If Seller fails to schedule and deliver Specified Energy and in an amount equal to the Specified Amount for any monthly On-Peak or Off-peak period ("Energy Shortfall"), and such failure is not excused by (i) Force Majeure, (ii) Seller's voluntary curtailment under Section 3.1(c) associated with a Negative Price Event, or (iii) Buyer's Refusal (as set forth in Section 4.3), Seller shall pay Buyer as follows:

- (a) Seller shall pay Buyer an amount for such deficiency equal to the positive difference (if any) of the average On-Peak or Off-Peak Market Index Prices for such month minus the Fixed Price for such On-Peak or Off-Peak period multiplied by the positive difference (if any) of the Specified Amount applicable monthly On-Peak and Off-peak period minus the Specified Energy delivered during such monthly On-Peak or Off-peak period; and
- (b) In the event the replacement energy procured by Buyer as a result of Seller's failure to deliver the Specified Amount results in incremental Carbon Emissions costs to the Buyer, Seller shall pay Buyer an amount equal to the costs incurred by Buyer or provide carbon offsets to Buyer in accordance with Section 3.4; provided, however that Buyer shall provide commercially reasonable evidence that it incurred such costs as a result of Seller's failure to deliver the Specified Amount; and
- (c) In the event the replacement energy procured by Buyer as a result of Seller's failure to deliver the Specified Amount results in incremental ancillary services and transmission costs, Seller shall pay Buyer an amount equal to the costs incurred by Buyer; provided, however that Buyer shall provide commercially reasonable evidence that it incurred such costs as a result of Seller's failure to deliver the Specified Amount; and
- (d) Seller shall not owe Buyer amounts under this Section 4.1 to the extent that Seller's failure to deliver Energy in any month is caused by Seller's voluntary curtailment of generation at the Project, in whole or part, during Negative Price Events.

4.2 <u>Seller Failure to Deliver Green Attributes</u>. If Seller fails to deliver associated Green Attributes, including Bundled Project RECs, in an amount equal to the Specified Amount for any monthly On-Peak or Off-peak period ("REC Shortfall"), and such failure is not excused by (i) Force Majeure, (ii) Seller's voluntary curtailment under Section 3.1(c) associated with a Negative Price Event, or (iii) Buyer's Refusal (as set forth in Section 4.3), then Seller shall be obligated to settle any shortfall in the delivery of Green Attributes (including Bundled Project RECs) as follows:

(a) Seller shall deliver an equivalent amount of Qualifying Replacement RECs to remedy any REC Shortfall from the applicable month within 120 days after the

end of the shortfall month (for the avoidance of doubt, Qualifying Replacement RECs may include RECs from As-Available Energy that were not conveyed by Seller to Buyer under this Agreement, if any, generated within the same calendar year); or

- (b) In the event Seller elects not to deliver an equivalent amount of Qualifying Replacement RECs under Section 4.2(a) above and Buyer elects, in its sole discretion, to purchase Replacement Bundled RECs, Seller shall owe Buyer the bundled REC price, excluding the Energy value, that Buyer (acting in a commercially reasonable manner) actually pays for Replacement Bundled RECs; or
- (c) In the event Seller elects not to deliver an equivalent amount of Qualifying Replacement RECs under Section 4.2(a) above and Buyer does not elect, in its sole discretion, to purchase replacement bundled RECs under subpart (ii), Seller shall owe Buyer the spot bundled REC price, excluding the Energy value, identified by Buyer multiplied by the number of Bundled Project RECs Seller failed to deliver. Buyer shall use commercially reasonable efforts to mitigate the amount owed by Seller under this Section 4.2(c). The replacement price for bundled RECs shall be determined by taking the lower of two dealer quotes representing a live offer to sell bundled RECs in a quantity sufficient to cover the shortfall.

For purposes of Section 4.2, a "Replacement Bundled REC" shall mean a REC bundled with the associated qualifying energy generated by an Oregon Renewable Portfolio Standard eligible renewable energy resource and delivered bundled at a delivery point agreeable to the Buyer.

Any amount owed by the Seller to the Buyer under this Section 4.1 shall be netted against Buyer's payment obligation for the month pursuant to Section 6.6 below.

4.3 <u>Buyer Refusal.</u> If Buyer refuses to accept any part of the Product that is scheduled in accordance with Section 3.10 and that Seller is ready, willing and able to deliver to the Delivery Point, and such refusal is not excused by a Reliability Entity Curtailment Event, Force Majeure or by Seller's failure to perform, then Buyer shall owe Seller an amount for such deficiency equal to the positive difference between the applicable purchase price as set forth in Section 6.1 below for the amount of Product Buyer refuses to receive minus the Sales Price associated with the amount of Product Buyer refuses to receive that Seller elects to sell to third parties, if any. Any such amount owed by the Buyer to the Seller shall be added to the calculation of the Buyer's payment obligation for the month pursuant to Section 6.1 below. For each MWh of Product not accepted by Buyer pursuant to this Section 4.3, Seller's obligation to deliver Specified Amount shall be reduced by one (1) MWh, and Seller's Minimum Annual Volume shall be similarly reduced by one (1) MWh.

ARTICLE 5 EVENTS OF DEFAULT; REMEDIES

5.1 <u>Events of Default</u>. An "Event of Default" shall mean, with respect to a Party (a "Defaulting Party"), the occurrence of any of the following:

- (a) the failure to make, when due, any payment required pursuant to this Agreement that is not subject to a good faith dispute, if such failure is not remedied within three (3) Business Days after written notice;
- (b) any representation or warranty made by a Party herein is false or misleading when made or when deemed made or repeated in any respect that materially adversely affects the other Party;
- (c) the failure to perform any material covenant or obligation set forth in this Agreement if the Defaulting Party does not initiate a remedy within ten (10) Business Days after written notice and thereafter diligently pursue such remedy to completion (but in no event later than ninety (90) calendar days after written notice is provided to the Defaulting Party); provided, however, this Section 5.1(c) shall not apply to Seller's obligation to schedule and deliver the Specified Amounts of Product and Bundled Project RECs or to Buyer's obligation to receive and purchase the Product, as the exclusive remedies for such events are provided in Article 4 (Remedies for Failure to Deliver/Receive);
- (d) such Party becomes Bankrupt;
- (e) the failure of such Party to timely satisfy the creditworthiness/collateral requirements agreed to pursuant to Article 8 (Credit and Collateral Requirements) hereof, if the failure continues for five (5) Business Days after written notice of the failure is given to that Party;
- (f) such Party consolidates or amalgamates with, or merges with or into, or transfers all or substantially all of its assets to, another entity and, at the time of such consolidation, amalgamation, merger or transfer, the resulting, surviving or transferee entity fails to assume all the obligations of such Party under this Agreement to which it or its predecessor was a party by operation of law or pursuant to an agreement reasonably satisfactory to the other Party;
- (g) during any period in which a Letter of Credit is issued on behalf of that Party, a Letter of Credit default shall have occurred upon the occurrence of any of the following events with respect to the issuer of such Letter of Credit and the event has not been remedied or an eligible replacement Letter of Credit has not been provided within two (2) Business Days of written notice of the Letter of Credit default: (i) such issuer fails to be a Qualified Institution; (ii) such issuer fails to comply with or perform its obligations under such Letter of Credit; (iii) such issuer disaffirms, disclaims, repudiates, or rejects, in whole or in part, or challenges the validity of, such Letter of Credit; (iv) such Letter of Credit expires or is within thirty (30) days of its expiration date or otherwise terminates, fails, or

ceases to be in full force and effect at any time during the term, in any such case without replacement; (v) such issuer becomes bankrupt; or (vi) a Merger Event occurs with respect to the issuer of such Letter of Credit; provided, however, that no Letter of Credit default shall occur or be continuing in any event with respect to a Letter of Credit after the time such Letter of Credit is required to be canceled or returned to a Party in accordance with the terms of this Agreement;

- (h) in the event Seller materially fails to meet a Project development milestone set forth in Article 2 (The Project), provided that such failure is not excused by the tolling provisions in Section 2.1, Seller's failure to provide Buyer with the information or assurances required in Section 2.1, as determined in Buyer's reasonable discretion, that the Project will be completed consistent with the terms of this Agreement (taking into account the cure period applicable to the Commercial Operation Date set forth below) and such failure continues for ten (10) Business Days after written notice of the failure is given to the Seller;
- (i) Seller's failure to make material progress on construction activities for the Project, as determined in Buyer's reasonable discretion, provided that such failure is not excused by the tolling provisions in Section 2.1, by December 1, 2021, and such failure continues for ten (10) Business Days after written notice of the failure is given to the Seller, unless Seller can establish to Buyer's reasonable satisfaction that the delay in material progress is caused by circumstances outside Seller's reasonable control (such as an injunction, an inability of the supply chain to deliver orders that were placed timely to meet the Commercial Operation Date, or force majeure);
- (j) Seller's failure to achieve the scheduled Commercial Operation Date set forth in Section 2.4 but only if such failure is not remedied within twelve (12) months after Seller receives Buyer's written notice to cure. Within thirty (30) days after Seller receives such notice to cure, Seller shall provide Buyer with a detailed Project completion plan, including updated and detailed milestone dates. Seller shall be entitled to a day-for-day extension of Commercial Operation Date beyond such twelve (12) months, but in no event for longer than an additional twelve (12) months, if the cause of Seller's failure to achieve the Commercial Operation Date is solely and directly attributable to the failure of PGE (acting in its transmission function) to place any required interconnection facilities and/or network upgrades into service by the in-service dates agreed to in the executed Generation Interconnection Agreement;
- (k) commencing on the Commercial Operation Date, Seller's failure to deliver the Minimum Annual Volume to Buyer during either two (2) consecutive calendar years or two (2) out of three (3) calendar years during the Delivery Period by reason other than (i) Force Majeure, (ii) Seller's voluntary curtailment under Section 3.1(d) associated with a Negative Price Event, (iii) Buyer Refusal pursuant to Section 4.3, or (iv) a Reliability Entity Curtailment Event pursuant to Section 3.11.

5.2 Declaration of an Early Termination Date and Calculation of Settlement Amount. If an Event of Default with respect to a Defaulting Party has occurred and is continuing, the Non-Defaulting Party shall have the right to: (i) designate a day, no earlier than the day such notice is effective and no later than twenty (20) days after such notice is effective, as an early termination date ("Early Termination Date") upon which to calculate a Settlement Amount as described below; and (ii) suspend further performance pursuant to Section 5.5 below. The Non-Defaulting Party shall calculate, in a commercially reasonable manner, a Settlement Amount as of the Early Termination Date. The Gains and Losses shall be determined by calculating the amount that would be incurred or realized to replace or to provide the economic equivalent of the remaining payments or deliveries for a period of either (i) five (5) years after the Early Termination Date, or (ii) the amount of time between the Early Termination Date and the original expiration date of the Agreement, whichever occurs earlier. The Non-Defaulting Party (or its agent) may determine its Gains and Losses by reference to information either available to it internally or supplied by one or more third parties including, without limitation, quotations (either firm or indicative) of relevant rates, prices, yields, yield curves, volatilities, spreads or other relevant market data in the relevant markets. Third parties supplying such information may include, without limitation, dealers in the relevant markets, end-users of the relevant product, information vendors and other sources of market information. The calculation of the Settlement Amount shall assume that the monthly Specified Amounts for future years will be the same as the Initial Specified Amounts established in accordance with Section 2.5.

5.3 Payment of Settlement Amount. As soon as practicable after a calculation of the Settlement Amount, written notice shall be given by the Non-Defaulting Party to the Defaulting Party of the amount of the Settlement Amount and whether payment of the Settlement Amount is due to or due from the Non-Defaulting Party. The notice shall include a written statement explaining in reasonable detail the calculation of such Settlement Amount. In the event that the Settlement Amount is to be paid by the Defaulting Party to the Non-Defaulting Party, payment of the Settlement Amount is to be paid by the Defaulting Party to the Non-Defaulting Party, payment of the Settlement Amount is to be paid by the Non-Defaulting Party to the Defaulting Party, payment of the Settlement Amount is to be paid by the Non-Defaulting Party to the Defaulting Party, payment of the Settlement Amount shall be made upon the earlier to occur of: (i) such time as the Non-Defaulting Party receives confirmation satisfactory to it in its reasonable discretion (which may include an opinion of its counsel) that all other obligations of any kind whatsoever of the Defaulting Party to make any payments to the Non-Defaulting Party under this Agreement or otherwise which are due and payable as of the Early Termination Date have been fully and finally performed; or (ii) one hundred eighty (180) days after the Early Termination Date.

5.4 <u>Disputes with Respect to Settlement Amount</u>. If the Defaulting Party disputes the Non-Defaulting Party's calculation of the Settlement Amount, in whole or in part, the Defaulting Party shall, within ten (10) Business Days of receipt of Non-Defaulting Party's calculation of the Settlement Amount, provide to the Non-Defaulting Party a detailed written explanation of the basis for such dispute; provided, however, that if the Settlement Amount is due from the Defaulting Party, the Defaulting Party shall first transfer Performance Assurance to the Non-Defaulting Party in an amount equal to the Settlement Amount.

5.5 <u>Buyer Suspension of Performance</u>. Notwithstanding any other provision of this Agreement, if an Event of Default by Seller has occurred and is continuing, the Buyer, upon written notice to the Seller, shall have the right (i) to suspend future performance of both Parties

under this Agreement; provided, however, in no event shall any such suspension continue for longer than ten (10) Business Days unless an early Termination Date has first been declared and notice thereof pursuant to Section 5.2 given, and (ii) to the extent an Event of Default shall have occurred and be continuing to exercise any remedy available at law or in equity.

5.6 <u>Subsequent Agreement Following Early Termination</u>. If this Agreement is terminated early because of an Event of Default by Seller, and Seller or Seller's assignee subsequently seeks to resume selling Project Output to Buyer, then Buyer in its sole discretion may: (a) require that the terms of any such sale be governed by the then-applicable avoided cost rates and contract terms; or (b) require that the terms of any such sale be subject to the avoided cost rates and other terms and conditions of this Agreement until this Agreement's original expiration date.

5.7 <u>Seller's Failure to Obtain an Interconnection Agreement.</u> Notwithstanding anything to the contrary in this Article 5 or elsewhere in this Agreement, should Seller be unable to secure a financeable Interconnection Agreement, as determined by Seller in its reasonable discretion, Seller shall have the right to terminate this Agreement without penalty or owing of any Settlement Amount, so long as such termination occurs no later than eighteen (18) months after the Effective Date.

ARTICLE 6 PRICE, PAYMENT AND NETTING

6.1 <u>Price</u>. For each calendar month during the Delivery Period during the Fixed Price Term, Buyer shall pay Seller the sum of the following (a) - (c):

- (a) The amount of Specified Energy delivered during the calendar month, up to the Specified Amounts for such month, multiplied by the applicable Firm Fixed Prices for On-Peak hours and for Off-Peak hours; plus
- (b) The amount of As-Available Energy delivered during the calendar month multiplied by the Market Index Settlement Price; plus
- (c) For each hour that the Market Index Price is negative, the sum of the Delivered Energy Quantity for each applicable hour multiplied by the Market Index Price.

6.2 Seller shall be responsible for any and all costs, charges, or fees associated with any schedule deviations after ninety from the Base Schedule. Generally, the Schedule Deviations will be calculated as follows for each hour:

- (a) [FMM Instructed Imbalance Energy minus Base Schedule] multiplied by the realtime pre-dispatch price; plus
- (b) [Real Time Instructed Imbalance Energy minus FMM Instructed Imbalance Energy] multiplied by the real-time dispatch price; plus

- (c) [Real Time Uninstructed Imbalance Energy minus Real Time Instructed Imbalance Energy] multiplied by the real-time dispatch price; plus
- (d) Any other costs, charges, or fees associated with Schedule Deviations provided, however that Buyer shall provide commercially reasonable evidence that it incurred such costs, charges, or fees as a result of the deviation from schedule.

To the extent the above calculation result in a net negative value for the respective hour, the Seller shall reimburse Buyer for such value.

6.3 <u>Billing Period</u>. The calendar month shall be the standard period for all payments under this Agreement (other than payment of the Settlement Amount). As soon as practicable but not more than five (5) calendar days after the end of each month, Seller will tender to Buyer a written statement of the payment obligations, if any, incurred hereunder during the preceding month.

6.4 <u>Timeliness of Payment</u>. All amounts due and owing under this Agreement shall be paid on or before the twentieth (20th) day of each month or, if such day is not a Business Day, then on the next Business Day. The Party owing payment for the month will make payments by electronic funds transfer, or by other mutually agreeable method(s), to the account designated by the receiving Party. Any amounts not paid by the due date will be deemed delinquent and will accrue interest at the Interest Rate, such interest to be calculated from and including the due date but excluding the date the delinquent amount is paid in full.

Disputes and Adjustments of Invoices. Buyer may, in good faith, dispute the 6.5 correctness of any monthly payment amount calculated by Seller under this Agreement within twelve (12) months. In the event an invoice or portion thereof, or any other claim or adjustment arising hereunder, is disputed, payment of the undisputed portion of the invoice shall be required to be made when due, with notice of the objection. Any invoice dispute or invoice adjustment shall be in writing and shall state the basis for the dispute or adjustment. Payment of the disputed amount shall not be required until the dispute is resolved. Upon resolution of the dispute, any required payment shall be made within ten (10) Business Days of such resolution along with interest accrued at the Interest Rate from and including the due date but excluding the date paid. Inadvertent overpayments shall be returned upon request or deducted by the Party receiving such overpayment from subsequent payments, with interest accrued at the Interest Rate from and including the date of such overpayment but excluding the date repaid or deducted by the Party receiving such overpayment. Any dispute with respect to an invoice is waived unless the other Party is notified in accordance with this Section 6.5 within twelve (12) months after the invoice is rendered or any specific adjustment to the invoice is made. If an invoice is not rendered within twelve (12) months after the close of the month during which performance occurred, the right to payment for such performance is waived.

6.6 <u>Netting of Payments</u>. The Parties hereby agree that they shall discharge mutual debts and payment obligations due and owing to each other for the same monthly billing period through netting, in which case all amounts owed by each Party to the other Party for the purchase and sale of the Product during the monthly billing period under this Agreement, including any

related damages calculated pursuant to Article 4 (Remedies for Failure to Deliver/Receive) (unless one of the Parties elects to accelerate payment of such amounts as permitted by Article 4), interest, and payments or credits, shall be netted so that only the excess amount remaining due shall be paid by the Party who owes it.

6.7 <u>Payment Obligation Absent Netting</u>. If no mutual debts or payment obligations exist and only one Party owes a debt or obligation to the other during the monthly billing period, including, but not limited to, any related damage amounts calculated pursuant to Article 4 (Remedies for Failure to Deliver/Receive), interest, and payments or credits, that Party shall pay such sum in full when due.

6.8 <u>Security</u>. Except in connection with a liquidation and termination in accordance with Article 5 (Events of Default; Remedies), all amounts netted pursuant to this Article 6 (Price, Payment and Netting) shall not take into account or include any Performance Assurance which may be in effect to secure a Party's performance under this Agreement.

6.9 <u>Price Adjustment for Project Operating Parameters</u>. In the event the Project Operating Parameters differ in a materially adverse way, as reasonably determined by Buyer, from the operating conditions actually observed over the course of ninety (90) consecutive calendar days after the Commercial Operation Date, Buyer (acting in a commercially reasonable manner) may re-evaluate and adjust the Fixed Price for future deliveries after delivering sixty (60) days prior written notice to Seller of such price adjustment.

ARTICLE 7 LIMITATIONS OF LIABILITY

EXCEPT AS SET FORTH HEREIN, THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY AND ALL IMPLIED WARRANTIES ARE DISCLAIMED. THE PARTIES CONFIRM THAT THE EXPRESS REMEDIES AND MEASURES OF DAMAGES PROVIDED IN THIS AGREEMENT SATISFY THE ESSENTIAL PURPOSES HEREOF. FOR BREACH OF ANY PROVISION FOR WHICH AN EXPRESS REMEDY OR MEASURE OF DAMAGES IS PROVIDED. SUCH EXPRESS REMEDY OR MEASURE OF DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY, AND THE OBLIGOR'S LIABILITY SHALL BE LIMITED AS SET FORTH IN SUCH PROVISION AND ALL OTHER REMEDIES OR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. IF NO REMEDY OR MEASURE OF DAMAGES IS EXPRESSLY PROVIDED HEREIN, THE OBLIGOR'S LIABILITY SHALL BE LIMITED TO DIRECT ACTUAL DAMAGES ONLY, SUCH DIRECT ACTUAL DAMAGES SHALL BE THE SOLE AND EXCLUSIVE REMEDY AND ALL OTHER REMEDIES OR DAMAGES AT LAW OR IN EQUITY ARE WAIVED. UNLESS EXPRESSLY HEREIN PROVIDED, NEITHER PARTY SHALL BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY OR INDIRECT DAMAGES, LOST PROFITS OR OTHER BUSINESS INTERRUPTION DAMAGES, BY STATUTE, IN TORT OR CONTRACT. IT IS THE INTENT OF THE PARTIES THAT THE LIMITATIONS HEREIN IMPOSED ON REMEDIES AND THE MEASURE OF DAMAGES BE WITHOUT REGARD TO THE

CAUSE OR CAUSES RELATED THERETO, INCLUDING THE NEGLIGENCE OF ANY PARTY, WHETHER SUCH NEGLIGENCE BE SOLE, JOINT OR CONCURRENT, OR ACTIVE OR PASSIVE. TO THE EXTENT ANY DAMAGES REQUIRED TO BE PAID HEREUNDER ARE LIQUIDATED, THE PARTIES ACKNOWLEDGE THAT THE DAMAGES ARE DIFFICULT OR IMPOSSIBLE TO DETERMINE, OR OTHERWISE OBTAINING AN ADEQUATE REMEDY IS INCONVENIENT AND THE DAMAGES CALCULATED HEREUNDER CONSTITUTE A REASONABLE APPROXIMATION OF THE HARM OR LOSS.

ARTICLE 8 CREDIT AND COLLATERAL REQUIREMENTS

8.1 <u>Seller Financial Information</u>. If requested by Buyer, Seller shall deliver: (i) prior to mobilization under the EPC Contract, evidence of Project financing, including the material terms of such financing (e.g., copy of the bank approval letter); (ii) within 120 days following the end of each fiscal year, a copy of Seller's annual report containing audited consolidated financial statements for such fiscal year; (iii) within sixty (60) days after the end of each of its first three fiscal quarters of each fiscal year, a copy of Seller's quarterly report containing unaudited consolidated financial statements for such fiscal quarter; and (iv) any supplemental financial information required to answer any questions related to such reports in a timely manner. In all cases the statements shall be for the most recent accounting period and prepared in accordance with generally accepted accounting principles; provided, however, that should any such statements not be available on a timely basis due to a delay in preparation or certification, such delay shall not be an Event of Default so long as Seller diligently pursues the preparation, certification and delivery of the statements.

8.2 <u>Performance Assurance</u>. Beginning on the Commercial Operation Date, and at the beginning of each calendar quarter thereafter, Buyer shall calculate the Projected Power Replacement Costs and the Projected Contract Costs in accordance with the formulas below. If the Projected Power Replacement Costs are greater than the Projected Contract Costs, Seller shall deliver to Buyer, within ten (10) Business Days, Performance Assurance in an amount equal to the amount by which the Projected Power Replacement Costs exceed the Projected Contract Costs.

(a) The Projected Power Replacement Costs shall equal the net present value of the sum of: (i) 110% of the price curve of the future ICE Mid-C Index for both On-Peak hours and Off-Peak hours multiplied by the Specified Amounts to be delivered during such hours over the next five (5) years; and, during the Deficiency Period, (ii) 110% of the projected spot price for Qualifying Replacement RECs determined consistent with Section 4.2(b) above for bundled RECs multiplied by the Specified Amounts to be delivered over the next five (5) years. During the first five (5) years of the Term, commencing on the Effective Date, the calculation of the Projected Power Replacement Costs shall assume that the monthly Specified Amounts for future years will be the same as the Initial Specified Amounts established in accordance with Section 2.5.

(b) The Projected Contract Costs shall equal the net present value of the Fixed Prices set forth in Schedule C for both On-Peak hours and Off-Peak hours multiplied by the Specified Amounts to be delivered during such hours over the next five (5) years. The calculation of the Projected Contract Costs shall assume that the monthly Specified Amounts for future years will be the same as the Initial Specified Amounts established in accordance with Section 2.5.

To calculate net present value for purposes of this Agreement, the Parties shall use the Bloomberg "S23 Corp" (Bloomberg ID "YCSW0023") interest-rate swap curve as the discount rate.

Buyer Financial Information. If requested by Seller, Buyer shall deliver (i) within 8.3 120 days following the end of each fiscal year, a copy of Buyer's annual report containing audited consolidated financial statements for such fiscal year and, (ii) within 60 days after the end of each of its first three fiscal quarters of each fiscal year, a copy of Buyer's quarterly report containing unaudited consolidated financial statements for such fiscal quarter. Delivery of these financial statements may be achieved by Buyer making them available on Buyer's company website or through the Securities Exchange Commission EDGAR website. In all cases the statements shall be for the most recent accounting period and prepared in accordance with generally accepted accounting principles; provided, however, should any such statements not be available on a timely basis due to a delay in preparation or certification, such delay shall not be an Event of Default so long as Buyer diligently pursues the preparation, certification and delivery of the statements. Notwithstanding the foregoing, Buyer will not have any obligation to post any form of performance assurance with respect to this Agreement, and Seller hereby waives all implied rights related to financial assurance arising from Section 2-609 of the Uniform Commercial Code or case law applying similar doctrines.

8.4 <u>Interest Rate on Cash Collateral</u>. Performance Assurance delivered by Seller in the form of cash shall bear interest at the Interest Rate on Cash Collateral and shall be calculated by Buyer and paid to Seller along with the monthly payment amount set forth in Article 6 (Price, Payment and Netting) above.

8.5 <u>Performance Assurance is Not a Limit on Seller's Liability</u>. The Performance Assurance contemplated by this Article 8 (Credit and Collateral Requirements) (a) constitutes security for, but is not a limitation of, Seller's obligations under this Agreement, and (b) shall not be Buyer's exclusive remedy for Seller's failure to perform in accordance with this Agreement.

8.6 <u>Grant of Security Interest in Performance Assurance</u>. To secure its obligations under this Agreement and to the extent Seller delivers Performance Assurance, Seller hereby grants to Buyer a present and continuing security interest in, and lien on (and right of setoff against), and assignment of, all cash collateral and cash equivalent collateral and any and all proceeds resulting therefrom or the liquidation thereof, whether now or hereafter held by, on behalf of, or for the benefit of, Buyer, and Seller agrees to take such action as Buyer reasonably requires in order to perfect Buyer's first-priority security interest in, and lien on (and right of setoff against), such collateral and any and all proceeds resulting therefrom or from the liquidation thereof.

ARTICLE 9 GOVERNMENTAL CHARGES

9.1 <u>Cooperation</u>. Each Party shall use reasonable efforts to implement the provisions of and to administer this Agreement in accordance with the intent of the Parties to minimize all taxes, so long as neither Party is materially adversely affected by such efforts.

9.2 <u>Governmental Charges</u>. Seller shall pay or cause to be paid all taxes imposed by any government authority ("Governmental Charges") on or with respect to the Project or the Product arising prior to the Delivery Point. Buyer shall pay or cause to be paid all Governmental Charges on or with respect to the Product at and from the Delivery Point (other than ad valorem, franchise or income taxes related to the sale of the Product by Seller and are, therefore, the responsibility of the Seller). In the event one Party remits or pays any Governmental Charges that are the other Party's responsibility hereunder, the amount of such payment shall be included in the calculation of the next monthly net payment amount calculated by Seller pursuant to Section 6.6 above. Nothing shall obligate or cause a Party to pay or be liable to pay any Governmental Charges for which it is exempt under the law.

ARTICLE 10 MISCELLANEOUS

- 10.1 Conditions Precedent; Term of Agreement.
- (a) <u>Buyer Condition Precedent</u>. The obligations under this Agreement are conditioned on and subject to Seller paying in full all amounts due under the Interconnection Agreement, including, but not limited to reasonably required network upgrades identified via the Network Resource Interconnection Service process, provided that either the Public Utilities Commission of Oregon or FERC does not abnegate this requirement in accordance with Section 3.6(c). In the event this condition precedent (i) has not been abnegated or (ii) has not been either satisfied or waived by Buyer, Buyer may terminate this Agreement by providing written notice of termination to Seller not earlier than the Commercial Operation Date. Neither Buyer nor Seller shall have any liability to one another associated with such termination.
- (b) <u>Term of Agreement</u>. The term of this Agreement shall commence on the Effective Date and shall end on February 28, 2037 (the "Term"). In no case shall the expiration of this Agreement affect or excuse the performance of either Party under any provision of this Agreement that, by its terms or by its intent, survives the expiration of the Agreement.

10.2 <u>Representations and Warranties</u>. As of the Effective Date, each Party represents and warrants to the other Party that:

(a) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation;

- (b) it has or will obtain all regulatory authorizations necessary for it to legally perform its obligations under this Agreement at the time such obligations must be performed;
- (c) the execution, delivery and performance of this Agreement are within its powers, have been duly authorized by all necessary action and do not violate any of the terms and conditions in its governing documents, any contracts to which it is a party or any law, rule, regulation, order or the like applicable to it;
- (d) this Agreement and each other document executed and delivered in accordance with this Agreement constitutes its legally valid and binding obligation enforceable against it in accordance with its terms; subject to any Equitable Defenses.
- (e) it is not Bankrupt and there are no proceedings pending or being contemplated by it or, to its knowledge, threatened against it which would result in it being or becoming Bankrupt;
- (f) there is not pending or, to its knowledge, threatened against it or any of its Affiliates any legal proceedings that could materially adversely affect its ability to perform its obligations under this Agreement;
- (g) no Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement;
- (h) it is acting for its own account, has made its own independent decision to enter into this Agreement and, as to whether this Agreement is appropriate or proper for it based upon its own judgment, is not relying upon the advice or recommendations of the other Party in so doing, and is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions and risks of this Agreement;
- (i) it is a "forward contract merchant" within the meaning of the United States Bankruptcy Code;
- (j) it has entered into this Agreement in connection with the conduct of its business and it has the capacity or ability to make or take delivery of the Product;
- (k) it is a producer, processor, commercial user or merchant handling the Product, and it is entering into this Agreement for purposes related to its business as such;
- (1) the material economic terms of this Agreement are subject to individual negotiation by the Parties; and
- (m) it is not required by any Applicable Law, as modified by the practice of any relevant governmental revenue authority, of any relevant jurisdiction to make any deduction or withholding for or on account of any Tax.

10.3 <u>Title and Risk of Loss</u>. Title to and risk of loss related to the Product shall transfer from Seller to Buyer at the Delivery Point. Seller warrants that it will deliver to Buyer the Product free and clear of all liens, security interests, claims and encumbrances or any interest therein or thereto by any person arising prior to the Delivery Point. Notwithstanding the forgoing, Seller may transfer, sell, pledge, encumber or assign this Agreement or the accounts, revenues or proceeds hereof in connection with any financing or other financial arrangements.

10.4 <u>Indemnity</u>. Each Party shall indemnify, defend and hold harmless the other Party from and against any Claims arising from or out of any event, circumstance, act or incident first occurring or existing during the period when control and title to Product is vested in such Party as provided in Section 10.3. Each Party shall indemnify, defend and hold harmless the other Party against any Governmental Charges for which such Party is responsible under Article 9 (Governmental Charges).

10.5 <u>Assignment</u>. Neither Party shall assign this Agreement or its rights hereunder without the prior written consent of the other Party, which consent may be withheld in the exercise of its sole discretion; provided, however, either Party may, without the consent of the other Party (and without relieving itself from liability hereunder), (i) transfer, sell, pledge, encumber or assign this Agreement or the accounts, revenues or proceeds hereof in connection with any financing or other financial arrangements, (ii) transfer or assign this Agreement to an Affiliate of such Party which Affiliate's creditworthiness is equal to or higher than that of such Party, or (iii) transfer or assign this Agreement to any person or entity succeeding to all or substantially all of the assets whose creditworthiness is equal to or higher than that of such Party; provided, however, that in each such case, any such assignee shall agree in writing to be bound by the terms and conditions hereof and so long as the transferring Party delivers such tax and enforceability assurance as the non-transferring Party may reasonably request.

10.6 Governing Law. THIS AGREEMENT AND THE RIGHTS AND DUTIES OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED, ENFORCED AND PERFORMED IN ACCORDANCE WITH THE LAWS OF THE STATE OF OREGON, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW, AND THE PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978, AS APPLICABLE. IN THE EVENT THAT A MATTER IS NOT OTHERWISE SUBJECT, BY OPERATION OF LAW, TO THE EXCLUSIVE JURISDICTION OF FERC, THE PUBLIC UTILITY COMMISSION OF OREGON, OR ANY OTHER GOVERNMENTAL AUTHORITY, EACH PARTY IRREVOCABLY CONSENTS TO THE JURISDICTION OF THE COURTS OF THE STATE OF OREGON OR OF THE U.S. DISTRICT COURT FOR THE DISTRICT OF OREGON FOR ANY ACTION, SUIT, OR PROCEEDING IN CONNECTION WITH THE AGREEMENT AND WAIVES ANY OBJECTION THAT SUCH PARTY MAY NOW OR HEREAFTER HAVE REGARDING CHOICE OF FORUM. EACH PARTY WAIVES ITS RESPECTIVE RIGHT TO ANY JURY TRIAL WITH RESPECT TO ANY LITIGATION ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT.

10.7 <u>Notices</u>. All notices, requests, statements or payments shall be made as specified in Exhibit B. Notices (other than scheduling requests) shall, unless otherwise specified herein, be in writing and may be delivered by hand delivery, United States mail, overnight courier service or electronic mail. Notice by electronic mail or hand delivery shall be effective at the

close of business on the day actually received, if received during business hours on a Business Day, and otherwise shall be effective at the close of business on the next Business Day. Notice by overnight United States mail or courier shall be effective on the next Business Day after it was sent. A Party may change its addresses by providing notice of same in accordance herewith.

General. This Agreement (including the exhibits, schedules and any written 10.8 supplements hereto), and any designated collateral, credit support or margin agreement or similar arrangement between the Parties, constitutes the entire agreement between the Parties relating to Notwithstanding the foregoing, any collateral, credit support margin the subject matter. agreement or similar arrangement between the Parties shall, upon designation by the Parties, be deemed part of this Agreement and shall be incorporated herein by reference. This Agreement shall be considered for all purposes as prepared through the joint efforts of the Parties and shall not be construed against one Party or the other as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof. Except to the extent herein provided for, no amendment or modification to this Agreement shall be enforceable unless reduced to writing and executed by both Parties. This Agreement shall not impart any rights enforceable by any third party (other than a permitted successor or assignee bound to this Agreement). Waiver by a Party of any default by the other Party shall not be construed as a waiver of any other default. Any provision declared to be unenforceable by a Governmental Authority having jurisdiction over the Agreement will not otherwise affect the remaining lawful obligations that arise under this Agreement; and provided, further, that in such case the Parties shall use their best efforts to reform this Agreement in order to give effect to the original intention of the Parties. The term "including" when used in this Agreement shall be by way of example only and shall not be considered in any way to be in limitation. The headings used herein are for convenience and reference purposes only. All indemnity and audit rights shall survive the termination of this Agreement for twelve (12) months. This Agreement shall be binding on each Party's successors and permitted assigns.

10.9 <u>Audit</u>. Each Party has the right, at its sole expense and during normal working hours, to examine the records of the other Party to the extent reasonably necessary to verify the accuracy of any statement, charge or computation made pursuant to this Agreement. If requested, a Party shall provide to the other Party statements evidencing the Product was delivered or received at the Delivery Point. If any such examination reveals any inaccuracy in any statement, the necessary adjustments in such statement and the payments thereof will be made promptly and shall bear interest calculated at the Interest Rate from the date the overpayment or underpayment was made until paid; provided, however, that no adjustment for any statement or payment will be made unless objection to the accuracy thereof was made prior to the lapse of twelve (12) months from the rendition thereof, and thereafter any objection shall be deemed waived.

10.10 <u>Forward Contract</u>. The Parties intend that (i) this Agreement constitutes a "forward contract" within the meaning of the United States Bankruptcy Code (the "Bankruptcy Code"); (ii) all payments made or to be made by one Party to the other Party pursuant to this Agreement constitute "settlement payments" within the meaning of the Bankruptcy Code; (iii) all transfers of Performance Assurance by one Party to the other Party under this Agreement constitute "margin payments" within the meaning of the Bankruptcy Code; and (iv) this Agreement constitutes a "master netting agreement" within the meaning of the Bankruptcy Code.

10.11 <u>Confidentiality</u>. Neither Party shall disclose the terms or conditions of this Agreement to a third party (other than the Party's employees, lenders, investors, counsel, accountants or advisors who have a need to know such information and have agreed to keep such terms confidential) except to an index publisher or rating agency who has executed a confidentiality agreement with such Party or, in order to comply with any Applicable Law, regulation, or any exchange, control area or independent system operator rule or in connection with any court or regulatory proceeding; provided, however, each Party shall, to the extent practicable, use reasonable efforts to prevent or limit the disclosure. The Parties shall be entitled to all remedies available at law or in equity to enforce, or seek relief in connection with, this confidentiality obligation.

10.12 <u>Change in Applicable Law</u>. 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. In the event that a Government Authority having jurisdiction over the matter finds any provision hereof to be unlawful or unenforceable, the remainder of the Agreement shall continue in full force and effect, and the Parties shall use commercially reasonable efforts to mutually agree upon replacement provisions to implement the intent of the provision found to be unlawful or unenforceable.

10.13 <u>Market Index Disruption Event</u>. If a Market Index Disruption Event has occurred that affects the any provision of this Agreement that relies on the availability of the Market Index Price, then the Market Index Price shall be based on the first Trading Day thereafter on which no Market Index Disruption Event exists. In the event the index publisher of the Market Index Price discontinues publishing the relevant index, the applicable replacement or successor index shall apply if one is established, or if no replacement or successor index is established, the Parties will replace the index with a mutually agreed to index that most closely reflects the discontinued index. If the Parties are unable to mutually agree on a replacement index within three (3) Business Days after the Market Index Disruption Event occurred or existed, then the Parties shall negotiate in good faith on a revised method for determining the Market Index Price.

10.14 <u>Corrections to Market Index Price</u>. For purposes of determining the relevant Market Index Price for any Trading Day, if the price published or announced on a given Trading Day and used or to be used to determine a relevant price is subsequently corrected and the correction is published or announced by the person responsible for that publication or announcement within sixty (60) days of the date of delivery, either Party may notify the other Party of (i) the correction and (ii) the amount (if any) that is payable as a result of that correction.

10.15 <u>Force Majeure</u>. To the extent either Party is prevented by Force Majeure from timely carrying out, in whole or part, its obligations under this Agreement and such Party (the "Claiming Party") gives notice and details of the Force Majeure to the other Party as soon as practicable, then the Claiming Party shall be excused from the performance of its obligations to the extent and for the duration of the Force Majeure event (other than the obligation to make payments then due or becoming due with respect to performance prior to the Force Majeure). Such notice must include a description of the Force Majeure event and an estimate of the duration of the Force Majeure event, along with a plan to remediate the Force Majeure event. The Claiming Party shall provide the non-Claiming Party regular and frequent updates regarding any changes of status set forth in the initial notice. The Claiming Party shall remedy the Force

Majeure with all reasonable dispatch. The non-Claiming Party shall not be required to perform any obligations to the Claiming Party directly corresponding to the obligations of the Claiming Party excused by Force Majeure. In the event of a Force Majeure, the Parties shall use commercially reasonable efforts to mutually agree to an equitable adjustment to the Specified Amounts.

If a Force Majeure event prevents a Party from performing its material obligations under this Agreement for a period exceeding 365 consecutive days (despite the affected Party's effort to take all reasonable steps to remedy the Force Majeure event with all reasonable dispatch), then either Party may terminate this Agreement by giving 10 days' prior notice to the other Party. Upon such termination, neither Party will have any liability to the other with respect to periods following the effective date of such termination and as otherwise expressly provided in this Agreement; provided, however, that this Agreement will remain in effect to the extent necessary to facilitate the settlement of all liabilities and obligations arising under this Agreement before the effective date of such termination.

- 10.16 Binding Rates and Terms.
- (a) Absent the agreement of the Parties to the proposed change, the standard of review for changes to any rate, charge, classification, term or condition of this Agreement, whether proposed by a Party (to the extent that any waiver in Section 10.16 above is unenforceable or ineffective as to such Party), a non-party or FERC acting *sua sponte*, shall solely be the "public interest" application of the "just and reasonable" standard of review set forth in <u>United Gas Pipe Line Co. v.</u> <u>Mobile Gas Service Corp.</u>, 350 U.S. 332 (1956) and <u>Federal Power Commission v. Sierra Pacific Power Co.</u>, 350 U.S. 348 (1956) and clarified by <u>Morgan Stanley Capital Group, Inc. v. Public Util. Dist. No. 1 of Snohomish</u> 554 U.S. 527 (2008) (the "<u>Mobile-Sierra</u>" doctrine).
- (b) In addition, and notwithstanding the foregoing subsection (a) above, to the fullest extent permitted by Applicable Law, each Party, for itself and its successors and assigns, hereby expressly and irrevocably waives any rights it can or may have, now or in the future, whether under §§ 205 and/or 206 of the Federal Power Act or otherwise, to seek to obtain from FERC by any means, directly or indirectly (through complaint, investigation or otherwise), and each hereby covenants and agrees not at any time to seek to so obtain, an order from FERC changing any section of this Agreement specifying the rate, charge, classification, or other term or condition agreed to by the Parties, it being the express intent of the Parties that, to the fullest extent permitted by Applicable Law, neither Party shall unilaterally seek to obtain from FERC any relief changing the rate, charge, classification, or other term or condition of this Agreement, notwithstanding any subsequent changes in Applicable Law or market conditions that may occur. In the event it were to be determined that Applicable Law precludes the Parties from waiving their rights to seek changes from FERC to their market-based power sales contracts (including entering into covenants not to do so) then this subsection (b) shall not apply, provided that, consistent with the foregoing subsection (a), neither Party shall seek any such changes except solely under the "public interest"

application of the "just and reasonable" standard of review and otherwise as set forth in the foregoing subsection (a).

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the date first above written.

Portland General Electric Company

.

Madras PV1, LLC

By:		
Name:		
Title:		

By:

Name:Erik StuebeTitle:Authorized Signatory

EXHIBIT A

SELLER'S INSURANCE REQUIREMENTS

- 1. <u>Acceptable Insurers.</u> All insurance required herein must be obtained from insurers duly authorized to do business in Oregon and which maintain a minimum financial strength rating of "A- VIII" by the A. M. Best Key Rating Guide.
- 2. <u>Required Insurance and Minimum Limits.</u> During the term of this Agreement, Seller must maintain, at its sole expense, the following insurance coverage:
 - A. Commercial General Liability Insurance

i. <u>Scope.</u> Commercial General Liability Insurance written on the current ISO occurrence form (or a substitute form providing equivalent coverage) and must cover liability arising from premises, operations, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). If the construction, operation, maintenance or repair of the Project involves or requires blasting, explosive conditions, or underground operations, the coverage must not contain any exclusion relative to blasting, explosion, collapse of buildings, or damage to underground structures.

ii. <u>Minimum Required Limit</u>. \$2,000,000 Each Occurrence

iii. <u>Waiver of Subrogation</u>. To the fullest extent permitted by law, Seller shall cause its insurer to waive all rights to recover any payments made from Buyer, its Affiliates, and their respective officers, directors, agents and employees.

iv. <u>Additional Insured</u>. To the fullest extent permitted by law, the insurance must include Buyer, its Affiliates, and their respective officers, directors, agents and employees as additional insureds. Such coverage must be at least as broad as the coverage provided under ISO endorsements CG 20 10 "Owners, Lessees or Contractors – Scheduled Person or Organization" and CG 20 37 "Owners, Lessees or Contractors – Completed Operations". This insurance must apply as primary insurance without any contribution from any other insurance afforded to or self-insurance maintained by such additional insured. There must not be any endorsement or modification of this insurance to make it excess over any other insurance available to such additional insured.

v. <u>Completed Operations</u>. Seller must purchase completed operations coverage for a period of two (2) years after termination or expiration of this Agreement.

- B. Property
 - i. <u>Minimum Required Limit</u>. Full replacement value of the Project including any related equipment and fixtures
- 3. <u>Excess or Umbrella Insurance</u>. The required minimum limits may be met through any combination of primary and excess insurance policies.
- 4. <u>Certificates of Insurance</u>. Prior to commencement of construction of the Project, Seller must furnish Buyer with a Certificate of Insurance evidencing compliance with these requirements. The Certificate of Insurance must list as the certificate holder:

Portland General Electric Company c/o Global Risk Management Solutions 4447 N. Central Expressway, Suite 110-433 Dallas, TX 75205

- 5. <u>No Waiver</u>. Buyer's failure to demand the Certificate of Insurance or to identify a deficiency from the Certificate of Insurance or other evidence provided will not be deemed a waiver of Buyer's rights or Seller's obligations. Furthermore, these insurance requirements must not be construed in any manner as waiving, restricting or limiting Buyer's rights or Seller's obligations under this Agreement.
- 6. <u>Notice of Cancellation</u>. No insurance policy may be canceled or materially modified unless Seller or insurer(s) provide at least thirty (30) days prior written notice to Buyer.
- 7. <u>Failure to Maintain Required Insurance</u>. Seller's failure to maintain any required insurance shall be an Event of Default subject to Section 5.1(c) of the Agreement.
- 8. <u>Seller Responsible for Deductibles or Retentions</u>. With respect to any insurance required herein, Seller must bear all costs of all deductibles or Self-Insured Retentions.
- 9. <u>No Representation of Coverage Adequacy.</u> Buyer does not represent that coverage and limits required herein will be adequate to protect Seller. Seller remains responsible for any liability not paid by insurance.
- 10. <u>Seller's Property.</u> Seller is responsible for any loss or damage to its property, however caused, and any insurance covering such property will be at Sellers expense and Seller shall cause its insurer to waive all rights to recover any payments made from Buyer, its Affiliates, and their respective officers, directors, agents and employees.
- 11. <u>No Violation of Insurance Policies</u>. Seller must not knowingly violate or knowingly permit any violation of any warranties, representations, declarations or conditions contained in the policies of insurance.

- 12. <u>No Claims</u>. As of the execution date of this Agreement, Seller is not aware of any claims or potential claims which have been made, filed or threatened against any of the insurance required herein.
- 13. <u>Other Insurance</u>. If there is any material change to the nature or scope of the Project, Buyer may require Seller to obtain and maintain additional insurance.
- 14. <u>Subcontractors</u>. If subcontractors or third parties are used in the performance of Seller's obligations under this Agreement, then Seller must cause each of its subcontractors or third parties to comply with the same insurance requirements imposed on Seller herein. If requested by Buyer, Seller must furnish certificates of insurance evidencing compliance with these requirements for each subcontractor or third party.

EXHIBIT B

NOTICES

Portland General Electric Company

All Notices:

Street:

City: _____Zip: _____

Attn: Contract Administration
Phone:
Facsimile:
Duns:
Federal Tax ID Number:

Invoices:

Attn:	
Phone:	
Facsimile:	

Scheduling:

Attn:		
Phone:		
Facsimile:		

Payments:

Attn:	
Phone:	
Facsimile:	

Wire Transfer:

BNK:		
ABA:		
ACCT:		

Credit and Collections:

Attn:		
Phone:		
Facsimile:		

With additional Notices of an Event of Default to:

Attn:	
Phone:	
Facsimile:	

Madras PV1, LLC All Notices: Street: 101 2nd Street, Suite 1250 City: San Francisco, CA Zip: 94105 Attn: Contract Administration Phone: (415) 626-1802 Facsimile: (415) 449-3466 Duns: 019421660 Federal Tax ID Number: 26-3593905 **Invoices:** Attn: Accounts Payable (accountspayable@ecoplexus.com) Phone: (415) 992-7950 Facsimile: (415) 449-3466 Scheduling: Attn: TBD_____ Phone:TBD Facsimile:TBD **Payments:** Attn: David Mathai, AR (dmathai@ecoplexus.com) Phone: (415) 655-1848 Facsimile: (415) 449-3466 Wire Transfer: BNK: Bank of America ABA: 026009593_____ ACCT: 1209369370 **Credit and Collections:** Attn: Kim Gammill (kgammill@ecoplexus.com)_____ Phone: (415) 240-4751 Facsimile: (415) 449-3466 With additional Notices of an Event of Default: Attn: Erik Stuebe and John Gorman

Email: eriks@ecoplexus.com Email: johng@ecoplexus.com

EXHIBIT C

SPECIFIED AMOUNT AND PRICE SCHEDULE

	Date	Date	On-Peak	Off-Peak	
Month	Beginning	Ending	kWh	kWh	Total kWh
1	3/1/21	3/31/21	7,920,456	1,148,389	9,068,844
2	4/1/21	4/30/21	10,508,634	1,304,375	11,813,009
3	5/1/21	5/31/21	11,657,180	2,781,136	14,438,315
4	6/1/21	6/30/21	13,153,944	2,084,796	15,238,740
5	7/1/21	7/31/21	14,295,397	2,682,304	16,977,701
6	8/1/21	8/31/21	12,419,046	2,506,629	14,925,675
7	9/1/21	9/30/21	9,856,155	1,742,988	11,599,143
8	10/1/21	10/31/21	6,445,557	1,138,710	7,584,266
9	11/1/21	11/30/21	3,350,721	753,820	4,104,541
10	12/1/21	12/31/21	2,654,017	468,138	3,122,155
11	1/1/22	1/31/22	3,274,550	662,507	3,937,057
12	2/1/22	2/28/22	4,969,358	585,655	5,555,013
13	3/1/22	3/31/22	7,880,853	1,142,647	9,023,500
14	4/1/22	4/30/22	10,456,091	1,297,853	11,753,944
15	5/1/22	5/31/22	11,598,894	2,767,230	14,366,124
16	6/1/22	6/30/22	13,088,174	2,074,372	15,162,546
17	7/1/22	7/31/22	14,223,920	2,668,893	16,892,813
18	8/1/22	8/31/22	12,356,951	2,494,096	14,851,046
19	9/1/22	9/30/22	9,806,874	1,734,273	11,541,147
20	10/1/22	10/31/22	6,413,329	1,133,016	7,546,345
21	11/1/22	11/30/22	3,333,967	750,051	4,084,018
22	12/1/22	12/31/22	2,640,747	465,798	3,106,545
23	1/1/23	1/31/23	3,258,177	659,194	3,917,372
24	2/1/23	2/28/23	4,944,511	582,727	5,527,238
25	3/1/23	3/31/23	7,841,449	1,136,934	8,978,383
26	4/1/23	4/30/23	10,403,811	1,291,364	11,695,175
27	5/1/23	5/31/23	11,540,899	2,753,394	14,294,293
28	6/1/23	6/30/23	13,022,733	2,064,000	15,086,733
29	7/1/23	7/31/23	14,152,801	2,655,548	16,808,349
30	8/1/23	8/31/23	12,295,166	2,481,625	14,776,791
31	9/1/23	9/30/23	9,757,840	1,725,602	11,483,442
32	10/1/23	10/31/23	6,381,262	1,127,351	7,508,613
33	11/1/23	11/30/23	3,317,297	746,301	4,063,598
34	12/1/23	12/31/23	2,627,543	463,469	3,091,012
35	1/1/24	1/31/24	3,241,886	655,898	3,897,785
36	2/1/24	2/29/24	4,919,789	579,813	5,499,602

Specified Amount:

						schet						
			Or	n-Peak Indic	ative Prices	s (\$/MWH) ·	Madras Sc	olar - 12_7_′	18			
Year	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018					14.38	16.41	28.39	34.00	29.92	24.06	24.06	31.05
2019	26.96	25.36	20.60	17.31	16.88	17.31	28.46	31.79	29.49	23.60	25.53	29.90
2020	30.82	29.10	23.42	18.71	18.08	19.01	29.76	34.15	31.06	26.48	28.53	34.02
2021	34.33	32.41	26.04	20.76	20.05	21.10	33.15	38.07	34.61	29.47	31.77	37.92
2022	36.48	34.43	27.66	22.05	21.29	22.40	35.22	40.45	36.77	31.31	33.75	40.29
2023	36.48	34.43	27.66	22.05	21.29	22.40	35.22	40.45	36.77	31.30	33.75	40.29
2024	32.48	30.48	28.70	23.31	20.53	13.49	25.48	28.72	31.50	31.52	32.10	33.90
2025	88.46	83.40	78.87	65.19	58.16	40.29	70.71	78.93	85.97	86.03	87.50	92.08
2026	90.22	85.06	80.44 82.05	66.50 67.82	59.33	41.10	72.12 73.56	80.51	87.69	87.75	89.24	93.92 95.80
2027 2028	92.03 93.64	86.76 88.29	82.05	67.82	60.51 61.58	41.92 42.67	73.56	82.12 83.57	89.44 91.01	89.51 91.08	91.03 92.63	95.80
2028	95.74	90.27	85.36	70.56	62.96	43.61	76.54	85.44	93.06	93.12	94.70	99.67
2023	97.66	92.07	87.07	71.98	64.22	44.49	78.07	87.15	94.92	94.98	96.60	101.66
2031	99.61	93.91	88.81	73.42	65.50	45.38	79.63	88.89	96.82	96.88	98.53	101.00
2032	101.28	95.48	90.29	74.63	66.58	46.11	80.95	90.37	98.43	98.50	100.18	105.43
2033	103.63	97.70	92.39	76.38	68.14	47.20	82.84	92.47	100.72	100.79	102.50	107.88
2034	105.75	99.70	94.29	77.95	69.55	48.20	84.54	94.37	102.78	102.85	104.60	110.08
2035	107.82	101.65	96.13	79.47	70.90	49.12	86.19	96.22	104.79	104.87	106.65	112.24
2036	109.66	103.38	97.77	80.82	72.10	49.95	87.66	97.85	106.58	106.65	108.47	114.15
2037	112.17	105.75	100.01	82.67	73.76	51.10	89.67	100.10	109.02	109.10	110.95	116.77
2038	114.41	107.86	102.00	84.32	75.23	52.12	91.45	102.09	111.20	111.27	113.17	119.10
2039	116.70	110.02	104.05	86.01	76.74	53.16	93.29	104.14	113.42	113.50	115.43	121.48
2040	118.74	111.95	105.87	87.53	78.09	54.11	94.93	105.97	115.41	115.49	117.45	123.61
2041	121.40	114.46	108.24	89.48	79.83	55.30	97.05	108.34	117.99	118.08	120.09	126.38
2042	123.84	116.75	110.41	91.27	81.43	56.41	98.99	110.51	120.36	120.45	122.49	128.91
0040												
2043	126.31	119.08	112.62	93.09	83.06	57.54	100.97	112.72	122.76	122.85	124.94	131.49
			Off	-Peak Indic	ative Prices	s (\$/MWH) -	Madras So	lar - 12_7_1	18	!		
Year	126.31 Jan	119.08			ative Prices	s (\$/MWH) - Jun	Madras So Jul	lar - 12_7_1 Aug	8 Sep	Oct	Nov	Dec
Year 2018	Jan	Feb	Off	-Peak Indic	ative Prices May 5.71	5 (\$/MWH) - Jun 5.71	Madras So Jul 15.04	lar - 12_7_1 Aug 23.04	8 Sep 23.55	Oct 20.49	Nov 20.49	Dec 24.82
Year 2018 2019	Jan 22.46	Feb 21.80	Off Mar 17.19	Apr 10.78	May 5.71 8.57	5 (\$/MWH) - Jun 5.71 7.69	Madras So Jul 15.04 17.89	lar - 12_7_1 Aug 23.04 22.33	8 Sep 23.55 22.76	Oct 20.49 20.60	Nov 20.49 21.72	Dec 24.82 25.24
Year 2018 2019 2020	Jan 22.46 24.58	Feb 21.80 24.78	Off Mar 17.19 19.24	-Peak Indic Apr 10.78 13.17	May 5.71 8.57 10.00	Jun 5.71 7.69 9.63	Madras So Jul 15.04 17.89 19.09	lar - 12_7_1 Aug 23.04 22.33 25.24	Sep 23.55 22.76 25.73	Oct 20.49 20.60 23.44	Nov 20.49 21.72 25.06	Dec 24.82 25.24 29.75
Year 2018 2019 2020 2021	Jan 22.46 24.58 28.23	Feb 21.80 24.78 28.46	Off Mar 17.19 19.24 22.04	Apr 10.78 13.17 14.99	May 5.71 8.57 10.00 11.31	Jun 5.71 7.69 9.63 10.89	Madras So Jul 15.04 17.89 19.09 21.87	Aug 23.04 22.33 25.24 29.00	Sep 23.55 22.76 25.73 29.57	Oct 20.49 20.60 23.44 26.91	Nov 20.49 21.72 25.06 28.78	Dec 24.82 25.24 29.75 34.23
Year 2018 2019 2020 2021 2022	Jan 22.46 24.58 28.23 30.15	Feb 21.80 24.78 28.46 30.39	Off Mar 17.19 19.24 22.04 23.53	F-Peak Indic Apr 10.78 13.17 14.99 15.99	May 5.71 8.57 10.00 11.31 12.06	Jun 5.71 7.69 9.63 10.89 11.61	Madras So Jul 15.04 17.89 19.09 21.87 23.34	Aug 23.04 22.33 25.24 29.00 30.97	Sep 23.55 22.76 25.73 29.57 31.58	Oct 20.49 20.60 23.44 26.91 28.73	Nov 20.49 21.72 25.06 28.78 30.74	Dec 24.82 25.24 29.75 34.23 36.56
Year 2018 2019 2020 2021 2022 2023	Jan 22.46 24.58 28.23 30.15 30.45	Feb 21.80 24.78 28.46 30.39 30.69	Off Mar 17.19 19.24 22.04 23.53 23.75	Apr 10.78 13.17 14.99 15.99 16.13	May 5.71 8.57 10.00 11.31 12.06 12.16	Jun 5.71 7.69 9.63 10.89 11.61 11.70	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57	Aug 23.04 22.33 25.24 29.00 30.97 31.28	8 Sep 23.55 22.76 25.73 29.57 31.58 31.89	Oct 20.49 20.60 23.44 26.91 28.73 29.02	Nov 20.49 21.72 25.06 28.78 30.74 31.04	Dec 24.82 25.24 29.75 34.23 36.56 36.93
Year 2018 2019 2020 2021 2022 2023 2023	Jan 22.46 24.58 28.23 30.15 30.45 28.96	Feb 21.80 24.78 28.46 30.39 30.69 26.70	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35	Apr 10.78 13.17 14.99 15.99 16.13 22.21	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08	8 Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04
Year 2018 2019 2020 2021 2022 2023	Jan 22.46 24.58 28.23 30.15 30.45	Feb 21.80 24.78 28.46 30.39 30.69	Off Mar 17.19 19.24 22.04 23.53 23.75	Apr 10.78 13.17 14.99 15.99 16.13	May 5.71 8.57 10.00 11.31 12.06 12.16	Jun 5.71 7.69 9.63 10.89 11.61 11.70	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57	Aug 23.04 22.33 25.24 29.00 30.97 31.28	8 Sep 23.55 22.76 25.73 29.57 31.58 31.89	Oct 20.49 20.60 23.44 26.91 28.73 29.02	Nov 20.49 21.72 25.06 28.78 30.74 31.04	Dec 24.82 25.24 29.75 34.23 36.56 36.93
Year 2018 2019 2020 2021 2022 2023 2024 2025	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08	0ff Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21	-Peak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52	8 Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32	0ff Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43	-Peak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73	8 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 26.35 61.21 62.43 63.68	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2029 2030 2031	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93	-Peak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2030 2031 2032	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07	May 5.71 8.57 10.00 11.31 12.06 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33	Sep 23,55 22,76 25,73 29,57 31,58 31,89 28,12 65,70 67,01 68,35 69,52 71,11 72,53 73,98 75,26	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 80.70 82.32 83.73
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73	Mar 17.19 19.24 22.04 23.53 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71	F-Peak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21	Jun 5.71 7.69 9.63 10.89 11.61 11.61 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.08	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 82.32 83.73 85.63
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19	Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14	Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.08 28.64	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33	Aug 23.04 22.33 25.24 29.00 30.97 31.28 60.82 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 76.90 78.65 80.22	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 82.32 80.70 82.32 83.73 85.63 87.35
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67	Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61	Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 52.25	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.08 28.64 29.22	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 76.90 78.65 80.22 81.83	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 82.32 80.70 82.32 83.73 83.563 87.35 89.10
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97	Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88	Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 52.25 53.14	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.08 28.08 28.08 28.64 29.22 29.71	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63	Aug 23.04 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08 81.45	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65 80.22 81.83 83.23	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 82.32 83.73 85.73 85.73 89.10 90.62
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2035 2036 2037	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07 85.99	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97 78.73	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88 77.62	F-Peak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85 64.29	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 52.25 53.14 54.36	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.99 27.46 28.08 28.64 28.08 28.64 28.08 28.64 29.22 29.71 30.40	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63 65.09	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04 76.75	Sep 23.55 22.76 25.73 29.57 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08 81.45 83.31	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65 80.22 81.83 83.23 85.13	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53 89.54	Dec 24.82 25.24 29.75 34.23 36.93 31.04 73.10 74.56 76.05 77.35 77.35 77.35 79.12 80.70 82.32 83.73 85.63 87.35 89.10 90.62 92.69
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2030 2031 2032 2033 2034 2035 2036 2037 2038	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07 85.99 87.71	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97 76.97 78.73 80.30	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88 77.62 79.17	F-Peak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85 64.29 65.57	May 5.71 8.57 10.00 11.31 12.06 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 52.36 53.14 54.36	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.08 28.64 28.64 28.08 28.64 29.22 29.71 30.40 31.00	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63 65.09 66.38	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04 76.75 78.28	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08 81.45 83.31 84.97	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65 80.22 81.83 83.23 85.13 86.83	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53 89.54 91.32	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 80.70 82.32 83.73 85.63 87.35 89.10 90.62 92.69 94.54
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07 85.99 87.71 89.47	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97 78.73 80.30 81.91	Off Mar 17.19 19.24 22.04 23.53 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88 77.62 79.17 80.76	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85 64.29 65.57 66.89	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 52.25 53.14 54.36 55.44	Jun 5.71 7.69 9.63 10.89 11.61 11.70 11.67 23.97 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.08 28.64 28.08 28.64 29.22 29.71 30.40 31.00 31.63	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63 62.50 63.63 65.09 66.38 67.72	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04 75.04 76.75 78.28 79.85	Sep 23,55 22,76 25,73 29,57 31,58 31,89 28,12 65,70 67,01 68,35 69,52 71,11 72,53 73,98 75,26 76,97 78,51 80,08 81,45 83,31 84,97 86,68	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65 80.22 81.83 83.23 85.13 86.83 88.57	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53 89.54 91.32 93.15	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 80.70 82.32 83.73 85.63 87.35 89.10 90.62 92.69 94.54
Year 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2036 2037 2038 2039 2040	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07 85.99 87.71 89.47 91.00	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97 78.73 80.30 81.91 83.31	Off Mar 17.19 19.24 22.04 23.53 23.55 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88 77.62 79.17 80.76 82.14	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85 64.29 65.57 66.89 68.03	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 53.14 54.36 55.44 56.55 57.52	(\$/MWH) - Jun 5.71 7.69 9.63 10.89 11.61 11.61 11.70 24.45 24.45 24.45 24.45 25.36 25.94 26.46 26.46 26.99 27.46 28.64 29.22 29.71 30.40 31.00 31.63 32.16	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63 62.56 63.63 65.09 66.38 67.72 68.87	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04 75.04 76.75 78.28 79.85 81.22	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08 81.45 83.31 84.97 86.68 88.16	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65 80.22 81.83 83.23 83.23 85.13 86.83 88.57 90.09	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53 89.54 91.32 93.15 94.75	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 82.32 83.73 85.63 87.35 89.10 90.62 92.69 94.54 96.44 98.09
Year 2018 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2030	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07 85.99 87.71 89.47 91.00 93.07	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97 78.73 80.30 81.91 83.31 85.20	Off Mar 17.19 19.24 22.04 23.53 23.75 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88 77.62 79.17 80.76 82.14 84.01	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85 64.29 65.57 66.89 68.03 69.58	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 50.21 51.22 52.25 53.14 54.36 55.44 56.55 57.52 58.83	(\$/MWH) - Jun 5.71 7.69 9.63 10.89 11.61 11.61 11.70 11.67 23.97 24.45 24.45 24.93 25.36 25.94 26.46 26.99 27.46 28.64 29.22 29.71 30.40 31.63 32.16 32.90	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63 65.09 66.38 65.09 66.38 67.72 68.87 70.44	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04 76.75 78.28 79.85 81.22 83.07	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08 81.45 83.31 84.97 86.68 88.16 90.17	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 76.90 76.90 78.65 80.22 81.83 83.23 85.13 86.83 88.57 90.09 92.14	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53 89.54 91.32 93.15 94.75 96.91	Dec 24.82 25.24 29.75 34.23 36.56 36.93 31.04 73.10 74.56 76.05 77.35 79.12 80.70 82.32 83.73 85.63 87.35 89.10 90.62 92.69 94.54 96.44 98.09 100.32
Year 2018 2019 2020 2021 2022 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2036 2037 2038 2039 2040	Jan 22.46 24.58 28.23 30.15 30.45 28.96 67.81 69.17 70.55 71.76 73.40 74.87 76.37 77.68 79.44 81.04 82.66 84.07 85.99 87.71 89.47 91.00	Feb 21.80 24.78 28.46 30.39 30.69 26.70 62.08 63.32 64.59 65.70 67.20 68.54 69.91 71.11 72.73 74.19 75.67 76.97 78.73 80.30 81.91 83.31	Off Mar 17.19 19.24 22.04 23.53 23.55 26.35 61.21 62.43 63.68 64.77 66.25 67.58 68.93 70.12 71.71 73.14 74.61 75.88 77.62 79.17 80.76 82.14	FPeak Indic Apr 10.78 13.17 14.99 15.99 16.13 22.21 50.70 51.71 52.74 53.65 54.87 55.97 57.09 58.07 59.39 60.58 61.80 62.85 64.29 65.57 66.89 68.03	May 5.71 8.57 10.00 11.31 12.06 12.16 19.12 42.86 43.72 44.59 45.36 46.39 47.32 48.27 49.10 50.21 51.22 53.14 54.36 55.44 56.55 57.52	(\$/MWH) - Jun 5.71 7.69 9.63 10.89 11.61 11.61 11.70 24.45 24.45 24.45 24.45 25.36 25.94 26.46 26.46 26.99 27.46 28.64 29.22 29.71 30.40 31.00 31.63 32.16	Madras So Jul 15.04 17.89 19.09 21.87 23.34 23.57 22.46 51.32 52.35 53.40 54.31 55.55 56.67 57.80 58.79 60.13 61.33 62.56 63.63 62.56 63.63 65.09 66.38 67.72 68.87	Aug 23.04 22.33 25.24 29.00 30.97 31.28 26.08 60.52 61.73 62.97 64.05 65.51 66.82 68.16 69.33 70.91 72.33 73.78 75.04 75.04 76.75 78.28 79.85 81.22	Sep 23.55 22.76 25.73 29.57 31.58 31.89 28.12 65.70 67.01 68.35 69.52 71.11 72.53 73.98 75.26 76.97 78.51 80.08 81.45 83.31 84.97 86.68 88.16	Oct 20.49 20.60 23.44 26.91 28.73 29.02 28.69 67.13 68.47 69.84 71.04 72.66 74.12 75.60 76.90 78.65 80.22 81.83 83.23 83.23 85.13 86.83 88.57 90.09	Nov 20.49 21.72 25.06 28.78 30.74 31.04 30.06 70.61 72.02 73.46 74.72 76.42 77.95 79.51 80.88 82.72 84.37 86.06 87.53 89.54 91.32 93.15 94.75	Dec 24.8 25.2 29.7 34.2 36.5 36.9 31.0 73.1 74.5 76.0 77.3 79.1 80.7 82.3 83.7 85.6 87.3 89.1 90.6 92.6 92.6 92.6 94.5 96.4 98.0

Price Schedule:

EXHIBIT D

INTERCONNECTION AND TRANSMISSION AGREEMENTS [TO BE INSERTED PRIOR TO EXECUTION (as applicable)]

EXHIBIT E

PROJECT OPERATING PARAMETERS

Spin Capability: No

Project Nameplate Capacity: 65,784 KW_{DC}

Project Nameplate Capacity: 63,000 KW_{AC}

Station Service (parasitic load and electrical losses, etc.): 2,331 KW_{AC}

Project Net Dependable Capacity: 60,669 KW_{AC}

Interconnection Rating (per Generator Interconnection Agreement): $60,000 \text{ KW}_{AC}$ Number of Inverters: 24

Inverter Manufacture Nameplate Rating: 2,750 KW_{AC}

Number of Panels: 177,795

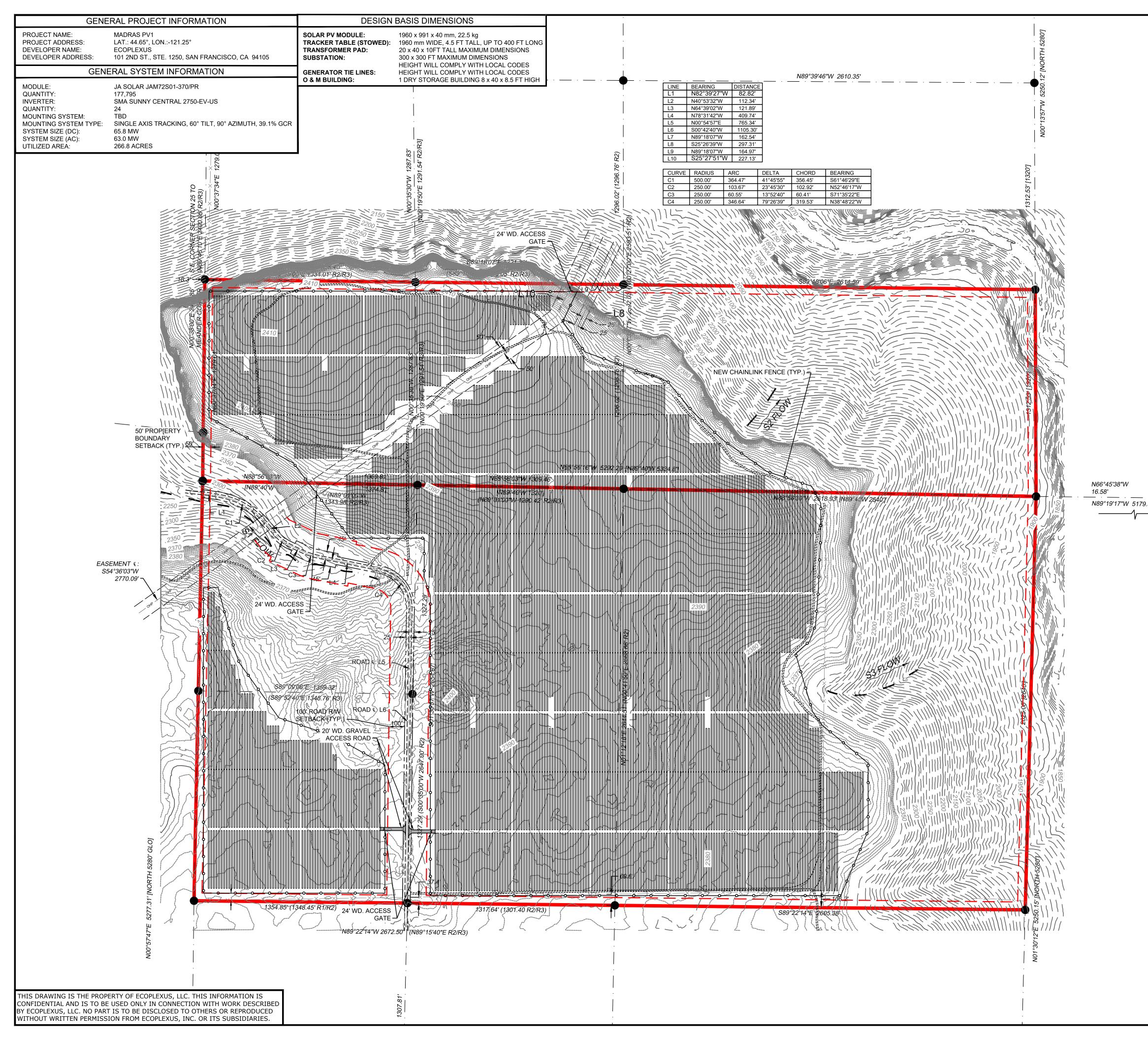
Panel Manufacture Nameplate Rating: 370 W

Storage: No

EXHIBIT F

PROJECT DOCUMENTATION

(SEE ATTACHED)



 SITE
 Image: Children of the second secon

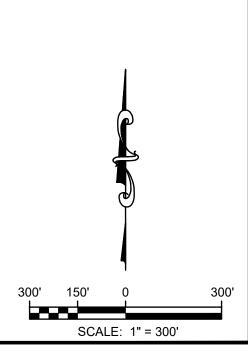
NOT TO SCALE

LEGEND & SYMBOLS

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•• • SECTION OR SECTION SUBDIVISION LINE PARCEL BOUNDARY ROADWAY CENTERLINE RIGHT OF WAY BOUNDARY EASEMENT BOUNDARY EXISTING FENCE LINE OVERHEAD POWER LINE EDGE OF ASPHALT ROAD EDGE OF DIRT ROAD ONSITE STREAM DETERMINED BY OTHERS 10-FOOT CONTOUR LINE 100-FOOT CONTOUR LINE 100-FOOT CONTOUR LINE

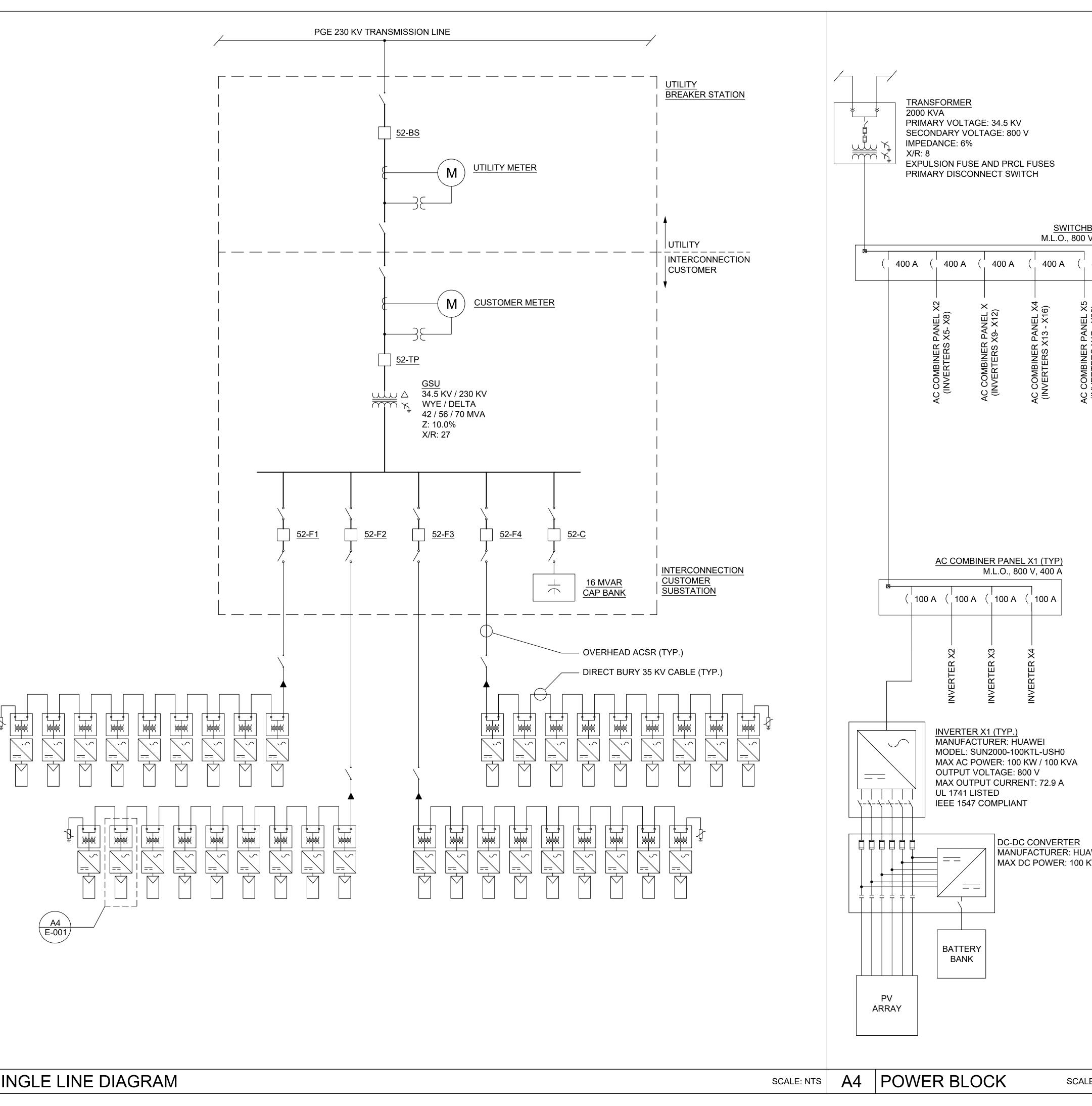
COMPUTED POSITION - NOT FOUND OR SET



С	DESIGI DRAWN SCALE DATE:	CIVIL DEV. 1	MADRAS PV1	REV	DATE	DESCRIPTION		P	
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ITE	CL TMI 1" =	JH						IOT FOR	ECOPLEXUS. Inc.
Ξ	B = 30(11/2	1	JEFFERSON COUNTY				СТК	USE	101 Second Street, Ste. 1250
JA	019		OREGON				NC		San Francisco, CA 94105 Ph: 415-629-1802
L								(Fx: 415-449-3466

LEVEL C

PV1.1



BOARD V, 3000	SYSTEM CAPACITY 65 MW (@ 0.95 PF) EQUIPMENT (1) 42 / 56 / 70 MVA GSU TRANSFORMER (720) HUAWEI SUN2000-100KTL-USH0 INVERTERS (36) 2000 KVA Yg/yg TRANSFORMERS INTERCONNECTION VOLTAGE: 230 KV UTILITY: PORTLAND GENERAL ELECTRIC APPLICANT: FRESH AIR ENERGY II, LLC	<image/> <image/> <image/> <image/> <image/> <image/> <image/> <text></text>
400 A	D5 SYSTEM SUMMARY SCALE: NA	SEAL:
(INVERTERS X17 - X20)	 THE INVERTERS SHALL PROVIDE DYNAMIC REACTIVE CAPABILITY OF 0.95 LEADING TO 0.95 LAGGING AT THE POINT OF INTERCONNECTION. 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. DC ARRAY SYSTEM SIZE AND CONFIGURATION MAY VARY BASED UPON FINAL DESIGN. 	Image: Signature Image: Signature Image: Signature
	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.	DEVELOPER:
	ISSUED FOR: INTERCONNECTION APPROVAL NOT FOR CONSTRUCTION	ECOPLEXUS, INC. DI 2ND ST., STE. 1250 SAN FRANCISCO, CA 94105 WWW.ecoplexus.com
		ISSUED FOR:
AWEI	B5 NOTES SCALE: NA	INTERCONNECTION APPROVAL NOT FOR CONSTRUCTION ISSUED: 10/11/2018
KW		DRAWN BY: PEB
	▲ CABLE TERMINATION $\stackrel{\perp}{\top}$ CONTACTOR	DRAWING:
	DISCONNECT	SINGLE LINE DIAGRAM
		E-001
E: NTS	A5 SYMBOLS SCALE: NA	SHEET 01 OF 01

Madras Solar

List of Permits

Permit	Issuing Agency
Site Certificate	Oregon Dept. of Energy
NPDES 1200-C	Oregon Dept. of Environmental Quality
Archeological Permit	Oregon Dept. of Parks & Rec; SHPO
Conditional Use Permit*	Jefferson County

*May be required in lieu of a Site Certificate

	PVSYST V6.78	Charles Ladd, PE	11/03/19	Page 1/7
ecoplexus				
Grid-Co	nnected Systen	n: Simulation parameter	S	
Project : Madras	PV1 alt weather da	ta		
-	.661384 -121.224323	Count	ry United St	tates
Situation	Latitude	44.65° N Longitud	de -121.25° \	W
Time defined as	Legal Time Albedo	Time zone UT-8 Altitud 0.20	de 689 m	
Meteo data: Madras Or 44		NREL NSRD : TMY3 - TMY		
Simulation variant : 60 MW	AC, Mono Modules	, 1.10 DC to AC, 0.397 GCR		
		11/03/19 15h03		
Simulation parameters	System type	Tracking system with backtrac		
Tracking plane, tilted Axis Rotation Limitations	Axis Tilt Minimum Phi	0° Axis Azimu -60° Maximum P		
			-	
Backtracking strategy	Nb. of trackers	1500Identical array4.99 mCollector wid		
Backtracking limit angle	Tracker Spacing Phi limits	+/- 65.9° Ground cov. Ratio (GCI		
Models used	Transposition	Perez Diffu	se Imported	
Horizon	Free Horizon			
Near Shadings	According to strings	Electrical effe	ct 100 %	
User's needs :	Unlimited load (grid)			
Grid power limitation Power factor	Active Power Cos(phi)	60.0 MW Pnom rat 1.000 leading P	io 1.096 hi 0.0°	
PV Array Characteristics				
PV module S	Si-mono Model Manufacturer	JAM72S01-370/PR		
Custom parameters definition Number of PV modules	In series	JA Solar 27 modules In parall	el 6585 strin	gs
Total number of PV modules	Nb. modules	177795 Unit Nom. Pow	•	
Array global power Array operating characteristics (50°C)	Nominal (STC) U mpp	65784 kWp At operating con- 969 V I mp		/p (50°C)
Total area	Module area	345342 m² Cell are	a 314526 m	2
Inverter	Model	Sunny Central 2750-EV_Vers.B	1_35°C	
Custom parameters definition Characteristics	Manufacturer Operating Voltage	SMA 849-1425 V Unit Nom. Pow	er 2750 kWa	ac
Inverter pack	Nb. of inverters	23 units Total Pow		
		Pnom rat		
PV Array loss factors		. –		
Array Soiling Losses Thermal Loss factor	Uc (const)	Loss Fraction 29.0 W/m²K Uv (win		K / m/s
Wiring Ohmic Loss	Global array res.	0.21 mOhm Loss Fraction	,	
LID - Light Induced Degradation		Loss Fractio		
Module Quality Loss Module Mismatch Losses		Loss Fraction Loss Fraction		MPP
Strings Mismatch loss		Loss Fractio		

PVsyst Licensed to EcoPlexus (United States)



Grid-Connected System: Simulation parameters

Incidence effect (IAM): User defined profile

0°	25°	40°	50°	60°	70°	75°	80°	90°
1.000	1.000	1.000	1.000	0.998	0.957	0.895	0.755	0.000

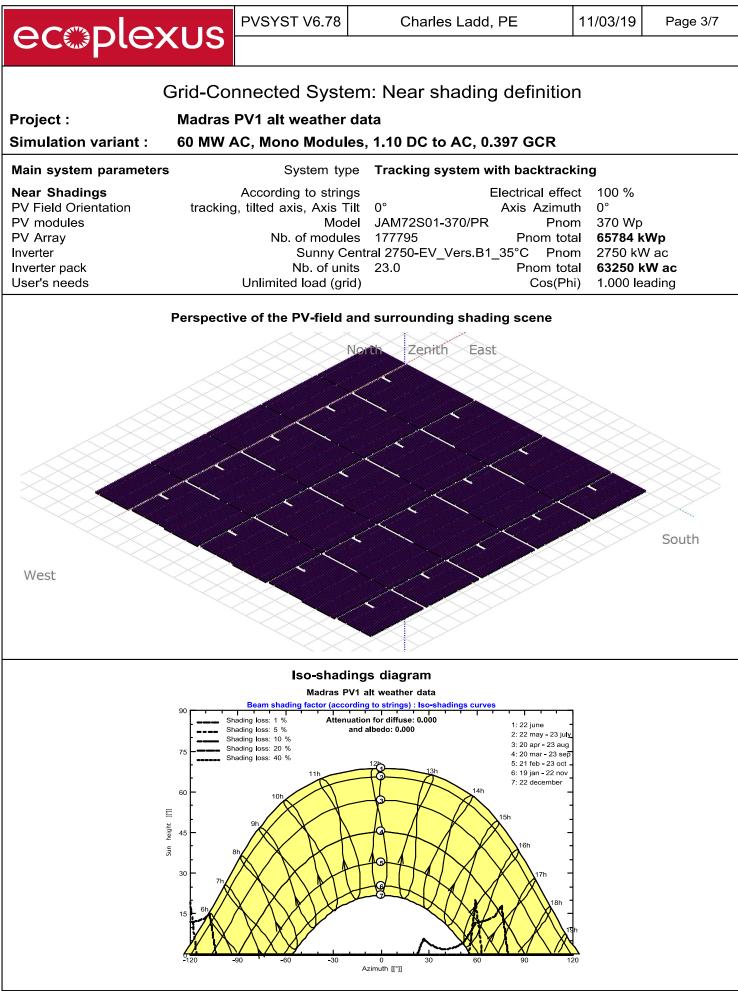
System loss factors

External transformer

Iron loss (24H connexion) 64520 W Resistive/Inductive losses 0.056 mOhm

Loss Fraction 0.1 % at STC Loss Fraction 1.0 % at STC

11/03/19



PVsyst Licensed to EcoPlexus (United States)

PVSYST V6.78 11/03/19 Charles Ladd, PE ecoplexus Grid-Connected System: Main results **Project :** Madras PV1 alt weather data Simulation variant : 60 MW AC, Mono Modules, 1.10 DC to AC, 0.397 GCR Main system parameters System type Tracking system with backtracking 100 % **Near Shadings** According to strings Electrical effect **PV Field Orientation** tracking, tilted axis, Axis Tilt 0° 0° Axis Azimuth **PV** modules Model JAM72S01-370/PR Pnom 370 Wp **PV** Array Nb. of modules 177795 Pnom total 65784 kWp Sunny Central 2750-EV_Vers.B1_35°C Inverter Pnom 2750 kW ac Nb. of units 23.0 63250 kW ac Inverter pack Pnom total User's needs 1.000 leading Unlimited load (grid) Cos(Phi)

Main simulation results System Production

Energy [kWh/kWp/day]

Normalized

Normalized productions (per installed kWp): Nominal power 65784 kWp

Jun Jul Aug Sep

Lc : Collection Loss (PV-array losses)

Ls : System Loss (inverter, ...) Yf : Produced useful energy (inverte

Apr

Produced Energy Apparent energy

0.77 kWh/kWp/day

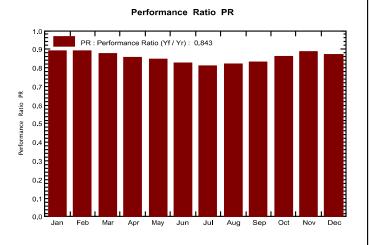
4.93 kWh/kWp/day

0.15 kWh/kWp/day

118364 MWh/yearSpecific prod.118364 MVAhPerf. Ratio PR

od. 1799 kWh/kWp/year PR 84.30 %

Page 4/7

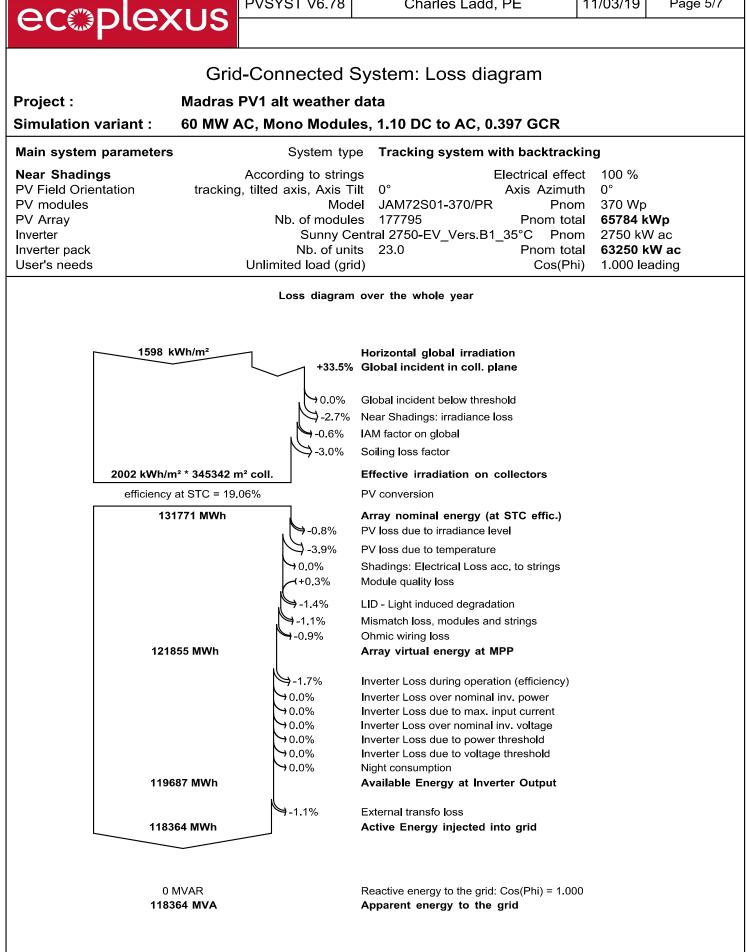


60 MW AC, Mono Modules, 1.10 DC to AC, 0.397 GCR Balances and main results

	GlobHor	DiffHor	T_Amb	GlobInc	GlobEff	EArray	E_Grid	PR
	kWh/m²	kWh/m²	°C	kWh/m²	kWh/m²	MWh	MWh	
January	48.8	19.49	1.69	67.1	62.5	4080	3937	0.891
February	69.6	30.43	2.16	94.9	88.2	5732	5555	0.890
March	119.2	49.13	3.39	157.5	146.9	9339	9069	0.875
April	158.9	57.98	7.16	209.5	196.2	12160	11813	0.857
Мау	199.6	69.12	10.74	258.7	242.6	14858	14438	0.848
June	215.2	65.69	16.47	280.8	263.8	15667	15239	0.825
July	237.7	55.82	20.32	317.9	300.1	17446	16978	0.812
August	205.2	54.78	19.08	277.0	260.8	15342	14926	0.819
September	152.7	38.61	17.53	211.9	199.8	11922	11599	0.832
October	99.3	34.46	9.44	134.2	125.7	7810	7584	0.859
November	51.7	22.81	2.82	70.5	65.3	4252	4105	0.886
December	40.5	20.56	2.03	54.6	50.2	3247	3122	0.870
Year	1598.5	518.87	9.44	2134.5	2002.1	121855	118364	0.843

DiffHor

T_Amb GlobInc Horizontal global irradiation Horizontal diffuse irradiation Ambient Temperature Global incident in coll. plane GlobEff EArray E_Grid PR Effective Global, corr. for IAM and shadings Effective energy at the output of the array Energy injected into grid Performance. Ratio



		PVSYST V6.78	Cł	narles Ladd, PE	11/03/19	Page 6/7
ecoplex	KUS					
	Grid_C	- 	om D5	0 - P90 evaluatio	n	
Brojaat I		PV1 alt weather		0 - F90 evaluation	1	
Project : Simulation variant :				C to AC, 0.397 GCR		
Main system parameters		System typ		ng system with backtra	cking	
Near Shadings	5	According to string		Electrical eff	-	
PV Field Orientation	tracking	g, tilted axis, Axis T	ilt 0°	Axis Azim	uth 0°	
PV modules PV Array		Mod Nb. of module			om 370 Wp ota l 65784 l	
Inverter				-EV_Vers.B1_35°C Pn		
Inverter pack		Nb. of uni		Pnom to		
User's needs		Unlimited load (gri	d)	Cos(F	Phi) 1.000 le	eading
Evaluation of the Produ	ction prob	ability forecast				
The probability distribution	-	-	ast for diffe	rent vears is mainly depe	ndent	
on the meteo data used fo	-				lidolit	
Meteo data source				NSRD : TMY3		
Meteo data		Kir		nulti-year		
Specified Deviation Year-to-year variability		Climate chang Variano				
	Inverter oiling and m De	modelling/parameter efficiency uncertain ismatch uncertaintie egradation uncertain Varianc	ty 0.5 % s 1.0 % ty 1.0 %	(quadratic st	ım)	
Annual production probab	ility	Variabilit P5 P9 P9	0 118364 0 112793	4 MWh 3 MWh		
		Probabil	ity distrib	ution		
	0.50		118364461 kWl	· · · · · · · · · · · · · ·		
	0.40	1 30 -		simul = 118364461 kWh		
	0.35					
bility	0.30			\mathbf{N}		
Probability	0.20			\mathbf{A}		
	0.15		2792684 kWh	\mathbf{X}		
	0.10	P95 = 111225	003 kWh	\mathbf{X}		
	0.05					
	105000000	110000000 115000000 E Grid	120000000 I system produ		3500000	
			system produ			

PVSYST V6.78 11/03/19 Charles Ladd, PE Page 7/7 ecoplexus Grid-Connected System: CO2 Balance **Project :** Madras PV1 alt weather data Simulation variant : 60 MW AC, Mono Modules, 1.10 DC to AC, 0.397 GCR Main system parameters System type Tracking system with backtracking According to strings 100 % **Near Shadings** Electrical effect **PV Field Orientation** tracking, tilted axis, Axis Tilt 0° 0° Axis Azimuth JAM72S01-370/PR **PV** modules Model 370 Wp Pnom **PV** Array Nb. of modules 177795 Pnom total 65784 kWp Sunny Central 2750-EV_Vers.B1_35°C Pnom Inverter 2750 kW ac Nb. of units 23.0 63250 kW ac Inverter pack Pnom total Unlimited load (grid) User's needs Cos(Phi) 1.000 leading **Produced Emissions** Total: 143977.40 tCO2 Source: Detailed calculation from table below **Replaced Emissions** Total: 1874893.1 tCO2 System production: 118364.46 MWh/yr Lifetime: 30 years Annual Degradation: 1.0 % Grid Lifecycle Emissions: 528 gCO2/kWh Source: IEA List Country: United States

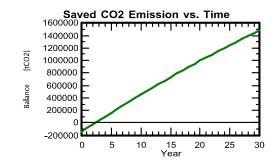
CO2 Emission Balance

System Lifecycle Emissions Details:

ltem	Modules	Supports
LCE	1713 kgCO2/kWp	3.52 kgCO2/kg
Quantity	65784 kWp	8889750 kg
Subtotal [kgCO2]	112669829	31307566

1482802.5 tCO2

Total:



Madras Solar

Ecoplexus, Inc.

Ecopiexus, inc.		
1 Schedule	Mon, 4/22/2	019
	START	END
ment		
ALTA Survey	COMPLETE	COMPLETE
CUP Plan (30% Design)	COMPLETE	COMPLETE
EFSC Application	5/1/19	11/1/20
Site Certificate Award		11/1/20
Phase I ESA	COMPLETE	COMPLETE
Phase I Cultural Resource Survey	COMPLETE	COMPLETE
Biological Resources Survey	COMPLETE	COMPLETE
Wetland/Stream Delination	COMPLETE	COMPLETE
USACE (Sec. 404) JD	COMPLETE	COMPLETE
Real Estate		
Title Policy	1/1/19	7/1/21
Ground Lease execution	5/1/19	8/1/19
Finanical DD/Close		
Financial Due Diligence	4/1/21	7/1/21
Financial Close		7/1/21
NTP		7/1/21
Engineering, Procurement, and Final Pe	rmits	
Final Design and Engineering	3/1/21	6/1/21
Inverter Procurement	5/1/21	7/1/21
Racking Procurement	5/1/21	7/1/21
Module Procurement	5/1/21	7/1/21
Building Permit	5/1/21	7/1/21
Interconnection		. /
IR Submittal	COMPLETF	COMPLETE
Feasibility Study		COMPLETE
System Impact Study	11/1/18	6/1/19
Facilities Study	6/1/19	10/1/19
LGIA Execution	10/1/19	1/1/20
LGIA EXECUTION	10/1/19	1/1/20

ТАЅК	START	END	Ja	in Feb Mi	ar Apr Ma	y Jun Jul	Aug Sep 0	Oct Nov D	ec Jan Fe	eb Mar Ap	or May Jur	n Jul Aug	Sep Oct	Nov Dec	Oct Nov	Dec Jan	eb Mar .	Apr May	Jun Jul	Aug Sep (Dct Nov [Dec Jar	Feb Ma	r Apr Ma	y Jun Jul	Aug Sej	p Oct Nov De	2
IC Facilites Design and Engineering	1/1/20	10/1/21																										
Construction																												
Site Preparation/Temporary Fencing	8/1/21	9/1/21																										1
Racking Install & Panelization	9/1/21	12/1/21																										
Trenching & Conduit Installation	12/1/21	1/15/22																										1
DC Wire Installation	12/1/21	2/1/22																										1
AC Wire Pulls & Termination	12/1/21	1/1/22																										
Inverter Installation	12/1/221	2/1/22																										1
Switchgear and IC Facility Install	10/1/21	2/1/22																										1
AHJ Final Inspection	2/1/22	2/15/22																										1
In Service/Utility Testing	2/15/22	3/1/22																										1
COD	3/1/22	3/1/22																										1
Insert new rows ABOVE this one																												

EXHIBIT G

PLANNED OUTAGE NOTIFICATION

September 1, [20XX]

Portland General Electric Attn: Scheduling 121 SW Salmon St. Portland, OR 97204

Dear PGE,

This notification is provided pursuant to Section 3.7 of that certain Power Purchase and Sale Agreement between Madras PV1, LLC for the Madras Solar Project ("Madras Solar") and Portland General Electric dated [April XX, 2019].

For calendar year [20XX], Madras Solar has planned maintenance which is expected to result in an outage of more than ten percent (10%) of the generating capacity of the Project for two (2) or more consecutive hours as set forth in the following table.

			Description of Work			Physical Units	Starting Plant	Adjusted Plant
Outage Number	Specific Unit Offline	Description of Outage	Being Performed	Planned Start Time	Planned End Time	Off-line	Capacity (MW)	Capacity (MW)
20XX.1	Peak RC Outage ID required			MM/DD/YYYY, HE XX	MM/DD/YYYY, HE XX			
20XX.2								
20XX.3								
20XX.4								
20XX.5								
20XX.6								
20XX.7								
20XX.8								
20XX.9								
20XX.10								

Sincerely, Madras PV1, LLC

Name: Title:

EXHIBIT H

FORECAST METHODOLOGY

[TO BE ATTACHED SUBSEQUENT TO EXECUTION UPON SELLER'S DESIGNATION OF A FORECASTING AGENT IN ACCORDANCE WITH SECTION 3.13.]

EXHIBIT I

Examples

Attachment B

May 4, 2018 Partially Executed Power Purchase Agreement

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

AGREEMENT

THIS AGREEMENT is between <u>Fresh Air Energy II, LLC</u> ("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

1

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 offpeak 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 (CO2), 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 Year) X (the lower of: the time weighted average of the Mid-C Index Price for On-Peak Hours; or the time weighted average of the Mid-C Index Price for On-Peak Hours and Off-Peak Hours; or the time-weighted average of the Contract 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: <u>https://www.theice.com/products/OTC/Physical-Energy/Electricity</u>. 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, agreements construction. authorizations. and necessary for 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 <u>May 4, 2041</u>, 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 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 Non-Standard Renewable In-System Non-Variable Power Purchase Agreement

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 program that such program that such program that such program as belonging to it any of the Transferred RECs, and Seller shall not report under such program that such 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

Non-Standard Renewable In-System Non-Variable Power Purchase Agreement

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 crossliability 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 2 nd 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

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: S

Name: ⁷Erik 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	

Non-Standard Renewable In-System Non-Variable Power Purchase Agreement

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

FEDERAL ENERGY REGULATORY COMMISSION WASHINGTON, DC

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, <u>www.ferc.gov/QF</u>. 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 certifications 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
	(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.
Electric	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 <i>not</i> 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 <u>www.ferc.gov/QF</u> 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 <u>www.ferc.gov/QF</u> 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 <u>http://earth.google.com</u>), 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 OMB Control # 1902-0075 WASHINGTON, DC Expiration 06/30/2019

	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 at 101 2nd Street				
	1c City San Francisco		1d State/pro	vince	
	1e Postal code 94105	1f Country (if not United States)		1g Telephone number (415) 626–1802	
	1h Has the instant fac	ility ever previously been certified as a Q	F? Yes	No 🔀	
	1i If yes, provide the c	locket number of the last known QF filin	g pertaining to	this facility: QF	
	1j Under which certifi	cation process is the applicant making th	nis filing?		
~	Notice of self-cer (see note below)	tification \Box_{fe}^{A}	pplication for C ee; see "Filing Fe	Commission certification (requires filing ee" section on page 3)	
Application Information	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.				
nfc	1k What type(s) of QF status is the applicant seeking for its facility? (check all that apply)				
n l	🔀 Qualifying small	Qualifying small power production facility status 🗌 Qualifying cogeneration facility status			
atic	11 What is the purpose and expected effective date(s) of this filing?				
lic	\boxtimes Original certification; facility expected to be installed by <u>$5/1/20$</u> and to begin operation on <u>$6/1/20$</u>				
App	Change(s) to a previously certified facility to be effective on				
4	(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)				
	to the extent poss	ible, explaining any special circumstance	es in the Miscella		
	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 orders in the Miscellaneous section starting on page 19)				
	\Box The instant facility would comply with the Commission's QF requirements if a petition for waiver submitted concurrently with this application is granted				
	employment o	ility complies with the Commission's reg f unique or innovative technologies not tion of compliance via this form difficult	contemplated b		

FEI	RC Form 556				Page 6 - All Facilities	
	2a Name of contact person			2b Telephone	number]
	John Gorman			(415)626-	1802	
	2c Which of the following describes	the contact person's relation	onship to the ap	olicant? (check o	ne)	
	🗌 Applicant (self) 🛛 🔀 Emplo	oyee, owner or partner of a	pplicant authori	zed to represent	the applicant	
NO	Employee of a company affiliat	ed with the applicant auth	orized to represe	ent the applicant	t on this matter	
ati	Lawyer, consultant, or other rep	presentative authorized to	represent the ap	oplicant on this r	natter	
Ľ	2d Company or organization name (if applicant is an individua	I, check here and	skip to line 2e)		
Jfo	FRESH AIR ENERGY II, LLC			•		
t L	2e Street address (if same as Applica	Int, check here and skip to	line 3a) 🔀			G
Contact Information	· · · · · ·					
.uo						
Ŭ	2f City		2g State/provi	nce		-
			5			
	2h Postal code	2i Country (if not United	States)			-
			,			
	3a Facility name					
no	Madras PV1					
atio	3b Street address (if a street address	does not exist for the faci	litv, check here a	nd skip to line 30	c) 🛛	G
Ŭ O			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Ľ
qL						
Identification and Location	3c Geographic coordinates: If you in then you must specify the latitud the following formula to convert degrees + (minutes/60) + (second provided a street address for you	le and longitude coordinat to decimal degrees from c ds/3600). See the "Geogr	tes of the facility degrees, minutes aphic Coordinate	in degrees (to th and seconds: d es" section on pa	ree decimal places). Use ecimal degrees = ige 4 for help. If you	-
lenti	Longitude Longitude Heast (+) Longitude	.230 degrees	Latitude	∑ North (+) ☐ South (-) —	44.661 degrees	
<u>v</u> 10	3d City (if unincorporated, check her	re and enter nearest city) [3e State/pr	rovince		
Facility	Madras		OR			
ac	3f County (or check here for indeper	ndent city) 3g	Country (if not	United States)		6
	Jefferson					-
	Identify the electric utilities that are c	ontemplated to transact w	vith the facility.			
es	4a Identify utility interconnecting wi	ith the facility				
liti	Portland General Electric					
Uti	4b Identify utilities providing wheeli	ng service or check here if	none 🛛			G
lg l		5				
tin	4c Identify utilities purchasing the up	seful electric power outpu	t or check here if	none		G
sac	4c Identify utilities purchasing the useful electric power output or check here if none Portland General Electric			i		
Transacting Utilities	4d Identify utilities providing supple	mentary power backup p	ower, maintenar	nce power and/	or interruptible power	
Ē	4d Identify utilities providing supplementary power, backup power, maintenance power, and/or interruptible power service or check here if none			i		
	Portland General Electri	С				

i

	5a Direct ownership as of effective date or operation date: Identify all direct owners of th percent equity interest. For each identified owner, also (1) indicate whether that own defined in section 3(22) of the Federal Power Act (16 U.S.C. 796(22)), or a holding com 1262(8) of the Public Utility Holding Company Act of 2005 (42 U.S.C. 16451(8)), and (2) utilities or holding companies, provide the percentage of equity interest in the facility direct owners hold at least 10 percent equity interest in the facility, then provide the r two direct owners with the largest equity interest in the facility.	er is an electric utilit pany, as defined in s for owners which a held by that owner equired information	y, as section re electric . If no
	Full legal names of direct owners	Electric utility or holding company	If Yes, % equity interest
	1) FRESH AIR ENERGY II, LLC	Yes 🗌 No 🖂	00
	2)	Yes 🗌 No 🗌	%
	3)	Yes 🗌 No 🗌	90
	4)	Yes 🗌 No 🗌	
	5)	Yes 📄 No 📄	00
	6)	Yes 📄 No 📄	
	7)	Yes 📄 No 📄	
~	8)	Yes 📄 No 📄	
ior	9)	Yes 📄 No 📄	90
rat	10)	Yes 📄 No 📄	
be	Check here and continue in the Miscellaneous section starting on page 19 if additional section sec	tional space is need	ed
Ownership and Operation	defined in section 3(22) of the Federal Power Act (16 U.S.C. 796(22)), or holding compa 1262(8) of the Public Utility Holding Company Act of 2005 (42 U.S.C. 16451(8)). Also p equity interest in the facility held by such owners. (Note that, because upstream own another, total percent equity interest reported may exceed 100 percent.)	rovide the percenta	ge of
W L	Check here if no such upstream owners exist. 🔀		
0	Full legal names of electric utility or holding company upstream owne	rs	% equity interest
	1)		00
	2)		°
	3)		00
	4)		
	5)		00
	6)		
	7)		
	8)		00
	9)		90
	10)		90
	Check here and continue in the Miscellaneous section starting on page 19 if additi	onal space is neede	d
	5c Identify the facility operator		
	FRESH AIR ENERGY II, LLC		

FERC Form 556

			3			
	6a Describe the primary energy input: (ch	eck one main category and, if applicable, c	one subcategory)			
	Biomass (specify)	Renewable resources (specify)	Geothermal			
	Landfill gas	Hydro power - river	Fossil fuel (specify)			
	Manure digester gas	Hydro power - tidal	Coal (not waste)			
	Municipal solid waste	Hydro power - wave	Fuel oil/diesel			
	Sewage digester gas	🛛 Solar - photovoltaic	Natural gas (not waste)			
	U Wood	🗌 Solar - thermal	Other fossil fuel			
	Other biomass (describe on provide the second se	page 19) 🗌 Wind	\Box (describe on page 19)			
	Waste (specify type below in line 6	b) Other renewable resource (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 o	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 a a a short and	n average heat content of 6,000 Btu or les r more	s per pound and has an average			
	Bituminous coal refuse that average ash content of 25 p	has an average heat content of 9,500 Btu percent or more	per pound or less and has an			
Input	$\Box \begin{array}{c} \text{determined to be waste by} \\ (\text{BLM}) \text{ or that is located on } \end{array}$	ous coal produced on Federal lands or on l the United States Department of the Inter non-Federal or non-Indian lands outside o e latter coal is an extension of that determ	ior's Bureau of Land Management f BLM's jurisdiction, provided that			
Energy Input	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					
ш	\Box 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 governmer	t agency has certified for disposal by com	bustion (describe on page 19)			
	Heat from exothermic react	ions (describe on page 19)	Residual heat (describe on page 19)			
	Used rubber tires	Plastic materials 🛛 🗌 Refinery of	f-gas 🛛 Petroleum coke			
	Other waste energy input that has little or no commercial value and exists in the absence of the qualifyir facility industry (describe in the Miscellaneous section starting on page 19; include a discussion of the ful lack of commercial value and existence in the absence of the qualifying facility industry)					
		ulated on a calendar year basis, in terms of percentage of the total average annual er uel, use lower heating value (18 C.F.R. § 29	nergy input to the facility (18 C.F.R. §			
		Annual average energy	Percentage of total			
	Fuel Natural gas		annual energy input			
	Oil-based fuels	0 Btu/h	0 %			
	Coal	0 Btu/h	0 %			
		0 Btu/h	0 %			

Indicate the maximum gross and maximum net electric power production capacity of the facility at delivery by completing the worksheet below. Respond to all items. If any of the parasitic loads and, 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.

	Pursuant to 18 C.F.R. § 292.204(a), the power produ with the power production capacity of any other sn resource, are owned by the same person(s) or its aff megawatts. To demonstrate compliance with this s from this size limitation under the Solar, Wind, Was (Pub. L. 101-575, 104 Stat. 2834 (1990) as amended through 8e below (as applicable).	nall power production facilities that use the filiates, and are located at the same site, n size limitation, or to demonstrate that you te, and Geothermal Power Production Inc	he same energy nay not exceed 80 ur facility is exempt entives Act of 1990		
8a Identify any facilities with electrical generating equipment located within 1 mile of the electrical equipment of the instant facility, and for which any of the entities identified in lines 5a or 5b, or their at least a 5 percent equity interest.					
Ce	Check here if no such facilities exist. 🔀				
olian ons	Facility locationRoot docket(city or county, state)(if any)	t # Common owner(s)	Maximum net power production capacity		
ml	1) QF		kW		
mit D D	2)QF		kW		
e Li	3) QF -		kW		
tion Siz	Check here and continue in the Miscellaneous	section starting on page 19 if additional	space is needed		
Certification of Compliance with Size Limitations	Stort Facility location Root docket # Maximum net pow (city or county, state) (if any) Common owner(s) production capaci 1) QF - k 2) QF - k 3) QF - k 3) QF - k Check here and continue in the Miscellaneous section starting on page 19 if additional space is needed k 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				
	Se 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.				
ompliance quirements					
of C Re	9a Certification of compliance with 18 C.F.R. § 292.	204(b) with respect to uses of fossil fuel:			
on o Use	Applicant certifies that the facility will use fossil fuels <i>exclusively</i> for the purposes listed above.				
Certification of Complian with Fuel Use Requireme	 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. 				

i

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.

	energy (such as heat or s use of energy. Pursuant cycle cogeneration facili thermal application or p 292.205(a); or (2) for a bo application or process for 10a What type(s) of cog Topping-cycle 10b To help demonstration other requirements balance diagram definition	92.202(c), a cogeneration facility produces electric energy and forms of useful thermal steam) used for industrial, commercial, heating, or cooling purposes, through the sequential to 18 C.F.R. § 292.202(s), "sequential use" of energy means the following: (1) for a topping- ty, the use of reject heat from a power production process in sufficient amounts in a rocess to conform to the requirements of the operating standard contained in 18 C.F.R. § ottoming-cycle cogeneration facility, the use of at least some reject heat from a thermal or power production. eneration technology does the facility represent? (check all that apply) e cogeneration te the sequential operation of the cogeneration process, and to support compliance with a such as the operating and efficiency standards, include with your filing a mass and heat epicting average annual operating conditions. This diagram must include certain items and tements, as described below. You must check next to the description of each requirement
		t you have complied with these requirements.
	Check to certify compliance with	
	indicated requirement	Requirement
ration n		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.
gene		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.
General Cogeneration Information		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.
jene		Diagram must specify average gross electric output in kW or MW for each generator.
0		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 <i>liquid only</i> (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/ (Ib*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 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	
e s	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.	
ntal Us acilitie:	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?	
n Fa	Yes (continue at line 11d below)	
Fundai ieratio	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.	
s for oger	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?	
ement: from C	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.	
EPAct 2005 Requirements for Fundamental Use of Energy Output from Cogeneration Facilities	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.	
05 l y O	11e Will electric energy from the facility be sold pursuant to section 210 of PURPA?	(
:t 20 nerg	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.	
EPAc of E	No. Applicant certifies that energy will <i>not</i> 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) <i>before</i> 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.	

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.

Usefulness of Topping-Cycle

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.

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	thermal output attributable to use (net of heat contained in process return or make-up water)
1)		Select thermal host's relationship to facility	
1)		Select thermal host's use of thermal output	Btu/h
2)		Select thermal host's relationship to facility	
~)		Select thermal host's use of thermal output	Btu/h
3)		Select thermal host's relationship to facility	
5)		Select thermal host's use of thermal output	Btu/h
4)		Select thermal host's relationship to facility	
r)		Select thermal host's use of thermal output	Btu/h
5)		Select thermal host's relationship to facility	
,,		Select thermal host's use of thermal output	Btu/h
5)		Select thermal host's relationship to facility	
5)		Select thermal host's use of thermal output	Btu/h
	Check here and continue in	the Miscellaneous section starting on page 19 if a	dditional space is needed
ther How not appl is m outp date used	mal output identified above. In vever, if your facility's use of ther reasonably clear, then you must lication may be rejected and/or a ade. (Exception: If you have pre- but related to the instant facility, and docket number to the orde	thermal output: At a minimum, provide a brief de some cases, this brief description is sufficient to de mal output is not common, and/or if the usefulnes provide additional details as necessary to demons additional information may be required if an insuffi- viously received a Commission certification appro- then you need only provide a brief description of er certifying your facility with the indicated use. Su I deviation from the previously authorized use.) If on starting on page 19.	emonstrate usefulness. ss of such thermal output is strate usefulness. Your ficient showing of usefulness ving a specific use of thermal that use and a reference by uch exemption may not be



Applicants for facilities representing topping-cycle technology must demonstrate compliance with the toppingcycle 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 13I 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 = $100 \times 13a / (13a + 13c + 13e)$ 0 % **13h** Topping-cycle efficiency value = 100 * (0.5*13a + 13c + 13e) / 13f0 % 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) **13** 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)

Topping-Cycle Operating and Efficiency Value Calculation

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.

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	Yes No
1)		Select thermal host's process type	
2)		Select thermal host's relationship to facility	Yes No
∠)		Select thermal host's process type	
3)		Select thermal host's relationship to facility	Yes No
5)		Select thermal host's process type	

Usefulness of Bottoming-Cycle Thermal Output

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

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 i	ts current form	commence on or after	March 13, 1980?
-----	------------------	----------------------	-----------------	----------------------	-----------------

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). with the efficiency requirement by responding to lines 15b through 15h below.	Demonstrate com	pliar
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
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
15f Indicate the annual average rate of supplementary energy input from natural gas or oil		Btu
15g Bottoming-cycle efficiency value = 100 * (15c + 15e) / 15f	0	%
15h Compliance with efficiency standard: Indicate below whether the efficiency value sh than or equal to 45%:	own in line 15g is g	reat

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.

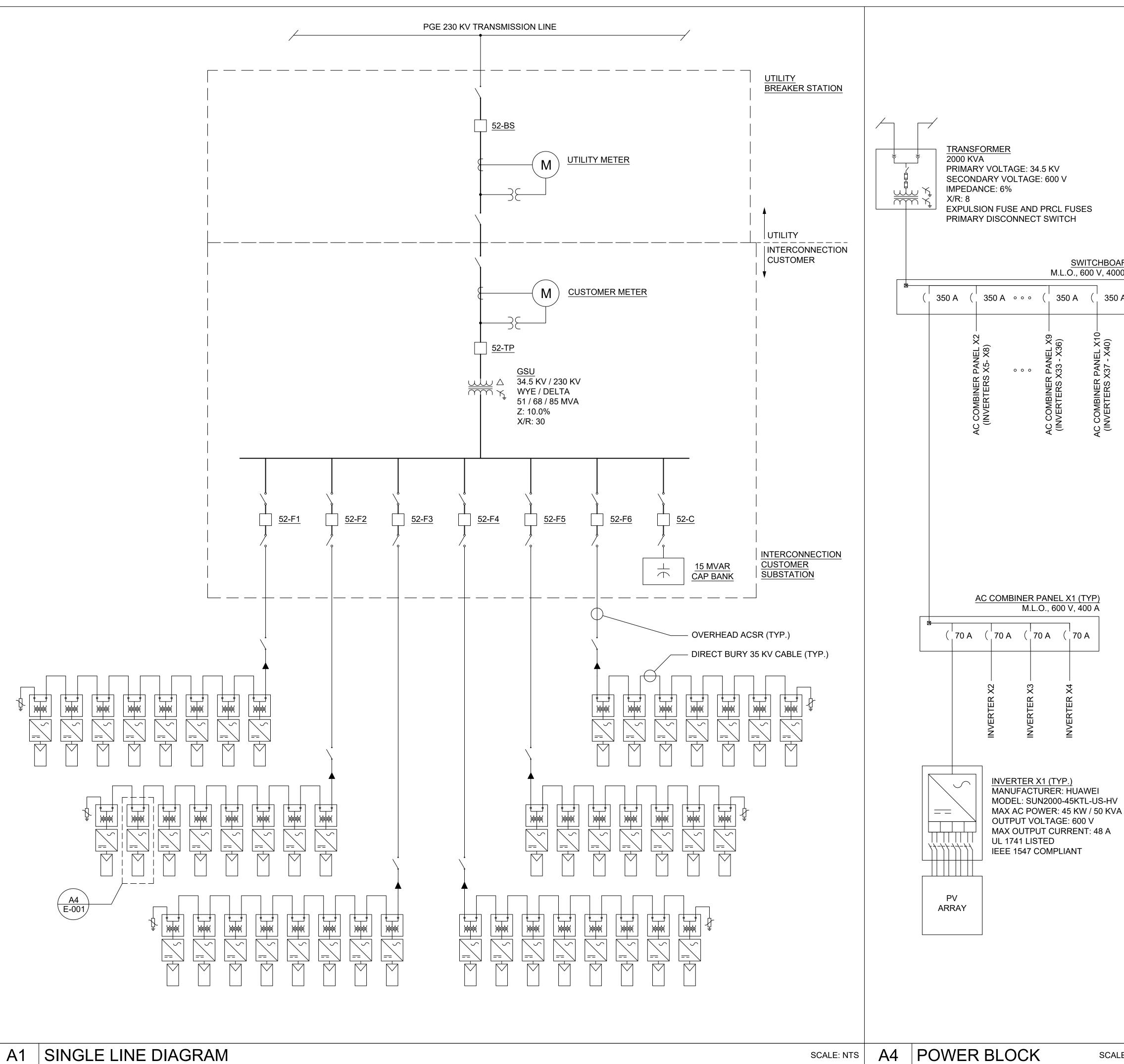
Your Signature	Your address	Date
	101 2nd Street, Suite 1250	
Nathan Rogers	San Francisco, CA 94105	9/15/2017

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	<image/> <image/> <image/> <image/> <image/> <image/> <text></text>
RD	D5 SYSTEM SUMMARY SCALE: NA	SEAL:
0 A A	 THE INVERTERS SHALL PROVIDE DYNAMIC REACTIVE CAPABILITY OF 0.95 LEADING TO 0.95 LAGGING AT THE POINT OF INTERCONNECTION. 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 	9/17/2017 OREGON
	 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. 	RENEWS: 12/31/2017
	5. MEDIUM VOLTAGE COLLECTION SYSTEM CONFIGURATION MAY VARY BASED UPON FINAL SYSTEM DESIGN.	
	ISSUED FOR: INTERCONNECTION APPROVAL NOT FOR CONSTRUCTION	ECOPLEXUS, INC. DI 2ND ST., STE. 1250 SAN FRANCISCO, CA 94105 WWW.ecoplexus.com
-	B5 NOTES SCALE: NA	ISSUED FOR: INTERCONNECTION APPROVAL
\ 		NOT FOR CONSTRUCTION ISSUED: 09/17/2017 DRAWN BY: PEB
	• CABLE TERMINATION $\frac{\perp}{\top}$ CONTACTOR	REVISON #:
	DISCONNECT	SINGLE LINE DIAGRAM
E: NTS	A5 SYMBOLS SCALE: NA	E-001 SHEET 01 OF 01

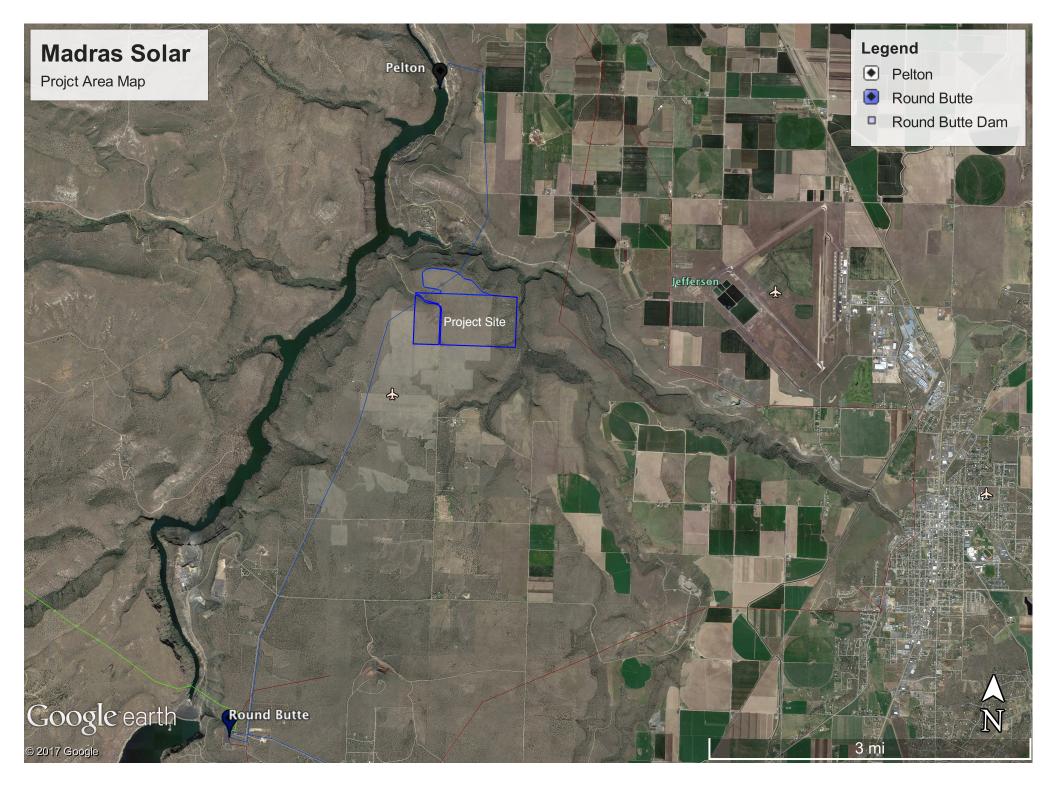


EXHIBIT C REQUIRED FACILITY DOCUMENTS

[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;
- 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.

[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

				Indic		ng Proposa		Solar				
					On-Peak	Forecast (S	\$/MWH)					
	-					-					2.5	-
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	8 0.07			10.50	10.01	10.51						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
				Indic		ng Proposa		Solar				
					Off-Peal	kForecast(\$/MWH)					
V	T	Feb										
Year	Jan					Τ	т 1	A	C	0.4	N	D
2020		100	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	27.26			*								30.82
	27.26	27.48	21.28	14.47	10.93	10.52	21.11	28.00	28.55	25.98	27.79	30.82 33.05
2022	29.17	27.48 29.40	21.28 22.77	14.47 15.48	10.93 11.67	10.52 11.24	21.11 22.59	28.00 29.97	28.55 30.56	25.98 27.81	27.79 29.74	30.82 33.05 35.38
2023	29.17 29.49	27.48 29.40 28.50	21.28 22.77 26.17	14.47 15.48 21.82	10.93 11.67 20.26	10.52 11.24 18.32	21.11 22.59 24.28	28.00 29.97 27.26	28.55 30.56 29.95	25.98 27.81 30.17	27.79 29.74 30.59	30.82 33.05 35.38 31.81
2023 2024	29.17 29.49 31.51	27.48 29.40 28.50 28.97	21.28 22.77 26.17 28.36	14.47 15.48 21.82 23.85	10.93 11.67 20.26 20.57	10.52 11.24 18.32 12.83	21.11 22.59 24.28 24.46	28.00 29.97 27.26 28.63	28.55 30.56 29.95 31.08	25.98 27.81 30.17 31.29	27.79 29.74 30.59 33.43	30.82 33.05 35.38 31.81 34.82
2023 2024 2025	29.17 29.49 31.51 80.58	27.48 29.40 28.50 28.97 73.61	21.28 22.77 26.17 28.36 71.92	14.47 15.48 21.82 23.85 59.56	10.93 11.67 20.26 20.57 50.54	10.52 11.24 18.32 12.83 29.31	21.11 22.59 24.28 24.46 61.23	28.00 29.97 27.26 28.63 72.68	28.55 30.56 29.95 31.08 79.39	25.98 27.81 30.17 31.29 79.99	27.79 29.74 30.59 33.43 85.85	30.82 33.05 35.38 31.81 34.82 89.67
2023 2024 2025 2026	29.17 29.49 31.51 80.58 82.20	27.48 29.40 28.50 28.97 73.61 75.08	21.28 22.77 26.17 28.36 71.92 73.36	14.47 15.48 21.82 23.85 59.56 60.75	10.93 11.67 20.26 20.57 50.54 51.55	10.52 11.24 18.32 12.83 29.31 29.89	21.11 22.59 24.28 24.46 61.23 62.46	28.00 29.97 27.26 28.63 72.68 74.14	28.55 30.56 29.95 31.08 79.39 80.97	25.98 27.81 30.17 31.29 79.99 81.59	27.79 29.74 30.59 33.43 85.85 87.57	30.82 33.05 35.38 31.81 34.82 89.67 91.47
2023 2024 2025 2026 2027	29.17 29.49 31.51 80.58 82.20 83.84	27.48 29.40 28.50 28.97 73.61 75.08 76.58	21.28 22.77 26.17 28.36 71.92 73.36 74.83	14.47 15.48 21.82 23.85 59.56 60.75 61.96	10.93 11.67 20.26 20.57 50.54 51.55 52.59	10.52 11.24 18.32 12.83 29.31 29.89 30.49	21.11 22.59 24.28 24.46 61.23 62.46 63.71	28.00 29.97 27.26 28.63 72.68 74.14 75.62	28.55 30.56 29.95 31.08 79.39 80.97 82.59	25.98 27.81 30.17 31.29 79.99 81.59 83.22	27.79 29.74 30.59 33.43 85.85 87.57 89.32	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30
2023 2024 2025 2026 2027 2028	29.17 29.49 31.51 80.58 82.20 83.84 85.28	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90
2023 2024 2025 2026 2027 2028 2029	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07
2023 2024 2025 2026 2027 2028 2029 2030	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01
2023 2024 2025 2026 2027 2028 2029 2030 2031	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42 96.31	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25 87.97	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27 85.96	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78 71.18	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22 60.41	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34 35.03	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74 73.18	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16 86.87	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02 94.88	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72 95.60	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59 102.61	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07 107.17
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42 96.31 98.24	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25 87.97 89.74	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27 85.96 87.68	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78 71.18 72.61	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22 60.41 61.62	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34 35.03 35.73	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74 73.18 74.65	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16 86.87 88.61	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02 94.88 96.78	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72 95.60 97.51	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59 102.61 104.66	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07 107.17 109.32
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42 96.31 98.24 99.92	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25 87.97 89.74 91.27	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27 85.96 87.68 89.18	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78 71.18 72.61 73.85	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22 60.41 61.62 62.67	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34 35.03 35.73 36.34	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74 73.18 74.65 75.93	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16 86.87 88.61 90.13	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02 94.88 96.78 98.44	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72 95.60 97.51 99.18	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59 102.61 104.66 106.45	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07 107.17 109.32 111.19
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42 96.31 98.24 99.92 102.21	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25 87.97 89.74 91.27 93.36	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27 85.96 87.68 89.18 91.22	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78 71.18 72.61 73.85 75.54	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22 60.41 61.62 62.67 64.11	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34 35.03 35.73 36.34 37.18	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74 73.18 74.65 75.93 77.66	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16 86.87 85.16 86.87 88.61 90.13 92.19	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02 94.88 96.78 98.44 100.69	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72 95.60 97.51 99.18 101.45	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59 102.61 104.66 106.45 108.89	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07 107.17 109.32 111.19 113.74
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42 96.31 98.24 99.92 102.21 104.25	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25 87.97 89.74 91.27 93.36 95.22	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27 85.96 87.68 89.18 91.22 93.04	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78 71.18 72.61 73.85 75.54 77.05	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22 60.41 61.62 62.67 64.11 65.39	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34 35.03 35.73 36.34 37.18 37.91	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74 73.18 74.65 75.93 77.66 79.21	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16 86.87 88.61 90.13 92.19 94.03	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02 94.88 96.78 98.44 100.69 102.70	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72 95.60 97.51 99.18 101.45 103.47	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59 102.61 104.66 106.45 108.89 111.06	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07 107.17 109.32 111.19 113.74
2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037	29.17 29.49 31.51 80.58 82.20 83.84 85.28 87.23 88.98 90.76 92.32 94.42 96.31 98.24 99.92 102.21	27.48 29.40 28.50 28.97 73.61 75.08 76.58 77.90 79.68 81.27 82.90 84.33 86.25 87.97 89.74 91.27 93.36	21.28 22.77 26.17 28.36 71.92 73.36 74.83 76.11 77.85 79.41 81.00 82.39 84.27 85.96 87.68 89.18 91.22	14.47 15.48 21.82 23.85 59.56 60.75 61.96 63.03 64.47 65.76 67.08 68.23 69.78 71.18 72.61 73.85 75.54	10.93 11.67 20.26 20.57 50.54 51.55 52.59 53.49 54.71 55.81 56.93 57.90 59.22 60.41 61.62 62.67 64.11	10.52 11.24 18.32 12.83 29.31 29.89 30.49 31.01 31.72 32.36 33.01 33.58 34.34 35.03 35.73 36.34 37.18	21.11 22.59 24.28 24.46 61.23 62.46 63.71 64.80 66.28 67.61 68.96 70.15 71.74 73.18 74.65 75.93 77.66	28.00 29.97 27.26 28.63 72.68 74.14 75.62 76.92 78.68 80.25 81.86 83.27 85.16 86.87 85.16 86.87 88.61 90.13 92.19	28.55 30.56 29.95 31.08 79.39 80.97 82.59 84.01 85.93 87.65 89.41 90.95 93.02 94.88 96.78 98.44 100.69	25.98 27.81 30.17 31.29 79.99 81.59 83.22 84.65 86.58 88.31 90.08 91.63 93.72 95.60 97.51 99.18 101.45	27.79 29.74 30.59 33.43 85.85 87.57 89.32 90.86 92.93 94.79 96.69 98.35 100.59 102.61 104.66 106.45 108.89	30.82 33.05 35.38 31.81 34.82 89.67 91.47 93.30 94.90 97.07 99.01 100.99 102.73 105.07 107.17 109.32 111.19 113.74