



**Portland General Electric Company**  
*Legal Department*  
121 SW Salmon Street • Portland, Oregon 97204  
503-464-7181 • Facsimile 503-464-2200

**V. Denise Saunders**  
*Associate General Counsel*

September 19, 2017

***Via Electronic Filing***

Public Utility Commission of Oregon  
Filing Center  
201 High St SE, Suite 100  
PO Box 1088  
Salem OR 97308-1088

Re: **UM 1861 – Volcano Solar LLC, Complainant vs. Portland General Electric Company, Defendant**

Attention Filing Center:

Enclosed for filing in Docket UM 1861 is Portland General Electric Company's Answer.

Thank you in advance for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "V. Denise Saunders". The signature is written in a cursive, flowing style.

V. Denise Saunders  
Associate General Counsel

VDS:bop

Enclosure

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**UM 1861**

VOLCANO SOLAR, LLC,

Complainant,

vs.

PORTLAND GENERAL ELECTRIC  
COMPANY,

Defendant.

**ANSWER OF PORTLAND GENERAL  
ELECTRIC COMPANY**

**I. INTRODUCTION**

Pursuant to ORS 756.512 and OAR 860-001-0400, defendant Portland General Electric Company (“PGE”) submits the following answer (“Answer”) to the complaint (“Complaint”) filed by Volcano Solar, LLC (“Volcano Solar” or “Complainant”).

PGE has complied with the Commission’s rules and orders and with PGE’s Schedule 201 in processing Volcano Solar’s request for a power purchase agreement (“PPA”). At the time it filed the Complaint, Volcano Solar had not provided PGE with sufficient information to complete an executable PPA or to form a legally enforceable obligation (“LEO”).

**II. SERVICE**

Copies of all pleadings, motions and correspondence should be served on PGE’s counsel and representatives at the addresses below:

V. Denise Saunders  
Associate General Counsel  
Portland General Electric Company  
121 SW Salmon Street, 1WTC1301  
Portland, OR 97204  
Email: denise.saunders@pgn.com

Jeffrey S. Lovinger  
Law Offices of Jeffrey S. Lovinger  
2000 NE 42nd Avenue, Suite 131  
Portland, OR 97213-1397  
Email: jeff@lovingerlaw.com

### III. ANSWER

PGE denies each and every allegation contained in the Complaint except as hereinafter expressly admitted.

Unless otherwise specified, the capitalized term “Paragraph” refers to the numbered paragraphs of the Complaint beginning on page five of the Complaint.

The first four pages of the Complaint contain a narrative introduction and legal argument. PGE does not understand the introduction to contain allegations requiring a response. PGE expects to respond to Complainant’s narrative and legal arguments as part of the dispositive motion practice or, if needed, at a hearing in this proceeding. In the event the Commission deems the introduction to contain allegations requiring a response, PGE denies the allegations.

In answer to some of the allegations contained in numbered Paragraphs, PGE has indicated that no response is required because the allegations are legal conclusions, legal arguments, Complainant’s characterization of a document that speaks for itself, or a partial quotation from a document that speaks for itself. If the Commission deems that responses are required in any of these instances, then PGE denies the allegations in question.

Some of the numbered Paragraphs in the Complaint allege the exchange of written communications between the parties. In answer to some of these numbered Paragraphs, PGE has admitted the existence of the written communications, filed a copy of the written communications as exhibits, and indicated that the communications speak for themselves. In these instances, PGE denies all of the allegations in the associated numbered Paragraph except to the extent that PGE expressly admits an allegation. The exhibits are true and correct copies of the information exchanged by the parties.

Some of the number Paragraphs in the Complaint characterize the contents of a Commission order or of a FERC order, or a filing made by PGE in a Commission docket. In

answer to these numbered Paragraphs, PGE has indicated that the Commission order, FERC order, or PGE filing speaks for itself. In such instances, PGE denies all of the allegations in the associated numbered Paragraph except to the extent PGE expressly admits an allegation.

In response to the numbered Paragraphs of the Complaint, PGE admits, denies, or otherwise responds as follows:

#### **IDENTITY OF THE PARTIES**

1. PGE admits the allegations contained in Paragraph 1.
2. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 2 and therefore denies them.

#### **APPLICABLE STATUTES AND RULES**

3. The allegations contained in Paragraph 3 constitute legal conclusions to which no response is required.
4. The allegations contained in Paragraph 4 constitute legal conclusions to which no response is required.

#### **JURISDICTION**

5. The allegations contained in Paragraph 5 constitute legal conclusions to which no response is required.
6. The allegations contained in Paragraph 6 constitute legal conclusions to which no response is required.
7. The allegations contained in Paragraph 7 constitute legal conclusions to which no response is required.

## **FACTUAL BACKGROUND**

8. PGE admits that on the date the Complaint was filed (August 7, 2017), Complainant was seeking a Schedule 201 PPA from PGE for a proposed 0.75 megawatt (“MW”) nameplate solar generation facility to be located in Yamhill County, Oregon.

9. PGE admits that Volcano Solar has proposed to interconnect directly with PGE.

10. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 10 and therefore denies them.

11. PGE admits the allegations contained in Paragraph 11.

12. PGE admits that the standard PPA it entered into with Willamina Mill Solar, LLC, for the Willamina Mill Solar Project addresses a proposed 2.2 MW AC nameplate solar generation facility to be located in Polk County, Oregon.

13. PGE admits that the standard contract it entered into with Willamina Mill Solar, LLC, for the Willamina Mill Solar Project calls for the project to interconnect with PGE.

14. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 14 and therefore denies them.

15. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 15 and therefore denies them.

16. PGE admits the allegations contained in Paragraph 16.

17. PGE admits the allegations contained in Paragraph 17.

18. PGE denies that it had any obligation to inform Qualifying Facilities (“QFs”) that it was planning to file a May 1, 2017 price update. PGE is required by Commission Order No. 14-058 to file a May 1 price update each year and all QFs have access to that order. PGE denies it sought an early effective date; Order No. 14-058 makes it clear that avoided cost prices may be effective *within* 60 days of the May 1 filing.

19. PGE admits the allegations contained in Paragraph 19.

20. PGE denies the allegations contained in Paragraph 20.

21. PGE admits the allegations contained in Paragraph 21.

22. PGE admits that on May 10, 2017, PGE acknowledged the receipt of Volcano Solar's request for a PPA and PGE sent Volcano Solar an initial letter explaining the Schedule 201 process and a copy of PGE's Initial Information Request ("IIR") form. PGE admits that on June 2, 2017, Volcano Solar provided PGE with a partially completed IIR and supporting documents. PGE denies that on June 2, 2017, Volcano Solar provided complete information to obtain a standard PPA.

23. PGE admits that the Willamina Mill Solar PPA was executed by PGE on June 21, 2016. PGE lacks information sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 23 and therefore denies them.

24. PGE admits that on June 13, 2017, it sent Volcano Solar an email acknowledging the receipt of information from Volcano Solar and indicating that PGE would provide a draft standard PPA or a request for additional or clarifying information by June 22, 2017. PGE admits that on June 22, 2017, PGE sent Volcano Solar a letter requesting clarifying information (specifically inquiring as to why the maximum generation of the proposed project exceeded the alleged nameplate of the proposed project). PGE admits that it did not provide Volcano Solar with a draft standard PPA on June 22, 2017. Given its need for the clarifying information requested on June 22, 2017, PGE denies that any draft standard PPA was due to Volcano Solar on or about June 22, 2017.

25. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 25 and therefore denies them.

26. PGE denies the allegations contained in Paragraph 26.

27. PGE denies the allegations contained in Paragraph 27.

28. PGE admits that on June 28, 2017 Volcano Solar corrected erroneous information that it had previously provided regarding the maximum generation profile.

29. PGE admits the allegations contained in Paragraph 29.

30. PGE admits that after May 1, 2017, it decided to prepare its application and motion for interim relief filed in Docket No. UM 1854. The remainder of the allegations contained in Paragraph 30 characterize PGE's application and motion for interim relief which are available as part of the public record in Docket No. UM 1854 and which speak for themselves; PGE therefore denies all remaining allegations in Paragraph 30.

31. PGE denies that it had any obligation to inform Volcano Solar that it intended to file its application and motion for interim relief in Docket No. UM 1854. PGE admits that it provided no advanced notice of that filing to Volcano Solar.

32. PGE denies the allegations contained in Paragraph 32.

33. The allegation contained in Paragraph 33 to the effect that Volcano Solar was "materially prejudiced" is a legal conclusion and therefore requires no response. PGE lacks information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 33 and therefore denies them.

34. PGE admits the allegations contained in Paragraph 34.

35. PGE admits that on July 22, 2017, PGE sent an email with attached letter to Volcano Solar requesting additional or clarifying information. A copy of the July 22, 2017 email and letter is attached as Exhibit A. The letter speaks for itself.

36. PGE admits that on July 24, 2017, Volcano Solar responded to PGE's July 22, 2017 letter requesting additional or clarifying information and that Volcano Solar refused to

provide the requested additional or clarifying information. A copy of Volcano Solar's July 24, 2017 response is enclosed as Exhibit B. The document speaks for itself.

37. PGE denies the allegations in Paragraph 37.

38. PGE admits the allegations contained in Paragraph 38.

39. PGE admits that on July 26, 2017, PGE sent Volcano Solar an email. A copy of the July 26, 2017 email from PGE to Volcano Solar is enclosed as Exhibit C. The document speaks for itself. PGE denies any allegation or suggestion that PGE was tardy in responding to Volcano Solar's July 24, 2017 email; one day passed between Volcano Solar's July 24, 2017 email and PGE's July 26, 2017 email. PGE denies all other allegations in Paragraph 39.

40. PGE admits that Volcano Solar sent PGE a letter on July 27, 2017 requesting that PGE provide a final and executable Standard PPA. PGE denies that Volcano Solar submitted all required information almost two months before July 27, 2017. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegation that on July 27, 2017, Volcano Solar was ready, willing, and able to sign a PPA and therefore denies the allegation.

41. PGE denies that it raised unreasonable objections or unreasonable requests for additional information. PGE lacks information or knowledge sufficient to form a belief as to the truth of the remaining allegations in Paragraph 41 and therefore denies them.

42. PGE admits that Volcano Solar sent PGE a letter on July 27, 2017. A copy of the letter is enclosed as Exhibit D. The letter speaks for itself.

43. PGE admits that it sent an email to Volcano Solar on July 28, 2017. A copy of the email is enclosed as Exhibit E. The email speaks for itself. PGE denies any other allegations contained in Paragraph 43.

44. A copy of the July 28, 2017 email is enclosed as Exhibit E. The email speaks for itself and PGE therefore denies all characterizations of the email contained in Paragraph 44.



45. PGE admits that Volcano Solar sent PGE a letter on July 31, 2017. A copy of the letter is enclosed as Exhibit F. The letter speaks for itself.

46. PGE admits that Volcano Solar sent PGE a letter on July 31, 2017. A copy of the letter is enclosed as Exhibit F. The letter speaks for itself.

47. PGE admits that Volcano Solar sent PGE a letter on July 31, 2017. A copy of the letter is enclosed as Exhibit F. The letter speaks for itself.

48. PGE admits that Volcano Solar sent PGE a letter on July 31, 2017. A copy of the letter is enclosed as Exhibit F. The letter speaks for itself.

49. PGE admits that it sent a letter to Volcano Solar on August 1, 2017. A copy of the letter is enclosed as Exhibit G. The letter speaks for itself.

50. PGE admits that on August 1, 2017, PGE provided Volcano Solar a draft PPA but in the transmittal letter noted that the parties could not reach full agreement as to all terms and conditions of the draft PPA until Volcano Solar provided PGE with information explaining how the Maximum Annual Net Output of the facility could be greater than twice the Average Annual Net Output.

51. PGE admits that on August 4, 2017, in Docket No. LC 66, PGE filed a response to the Commission Staff's July 28, 2017 report. A copy of PGE's August 4, 2017 response is publicly available on the Commission's electronic docket. The allegations in Paragraph 51 attempt to characterize PGE's response, but the document speaks for itself.

52. PGE admits that its August 4, 2017 response in Docket No. LC 66 indicated that the Commission's regular process requires PGE to file updated avoided cost prices within 30 days of Commission acknowledgment of PGE's 2016 Integrated Resource Plan ("IRP"). PGE admits that its August 4, 2017 response in Docket No. LC 66 indicated that there is a 90-day

review period before prices become effective; however, PGE's statement about a 90-day review period was in error.

53. PGE's August 4, 2017 response in Docket No. LC 66 speaks for itself.

54. PGE denies that it had any obligation to provide Complainant with notice that PGE intended to make comments in Docket No. LC 66 that Complainant has labeled or characterized as the "August Early Rate Effective Date Request," and PGE therefore denies all allegations in Paragraph 54.

55. PGE denies the allegations in Paragraph 55.

56. The allegation contained in Paragraph 56 to the effect that Volcano Solar was "materially prejudiced" is a legal conclusion and therefore requires no response. PGE lacks information or knowledge sufficient to form a belief as to the truth of the remaining allegations contained in Paragraph 56 and therefore denies them.

57. PGE denies the allegations in Paragraph 57.

58. PGE admits that Complainant attached a draft PPA to its August 7, 2017 Complaint, that appears to have been signed on August 7, 2017 by Complainant's manager.

59. The only written correspondence pertaining to Complainant's request for a PPA that PGE received on August 7, 2017 is the Complaint filed in this proceeding. The Complaint speaks for itself.

## **LEGAL CLAIMS**

### **COMPLAINANT'S FIRST CLAIM FOR RELIEF**

**VOLCANO SOLAR IS ENTITLED TO PGE'S STANDARD CONTRACT WITH CURRENTLY EFFECTIVE SCHEDULE 201 RATES BECAUSE VOLCANO SOLAR LEGALLY OBLIGATED ITSELF TO SELL THE NET OUTPUT PRIOR TO THE FILING OF THIS COMPLAINT**

60. In answer to the allegations contained in Paragraph 60, PGE repeats and realleges the responses made to Paragraphs 1 through 59.

61. The allegations contained in Paragraph 61 are legal conclusions and do not require a response.

62. The allegations contained in Paragraph 62 are legal conclusions and do not require a response.

63. The allegations contained in Paragraph 63 are legal conclusions and do not require a response.

64. The allegations contained in Paragraph 64 are legal conclusions and do not require a response.

65. The allegations contained in Paragraph 65 are legal conclusions and do not require a response.

66. The allegations contained in Paragraph 66 are legal conclusions and do not require a response.

67. The allegations contained in Paragraph 67 characterize the Commission's decision in Order No. 16-174. That document speaks for itself. To the extent that the allegations in Paragraph 67 are legal conclusions, they do not require a response.

68. The allegations contained in Paragraph 68 characterize cited FERC decisions and are legal arguments. That FERC decisions speak for themselves. To the extent that the allegations in Paragraph 68 are legal arguments, they do not require a response.

69. The allegations contained in Paragraph 69 are legal conclusions or legal arguments and do not require a response. To the extent the allegations contained in Paragraph 69 are not legal conclusions or legal arguments, PGE denies the allegations contained in Paragraph 69.

70. The allegations contained in Paragraph 70 are legal conclusions or legal arguments and do not require a response. To the extent the allegations contained in Paragraph 70

are not legal conclusions or legal arguments, PGE denies the allegations contained in Paragraph 70.

71. The allegations contained in Paragraph 71 are legal conclusions or legal arguments and do not require a response. To the extent the allegations contained in Paragraph 71 are not legal conclusions or legal arguments, PGE denies the allegations contained in Paragraph 71.

72. The allegations contained in Paragraph 72 are legal conclusions or legal arguments and do not require a response. To the extent the allegations contained in Paragraph 72 are not legal conclusions or legal arguments, PGE denies the allegations contained in Paragraph 72.

#### **COMPLAINANT'S SECOND CLAIM FOR RELIEF**

**VOLCANO SOLAR IS ENTITLED TO PGE'S STANDARD CONTRACT WITH CURRENTLY EFFECTIVE SCHEDULE 201 RATES BECAUSE VOLCANO SOLAR LEGALLY OBLIGATED ITSELF TO SELL THE NET OUTPUT PRIOR TO THE FILING OF THIS COMPLAINT, AND PGE VIOLATED THE OPUC'S AND FERC'S POLICIES AND RULES, AND SCHEDULE 201**

73. In answer to the allegations contained in Paragraph 73, PGE repeats and realleges the responses made to Paragraphs 1 through 72.

74. The allegations contained in Paragraph 74 characterize the Commission's decision in Order No. 05-584. That document speaks for itself. To the extent that the allegations in Paragraph 74 are legal conclusions, they do not require a response.

75. The allegations contained in Paragraph 75 are legal conclusions or legal arguments and do not require any response.

76. The allegations contained in Paragraph 76 are legal conclusions or legal arguments and do not require a response.

77. The allegations contained in Paragraph 77 constitute legal conclusions or legal arguments to which no response is required. To the extent a response is deemed required, PGE denies that it has violated Schedule 201 and denies that PGE and Volcano Solar are in full agreement as to all the terms and conditions of the draft Standard PPA.

78. The allegations contained in Paragraph 78 constitute legal conclusions to which no response is required. To the extent a response is deemed required, PGE denies that it has delayed or obstructed progress towards a final draft or executable contract.

79. The allegations contained in Paragraph 79 constitute legal conclusions to which no response is required.

80. PGE denies the allegations contained in Paragraph 80.

81. PGE admits the allegations contained in Paragraph 81.

82. The allegations contained in Paragraph 82 are legal conclusions or legal arguments and do not require a response. To the extent the allegations contained in Paragraph 82 are not legal conclusions or legal arguments, PGE denies the allegations contained in Paragraph 82.

83. The allegations contained in Paragraph 83 are legal conclusions or legal arguments and do not require a response.

84. The allegations contained in Paragraph 84 are legal conclusions or legal arguments and do not require a response.

85. The allegations contained in Paragraph 85 are legal conclusions or legal arguments and do not require a response.

86. The allegations contained in Paragraph 86 are legal conclusions or legal arguments and do not require a response. To the extent the allegations contained in Paragraph 86

are not legal conclusions or legal arguments, PGE denies the allegations contained in Paragraph 86.

87. The allegations contained in Paragraph 87 are legal conclusions or legal arguments and do not require a response.

88. The allegations contained in Paragraph 88 are legal conclusions or legal arguments and do not require a response.

89. The allegations contained in Paragraph 89 are legal conclusions or legal arguments and do not require a response.

#### **PRAYER FOR RELIEF**

90. PGE denies all allegations contained in Paragraph 1 of Complainant's Prayer for Relief on page 20 of the Complaint and requests that the Commission deny the relief requested in Paragraph 1 of Complainant's Prayer for Relief.

91. PGE denies all allegations contained in Paragraph 2 of Complainant's Prayer for Relief on page 20 of the Complaint and requests that the Commission deny the relief requested in Paragraph 2 of Complainant's Prayer for Relief.

92. PGE requests that the Commission deny the relief requested in Paragraph 3 of Complainant's Prayer for Relief.

93. PGE denies that it has violated any of the statutes or orders listed in Paragraph 4 of Complainant's Prayer for Relief and requests that the Commission deny the relief requested in Paragraph 4 of Complainant's Prayer for Relief.

94. PGE requests that the Commission deny the relief requested in Paragraph 5 of Complainant's Prayer for Relief.

#### IV. AFFIRMATIVE DEFENSE

##### FIRST AFFIRMATIVE DEFENSE

95. The Complaint fails to state a claim upon which relief can be granted.

#### V. CONCLUSION

For the foregoing reasons, the Commission should reject the legal claims in the Complaint and deny the relief sought by the Complainant.

Dated this 19th day of September 2017.

Respectfully submitted,



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V. Denise Saunders, OSB #903769  
Associate General Counsel  
Portland General Electric Company  
121 SW Salmon Street, 1WTC1301  
Portland, Oregon 97204  
(541) 752-9060 (phone)  
(503) 464-2200 (fax)  
[denise.saunders@pgn.com](mailto:denise.saunders@pgn.com)



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(503) 230-7120 (office)  
(503) 709-9549 (cell)  
[jeff@lovingerlaw.com](mailto:jeff@lovingerlaw.com)

# **EXHIBIT A**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer



**From:** [Ryin Khandoker](#)  
**To:** [Troy Snyder \(troy@tlscapital.com\)](mailto:troy@tlscapital.com)  
**Cc:** [Brett Greene](#); [John Morton](#); [Angeline Chong](#)  
**Bcc:** [Denise Saunders](#); [jeff@lovingerlaw.com](mailto:jeff@lovingerlaw.com)  
**Subject:** Volcano - Request for Additional or Clarifying Information  
**Date:** Saturday, July 22, 2017 11:06:00 AM  
**Attachments:** [Volcano - Request for Additional or Clarifying Information.pdf](#)

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Troy,

Please see the attached letter regarding the Volcano solar project.

Regards,

**Ryin Khandoker** | Structuring and Origination  
Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204  
☎: 503-464-8448 | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)



**Portland General Electric Company**  
121 SW Salmon Street • Portland, Oregon 97204

7/22/17

Troy Snyder  
7455 SW Bridgeport Road, Ste 220  
Tigard, OR 97224  
troy@tlscapital.com

RE: Request for Additional or Clarifying Information  
Volcano Solar project, a proposed 0.750 megawatt solar qualifying facility

Dear Mr. Snyder,

Thank you for your interest in entering into a Standard Power Purchase Agreement (Standard PPA) with Portland General Electric (PGE). On 6/28/17, PGE received your submission of written information in response to PGE's request for additional or clarifying information letter dated 6/22/17.

PGE has determined that your 6/28/17 submission of information is deficient or that PGE requires additional or clarifying information before it can adequately understand your project proposal and prepare a draft Standard PPA. Please provide your response in writing.

There appears to be some inconsistencies between the information provided in your Initial Information Request (IIR) and the generation profile information. Specifically, you state in the IIR dated 6/28/17 that the project's name plate capacity rating is 0.750 MW. In the Volcano generation profile spreadsheet dated 6/28/17, there are some hours in the column labeled 'year 1' where the projected output exceeds the nameplate capacity of the project. Please explain this inconsistency.

Vague, uncertain, inconsistent or incomplete information may lead to additional information requests. Please provide specific, detailed, and complete responses.

Within 15 business days of receiving your written response to this letter PGE will send you either a draft Standard PPA or another request for additional or clarifying information if there is still missing information or the information provided requires further clarification or supplementation in order for PGE to understand your project proposal and prepare a draft Standard PPA.

Lastly on June 30, 2017, PGE applied to the Public Utility Commission of Oregon to modify eligibility for standard contracts and standard prices. That application has been assigned to Commission Docket No. UM 1854 and includes a motion for interim relief. The relief requested in UM 1854 could impact your eligibility for standard prices or a Standard PPA. PGE has requested expedited consideration of its motion for interim relief

**Volcano Solar**

**7/22/17**

Page 2 of 2

and does not expect to provide you with an executable Standard PPA before the Commission has ruled on PGE's motion for interim relief in UM 1854.

Sincerely,

**Ryin Khandoker** | Structuring and Origination

Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204

☎: 503-464-8448 | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

## **EXHIBIT B**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer

**From:** Troy Snyder  
**To:** [Ryin Khandoker](#)  
**Cc:** [Brett Greene](#); [John Morton](#); [Angeline Chong](#); [Irion Sanger](#)  
**Subject:** Re: Volcano - Request for Additional or Clarifying Information  
**Date:** Monday, July 24, 2017 1:07:21 PM

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\*\*\*Please take care when opening links, attachments or responding to this email as it originated outside of PGE.\*\*\*

Ryin,

Per the schedule outlined in Schedule 201, I am requesting that PGE provide a Draft Standard PPA for Volcano Solar, LLC without delay. Everything that was provided as part of the IIR for Volcano Solar was the same material provided in previous IIRs for other PPAs which TLS Capital has requested and which PGE deemed complete and ultimately executed. In addition, please reduce the time for PGE to provide the final draft PPA for each day of delay.

Regards,

Troy Snyder

On Sat, Jul 22, 2017 at 11:06 AM, Ryin Khandoker <[Ryin.Khandoker@pgn.com](mailto:Ryin.Khandoker@pgn.com)> wrote:

Troy,

Please see the attached letter regarding the Volcano solar project.

Regards,

**Ryin Khandoker** | Structuring and Origination

Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204

☎: [503-464-8448](tel:503-464-8448) | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

--

Troy Snyder  
TLS Capital, Inc.  
Phone: 503-816-6608

# **EXHIBIT C**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer

**From:** [Ryin Khandoker](#)  
**To:** "Troy Snyder"  
**Cc:** [Brett Greene](#); [John Morton](#); [Angeline Chong](#); [Irion Sanger](#)  
**Subject:** RE: Volcano - Request for Additional or Clarifying Information  
**Date:** Wednesday, July 26, 2017 4:07:00 PM  
**Attachments:** [Volcano - Request for Additional or Clarifying Information.pdf](#)

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Troy,

As stated in the attached letter dated 7/22/17, PGE is waiting on additional or clarifying information regarding the Volcano Solar project. In the Volcano generation profile spreadsheet dated 6/28/17 which was submitted to PGE, there are hours in the column labeled 'year 1' where the projected output exceeds the nameplate capacity of the project.

Please provide specific, detailed, and complete responses. Within 15 business days of receiving your written response to this letter PGE will send you either a draft Standard PPA or another request for additional or clarifying information if there is still missing information or the information provided requires further clarification or supplementation in order for PGE to understand your project proposal and prepare a draft Standard PPA.

Thanks,

**Ryin Khandoker** | Structuring and Origination  
Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204  
☎: 503-464-8448 | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

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**From:** Troy Snyder [mailto:[troy@tlscapital.com](mailto:troy@tlscapital.com)]  
**Sent:** Wednesday, July 26, 2017 3:04 PM  
**To:** Ryin Khandoker  
**Cc:** Brett Greene; John Morton; Angeline Chong; Irion Sanger  
**Subject:** Re: Volcano - Request for Additional or Clarifying Information

\*\*\*Please take care when opening links, attachments or responding to this email as it originated outside of PGE.\*\*\*

Ryin,

I am writing to confirm that you received my previous email and to once again request that PGE provide a Draft Standard PPA for Volcano Solar, LLC without delay. In addition, please reduce the time for PGE to provide the final draft PPA for each day of delay.

Thank you,

Troy

On Mon, Jul 24, 2017 at 1:07 PM, Troy Snyder <[troy@tlscapital.com](mailto:troy@tlscapital.com)> wrote:  
Ryin,

Per the schedule outlined in Schedule 201, I am requesting that PGE provide a Draft Standard PPA for Volcano Solar, LLC without delay. Everything that was provided as part of the IIR for Volcano Solar was the same material provided in previous IIRs for other PPAs which TLS Capital has requested and which PGE deemed complete and

ultimately executed. In addition, please reduce the time for PGE to provide the final draft PPA for each day of delay.

Regards,

Troy Snyder

On Sat, Jul 22, 2017 at 11:06 AM, Ryin Khandoker <[Ryin.Khandoker@pgn.com](mailto:Ryin.Khandoker@pgn.com)> wrote:  
Troy,

Please see the attached letter regarding the Volcano solar project.

Regards,

**Ryin Khandoker** | Structuring and Origination  
Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204  
☎: [503-464-8448](tel:503-464-8448) | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

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Troy Snyder  
TLS Capital, Inc.  
Phone: [503-816-6608](tel:503-816-6608)

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Troy Snyder  
TLS Capital, Inc.  
Phone: 503-816-6608



## **EXHIBIT D**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer



July 27, 2017

Contracts Manager  
QF Contracts, 3WTC0306  
PGE - 121 SW Salmon St.  
Portland, OR 97204

Re: PPA Request - Volcano Solar, LLC

Dear Contracts Manager:

Volcano Solar, LLC ("Volcano Solar") is requesting that PGE provide a final and executable Standard PPA immediately. Volcano Solar initially requested a Standard PPA on June 2, 2017 and on June 28, 2017, PGE did not provide a draft Standard PPA but responded with a letter requesting clarifying information regarding the maximum generation. Other than inquiring about the maximum generation hourly profile, PGE did not raise any other issues or ask for any additional clarifying information. Volcano Solar responded on June 28, 2017 and provided clarifying information regarding the maximum generation profile.

On June 29, 2017, PGE responded that they received the additional information and that by July 20, 2017 PGE will send either a draft Standard PPA or a request for any additional or clarifying information. PGE did not respond by July 20, 2017, but rather on July 22, 2017 they sent a letter once again requesting additional or clarifying information. The additional or clarifying information requested on July 22, 2017 was in relation to the year 1 generation profile, which was not inquired about or asked to be clarified in PGE's first request for clarifying information on June 22, 2017.

On June 24, 2017, Volcano Solar responded to PGE requesting that PGE provide a draft Standard PPA immediately and that PGE reduce the time for PGE to provide the final draft PPA for each day of the delay. PGE did not respond to that email and on June 26, 2017, Volcano Solar sent a follow up to email to confirm that the previous email was received and once again request that PGE immediately provide a draft Standard PPA. PGE responded that same day stating that they are waiting on additional or clarifying information and that within 15 business days of receiving that information, they would send either a draft Standard PPA or another request for additional or clarifying information.

With respect to the year 1 hourly generation profile, as you are aware, year 1 generation or hourly generation is not a term within the Standard PPA nor is it even mentioned, but rather Nameplate Capacity Rating, Net Dependable Capacity, average annual Net Output, and maximum annual Net Output are. These are all items in which Volcano Solar has provided information on, along with all requested clarifying information. In fact, it is very likely that the

actual year 1 hourly generation will look significantly different than the modeled year 1 generation on an hour by hour basis.

Further, the year 1 hourly generation profile that Volcano Solar provided was generated using NREL's PVWatts software. PVWatts only takes into consideration the DC system size of the solar facility. As such, there may be instances in which a specific hour within the modeled annual hourly generation profile exceeds the Nameplate Capacity. However, any such differences when looked at over the course of a month or year are not material.

In addition, the issue regarding modeled hourly generation potentially exceeding Nameplate Capacity that is raising and which PGE has requested clarifying information on are items in which PGE previously found acceptable, to the point of executing a PPA for other projects. All information which Volcano Solar provided as part of its request for a Standard PPA is consistent with PGE's past and established business practices.

Per the schedule outlined in Schedule 201, Volcano Solar is requesting that PGE provide a final and executable Standard PPA for Volcano Solar, LLC immediately. If PGE does provide a final and executable Standard PPA immediately, the Volcano Solar requests that reduce the time for PGE to provide the final draft PPA for each day of delay.

Volcano Solar is committed to sell power to PGE under the currently effective Schedule 201 rates, and the terms and conditions of PGE's standard Commission approved PPA. Volcano Solar is prepared to execute a standard Commission approved PPA today using the project specific information already provided, including is obligating itself to provide power or be subject to penalty for failing to deliver energy on the scheduled commercial on-line date, as specified in the standard Commission approved PPA. Volcano Solar intends to execute a final PPA prior to PGE's Schedule 201 rates changing later this year, or the Commission issuing an order on PGE's request for relief in Commission docket number UM 1854.

Regards,



Troy Snyder  
Volcano Solar, LLC  
TLS Capital, Inc.

Cc: Irion A. Sanger

# **EXHIBIT E**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer

**From:** Ryin Khandoker  
**Sent:** Friday, July 28, 2017 8:56 PM  
**To:** 'Troy Snyder'  
**Cc:** Brett Greene; John Morton; Angeline Chong; Irion Sanger  
**Subject:** RE: Volcano - Request for Additional or Clarifying Information

Troy,

In response to your letter dated 7/27/17, thank you for providing clarification regarding how NREL's PVWatts software was used to determine your project's 'Year 1' hourly generation output and why certain hours reflected generation that exceeded project nameplate capacity.

I am still struggling to understand your project's Maximum Annual Net Output value in comparison to the Average Annual Net Output value as stated in your submitted IRR dated 6/28/17. Specifically the capacity factor based on the Average Annual Net Output is approximately 11.1% while the Maximum Annual Net Output value results in a capacity factor of approximately 24.7%.

Would it be possible to provide me a study or analysis that validates the Maximum Annual Net Output value as stated in your 6/28/17 submitted IRR?

Thanks,

**Ryin Khandoker** | Structuring and Origination  
Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204  
☎: 503-464-8448 | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

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**From:** Troy Snyder [<mailto:troy@tlscapital.com>]  
**Sent:** Thursday, July 27, 2017 11:00 PM  
**To:** Ryin Khandoker  
**Cc:** Brett Greene; John Morton; Angeline Chong; Irion Sanger  
**Subject:** Re: Volcano - Request for Additional or Clarifying Information

\*\*\*Please take care when opening links, attachments or responding to this email as it originated outside of PGE.\*\*\*

Ryin,

Please see the attached letter regarding Volcano Solar.

Regards,

Troy

On Wed, Jul 26, 2017 at 4:07 PM, Ryin Khandoker <[Ryin.Khandoker@pgn.com](mailto:Ryin.Khandoker@pgn.com)> wrote:  
Troy,

As stated in the attached letter dated 7/22/17, PGE is waiting on additional or clarifying information regarding the Volcano Solar project. In the Volcano generation profile spreadsheet dated 6/28/17 which was submitted to PGE, there are hours in the column labeled 'year 1' where the projected output exceeds the nameplate capacity of the project.

Please provide specific, detailed, and complete responses. Within 15 business days of receiving your written response to this letter PGE will send you either a draft Standard PPA or another request for additional or clarifying information if

there is still missing information or the information provided requires further clarification or supplementation in order for PGE to understand your project proposal and prepare a draft Standard PPA.

Thanks,

**Ryin Khandoker** | Structuring and Origination

Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204

☎: [503-464-8448](tel:503-464-8448) | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

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**From:** Troy Snyder [mailto:[troy@tlscapital.com](mailto:troy@tlscapital.com)]

**Sent:** Wednesday, July 26, 2017 3:04 PM

**To:** Ryin Khandoker

**Cc:** Brett Greene; John Morton; Angeline Chong; Irion Sanger

**Subject:** Re: Volcano - Request for Additional or Clarifying Information

\*\*\*Please take care when opening links, attachments or responding to this email as it originated outside of PGE.\*\*\*

Ryin,

I am writing to confirm that you received my previous email and to once again request that PGE provide a Draft Standard PPA for Volcano Solar, LLC without delay. In addition, please reduce the time for PGE to provide the final draft PPA for each day of delay.

Thank you,

Troy

On Mon, Jul 24, 2017 at 1:07 PM, Troy Snyder <[troy@tlscapital.com](mailto:troy@tlscapital.com)> wrote:

Ryin,

Per the schedule outlined in Schedule 201, I am requesting that PGE provide a Draft Standard PPA for Volcano Solar, LLC without delay. Everything that was provided as part of the IIR for Volcano Solar was the same material provided in previous IIRs for other PPAs which TLS Capital has requested and which PGE deemed complete and ultimately executed. In addition, please reduce the time for PGE to provide the final draft PPA for each day of delay.

Regards,

Troy Snyder

On Sat, Jul 22, 2017 at 11:06 AM, Ryin Khandoker <[Ryin.Khandoker@pgn.com](mailto:Ryin.Khandoker@pgn.com)> wrote:

Troy,

Please see the attached letter regarding the Volcano solar project.

Regards,

**Ryin Khandoker** | Structuring and Origination

Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204

☎: [503-464-8448](tel:503-464-8448) | ✉: [ryin.khandoker@pgn.com](mailto:ryin.khandoker@pgn.com)

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Troy Snyder  
TLS Capital, Inc.  
Phone: [503-816-6608](tel:503-816-6608)

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Troy Snyder  
TLS Capital, Inc.  
Phone: [503-816-6608](tel:503-816-6608)

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Troy Snyder  
TLS Capital, Inc.  
Phone: 503-816-6608

# **EXHIBIT F**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer



# Sanger Law PC

1117 SE 53rd Ave. Portland, OR 97215

tel (503) 756-7533 fax (503) 334-2235 irion@sanger-law.com

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July 31, 2017

Via Email

Denise Saunders  
Portland General Electric Company  
1 World Trade Center, Ste 1300  
121 SW Salmon Street  
Portland, OR 97204

RE: Volcano Power Purchase Agreement

Dear Ms. Saunders:

Volcano Solar LLC (“Volcano Solar”) is sending this letter to request that Portland General Electric Company (“PGE”) provide an executable PPA immediately. If PGE does not immediately at least provide draft a power purchase agreement (“PPA”), then Volcano will file a complaint with the Oregon Public Utility Commission (the “Commission”). Please provide your response by Tuesday, August 1, 2017.

The Commission’s policies and approved PGE Schedule 201 are intended to allow an expedited and simple process to enter into a PPA in less than two months under regular circumstances. Volcano’s developer, Troy Snyder with TLS Capital, has previously submitted and obtained executed PPAs from PGE using substantially the same information included in its Initial Information Request (“IIR”) as well as the final executed PPA. The Volcano PPA should have proceeded more expeditiously than past PPA request because it is a small 0.75 megawatt (“MW”) facility with facts and circumstances similar to previous projects that PGE and TLS Capital have executed PPAs.

Volcano Solar initially requested a Standard PPA on May 5, 2017, which PGE ignored until May 10, 2017. PGE only responded to Volcano Solar after contacted again. Volcano Solar provided complete information to obtain a draft PPA on June 2, 2017. On June 28, 2017, PGE did not provide a draft Standard PPA but instead responded with a letter requesting clarifying information regarding the maximum generation. PGE did not raise any other issues or ask for any additional clarifying information, with the one exception of inquiring about the maximum generation hourly profile. Given that TLS Capital had submitted similar information and obtained an executed PPA, PGE should have at least provided a draft PPA at this time. Volcano Solar responded on June 28, 2017 and provided clarifying information regarding the maximum generation profile.

Denise Saunders Letter re Volcano Solar  
July 31, 2017  
Page 2 of 4

On June 29, 2017, PGE responded that they received the additional information and that by July 20, 2017 PGE will send either a draft Standard PPA or a request for any additional or clarifying information. PGE did not respond by July 20, 2017, but rather on July 22, 2017, PGE sent a letter once again requesting additional or clarifying information. The additional or clarifying information requested on July 22, 2017 was in relation to the year 1 generation profile, which was not inquired about or asked to be clarified in PGE's first request for clarifying information on June 22, 2017.

On July 24, 2017, Volcano Solar responded to PGE requesting that PGE provide a draft Standard PPA immediately and that PGE reduce the time for PGE to provide the final draft PPA for each day of the delay. Volcano Solar pointed out that there was no need for additional information because "Everything that was provided as part of the IIR for Volcano Solar was the same material provided in previous IIRs for other PPAs which TLS Capital has requested and which PGE deemed complete and ultimately executed." PGE ignored this email.

On July 26, 2017, Volcano Solar again inquired about the status of its draft PPA, and sent a follow up to email to confirm that the previous email was received and request that PGE immediately provide a draft Standard PPA. PGE finally responded stating that they are waiting on additional or clarifying information and that within 15 business days of receiving that information, they would send either a draft Standard PPA or another request for additional or clarifying information. It is not clear if PGE would have ever responded to Volcano Solar's inquires if Volcano Solar had not followed up.

On July 27, 2017, almost two months after submitting all the required information, Volcano Solar requested that PGE provide a final and executable PPA. Volcano Solar explained why the year 1 hourly generation profile should be acceptable to PGE. These included that: 1) the term is not even mentioned in the Commission-approved Standard PPA; 2) the Standard PPA lists the terms Nameplate Capacity Rating, Net Dependable Capacity, average annual Net Output, and maximum annual Net Output, and Volcano Solar provided all these pieces of information; 3) actual year 1 hourly generation of an operating facility will look significantly different than the modeled year 1 generation on an hour by hour basis; 4) the year 1 hourly generation profile is reliable because it was generated using National Renewable Energy Laboratory's PVWatts software, but may have instances in which a specific hour within the modeled annual hourly generation profile exceeds the Nameplate Capacity because it only takes into consideration the DC system size of the solar facility. Therefore, PGE was provided sufficient information upon which to determine that the year 1 hourly generation profile was sufficiently reliable upon which to provide and execute a PPA with Volcano Solar because any differences when looked at over the course of a month or year are not material, or may not occur in actual operations.

On July 28, 2017, PGE responded by not providing an executable or draft PPA, but again raising concerns regarding the IRR dated June 28, 2017. PGE stated that it was struggling to understand Volcano Solar's "Maximum Annual Net Output value in

Denise Saunders Letter re Volcano Solar  
July 31, 2017  
Page 3 of 4

comparison to the Average Annual Net Output value as stated in your submitted IRR dated 6/28/17. Specifically, the capacity factor based on the Average Annual Net Output is approximately 11.1% while the Maximum Annual Net Output value results in a capacity factor of approximately 24.8%.” PGE requested that Volcano Solar provide “a study or analysis that validates the Maximum Annual Net Output value”. It appears that the year 1 hourly generation profile is now acceptable to PGE, but PGE is raising a new issue regarding the maximum annual net output and the average annual net output. Since PGE did not inquire about the maximum annual net output earlier, PGE effectively waived raising any new objections, or at a minimum should at least have provided a draft PPA.

Volcano Solar has no specific study, other than what has already been referenced in the communications to date. It is highly inappropriate for PGE to continue to delay providing even a draft PPA by raising new and unreasonable issues at this stage in the process.

TLS Capital notes that it previously submitted similar information was deemed acceptable to PGE. For example, on June 16, 2016, TLS Capital inquired regarding its Willamina Mill Solar facility and spoke with Bruce True regarding the maximum generation numbers. The Willamina Mill Solar PPA was executed by PGE. TLS Capital inquired because PGE offered no guidance regarding the maximum generation number, and informed PGE that it would use 150% of the year 1 generation. PGE accepted this in the Willamina Mill Solar facility without an inquiry.

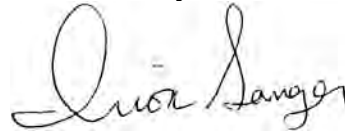
The only difference between the Volcano Solar and Willamina Mill Solar is that PGE has requested to change the Commission’s policies regarding standard price and contract provisions on June 30, 2017. PGE is raising unreasonable and discriminatory questions and issues in an effort to delay the PPA negotiation process so that it does not execute a PPA prior to a Commission order potentially changing its policies.

Despite PGE’s refusal to provide even a draft PPA nearly three months after Volcano Solar made its initial request, Volcano has been ready, willing, and able to sign a PPA with PGE since at least July 27, 2017. Volcano may have committed earlier, if PGE had not raised unreasonable objections and requests for additional information. Volcano Solar requests an executable PPA from PGE prior to the Commission issuing any orders in UM 1854. Volcano wants to make it clear that it is again obligating itself to provide power or be subject to penalty pursuant to the standard PPA terms and conditions for failing to deliver energy on the scheduled commercial on-line date. PGE should execute a PPA with Volcano Solar because the establishment of a legally enforceable obligation turns on Volcano Solar’s commitment, and not PGE’s actions. At a minimum, PGE should not draft the process on by refusing to even provide a draft PPA.

Denise Saunders Letter re Volcano Solar  
July 31, 2017  
Page 4 of 4

Volcano Solar intends to file a complaint with the Commission this week if PGE does not provide a draft PPA immediately. Please provide your response and a PPA no later than Tuesday August 1, 2017.

Sincerely,

A handwritten signature in black ink that reads "Irion A. Sanger". The signature is written in a cursive style with a large initial "I" and a long, sweeping tail.

Irion A. Sanger

cc: Troy Synder

# **EXHIBIT G**

UM 1861

Volcano Solar LLC vs. Portland General Electric Company

Portland General Electric Company's Answer



**Portland General Electric Company**  
121 SW Salmon Street • Portland, Oregon 97204

8/1/17

*Via Electronic Mail*

Troy Snyder  
troy@tlscapital.com

RE: Transmittal of Draft Standard PPA  
Volcano Solar project, a proposed .750 megawatt Solar QF

Mr. Snyder,

Thank you for your interest in entering into a Standard Power Purchase Agreement (Standard PPA) with Portland General Electric (PGE).

Enclosed please find a draft Standard PPA for your Volcano Solar project, a proposed .750 megawatt solar generating facility that was self-certified as a qualifying facility (QF) pursuant to 18 CFR 292.207. PGE understands that Volcano Solar a LLC formed under the laws of the State of Oregon is the owner of the Volcano Solar project and will be the Seller under the Standard PPA. If any of this information or any of the factual details contained in the enclosed draft Standard PPA are incorrect or change, please inform PGE immediately.

In your written response to PGE's Schedule 201 Initial Information Form dated 6/28/17, it states the Maximum Annual Net Output is 1,628,620 kWh. This is greater than twice the Average Annual Net Output value of 731,374 kWh per the 6/28/17 IRR submission. Please provide supporting information that validates the Maximum Annual Net Output value. PGE does not expect that the parties can reach full agreement as to all terms and conditions of the draft Standard PPA until you have provided that information and PGE understands and is satisfied with the value you have selected.

The enclosed draft Standard PPA is a discussion draft; it is not a binding offer and PGE reserves the right to revise any of its variable terms, including exhibits. No binding Standard PPA will exist between PGE and Volcano Solar LLC unless and until PGE has provided Volcano Solar LLC with an executable Standard PPA and both Volcano Solar LLC and PGE have executed the document.

At this stage in the process you have several options: you can decide not to pursue a contract any further; you can propose in writing substantive changes to your project proposal or to the variable terms of the draft Standard PPA; or you can send PGE a written request to prepare a final draft Standard PPA without proposing any substantive changes to your project or the draft contract.

Volcano Solar  
Page 2 of 3

If you propose substantive changes to your project or the variable terms of the draft Standard PPA, PGE will treat your proposal as a new request for a draft Standard PPA. Within 15 business days of receiving your written proposal, PGE will send you either a new draft Standard PPA or PGE will request additional or clarifying information if PGE reasonably determines that it requires more information before it can prepare a new draft Standard PPA in response to your proposal to change contract terms or project details.

If you request a final draft Standard PPA without proposing substantive changes to your project proposal or to the variable terms of the draft Standard PPA, then within 15 business days of receiving your written request, PGE will send you either a final draft Standard PPA or request additional or clarifying information if PGE reasonably determines that additional information is necessary to prepare a final draft Standard PPA.

Once you have received a final draft Standard PPA, you will need to request in writing an executable Standard PPA. Within 15 business days of receiving such a written request, PGE will send you either an executable Standard PPA, a new draft Standard PPA (if you have requested substantive revisions to the final draft Standard PPA as part of your request for an executable Standard PPA), or a request for additional or clarifying information if PGE determines more information is needed to prepare an executable or new draft Standard PPA.

Once you receive an executable Standard PPA, you can execute it without alteration and establish a legally enforceable obligation. Pursuant to PGE's Schedule 201 at Sheet No. 201-3 and OPUC Order No. 16-174 at 3, the power purchase prices you are entitled to receive under your Standard PPA will be based on PGE's Standard Avoided Costs or Renewable Avoided Costs in effect at the time that you execute an executable Standard PPA provided to you by PGE.

Lastly, on June 30, 2017, PGE applied to the Public Utility Commission of Oregon to modify eligibility for standard contracts and standard prices. That application has been assigned to Commission Docket No. UM 1854 and includes a motion for interim relief. The relief requested in UM 1854 could impact your eligibility for standard prices or a Standard PPA. PGE has requested expedited consideration of its motion for interim relief and does not expect to provide you with an executable Standard PPA before the Commission has ruled on PGE's motion for interim relief in UM 1854.

This letter summarizes certain aspects of the Standard PPA process; it does not address every detail of the process. Additional details will be provided for each stage in PGE's letters associated with each stage.

Sincerely,

**Ryin Khandoker** | Structuring and Origination

Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204

☎: 503-464-8448 | ✉: [ryin.khandoker@pge.com](mailto:ryin.khandoker@pge.com)

Volcano Solar  
Page 3 of 3

enclosure: *Draft Standard PPA for Volcano Solar LLC's Volcano Solar Project*



**STANDARD RENEWABLE IN-SYSTEM VARIABLE POWER PURCHASE****AGREEMENT**

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

**RECITALS**

Seller intends to construct, own, operate and maintain a **Solar** facility for the generation of electric power located in **Marion - 45.056 N -122.990 W** County, Oregon, with a Nameplate Capacity Rating of **750** kilowatt ("kW"), as further described in Exhibit A ("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 1.21, 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 A provided by Seller in accordance with Section 4.3 following completion of construction of the Facility, describing the Facility as actually built.

1.2. "Base Hours" is defined as the total number of hours in each Contract Year (8,760 or 8,784 for leap year).

1.3. "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.

1.4. "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.

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

1.5.1. (facilities with nameplate under 500 kW exempt from following requirement) PGE has received a certificate addressed to PGE from a Licensed Professional Engineer ("LPE") acceptable to PGE in its reasonable judgment stating that the Facility is able to generate electric power reliably in accordance with the terms and conditions of this Agreement (certifications required under this Section 1.5 can be provided by one or more LPEs);

1.5.2. Start-Up Testing of the Facility has been completed in accordance with Section 1.36;

1.5.3. (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 and was continuously mechanically available for operation for a minimum of 120 hours. The Facility must provide ten (10) working days written notice to PGE prior to the start of the initial testing period. If the mechanical availability 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;

1.5.4. (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.

1.5.5. (facilities with nameplate under 500kW 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;

1.6. "Contract Price" means the applicable price, including on-peak and off-peak prices, as specified in the Schedule.

1.7. "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.

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

1.9. "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 (CO<sub>2</sub>), methane (CH<sub>4</sub>), and other

greenhouse gasses (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.

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

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. "Generation Unit" means each separate electrical generator that contributes towards Nameplate Capacity Rating included in Exhibit A. For solar facilities, a generating unit is a complete solar electrical generation system within the Facility that is able to generate and deliver energy to the Point of Delivery independent of other Generation Units within the same Facility.

1.13. "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.

1.14. "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.

1.15. "Lost Energy" means ((the Guarantee of Mechanical Availability as set forth in 3.1.10 / MAP) X Net Output for a Calendar Year) – Net Output for the Calendar Year. Lost Energy shall be zero unless the result of the calculation in this subsection results in a positive number.

1.16. "Lost Energy Value" means Lost Energy X the excess of the annual time-weighted average Mid-C Index Price for On-Peak and Off-Peak Hours over the time-weighted average Contract Price for On-Peak and Off-Peak Hours for the corresponding time period (provided that such excess shall not exceed the Contract Price and further provided that Lost Energy is deemed to be zero prior to reaching the Commercial Operation Date) plus any reasonable costs incurred by PGE to purchase replacement power and/or transmission to deliver the replacement power to the Point of Delivery. (For Start-Up Lost Energy Value see Section 1.35).

1.17. "Mechanical Availability Percentage" or "MAP" shall mean that percentage for any Contract Year for the Facility calculated in accordance with the following formula:

$$\text{MAP} = 100 \times (\text{Operational Hours}) / (\text{Base Hours} \times \text{Number of Units})$$

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

1.19. "Nameplate Capacity Rating" means the maximum capacity of the Facility as stated by the manufacturer, expressed in kW, which shall not exceed 10,000 kW.

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

1.21. "Net Output" means all energy expressed in kWhs produced by the Facility, less station and other onsite use and less transformation and transmission losses. Net Output does not include any environmental attributes.

1.22. "Number of Units" means the number of Generating Units in the Facility described in Exhibit A.

1.23. "Off-Peak Hours" has the meaning provided in the Schedule.

1.24. "On-Peak Hours" has the meaning provided in the Schedule.

1.25. "Operational Hours" for the Facility means the total across all Generating Units of the number of hours each of the Facility's Generating Units are potentially capable of producing power at its Nameplate Capacity Rating regardless of actual weather, season and time of day or night, without any mechanical operating constraint or restriction, and potentially capable of delivering such power to the Point of Delivery in a Contract Year. During up to, but not more than, 200 hours of Planned Maintenance during a Contract Year for each Generation Unit and hours during which an event of Force Majeure exists, a Generation Unit shall be considered potentially capable of delivering such power to the Point of Delivery. For example, in the absence of any Planned Maintenance beyond 200 hours on any Generation Unit of Event of Force Majeure, the Operational Hours for a wind farm with five separate two MW turbines would be 43,800 for a Contract Year.

1.26. "Planned Maintenance" means outages scheduled 90 days in advance, with PGE's prior written consent, which shall not be unreasonably withheld.

1.27. "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.

1.28. "Pre-Commercial Operation Date Minimum Net Output" shall mean, unless such MWh is specifically set forth by Seller in Exhibit A, an amount in MWh equal to seventy-five percent (75%) of the Nameplate Capacity Rating X thirty percent (30%) for a wind or other renewable QF or fifty percent (50%) for a solar QF X (whole months

since the date selected in Section 2.2.1 / 12) X (8760 hours – 200 hours (assumed Planned Maintenance)) for each month. If Seller has provided specific expected monthly Net Output amounts for the Facility in Exhibit A, “Pre-Commercial Operation Date Minimum Net Output” shall mean seventy-five (75%) X expected Net Output set forth in Exhibit A for each month.

1.29. “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.

1.30. “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.

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

1.32. “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.

1.33. “Schedule” shall mean PGE Schedule 201 filed with the Oregon Public Utilities Commission (“Commission”) in effect on the Effective Date of this Agreement and attached hereto as Exhibit D, the terms of which are hereby incorporated by reference.

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



1.35. "Start-Up Lost Energy Value" means for the period after the date specified in Section 2.2.2 but prior to achievement of the Commercial Operation Date: zero, unless the Net Output is less than the pro-rated Pre-Commercial Operation Date Minimum Net Output for the applicable delay period, and the time-weighted average of the delay period's Mid-C Index Price for On-Peak Hours and Off-Peak Hours is greater than the time-weighted average of the delay period's Contract Price for On-Peak Hours and Off-Peak Hours, in which case Startup Lost Energy Value equals: (pro-rated Pre-Commercial Operation Date Minimum Net Output for the applicable period - Net Output for the applicable period) X (the lower of: the time-weighted average of the Contract Price for On-Peak hours and Off-Peak Hours during the applicable period; or (the time-weighted average of the Mid-C Index Price for On-Peak Hours and Off-Peak Hours during the applicable period – the time-weighted average of the Contract Price for On-Peak Hours and Off-Peak Hours during the applicable period)). The time-weighted average in this section will reflect the relative proportions of On-Peak Hours and Off-Peak Hours in each day.

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

1.37. "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.

1.38. "Term" shall mean the period beginning on the Effective Date and ending on the Termination Date.

1.39. "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,

2.2.1 By **November 30, 2017** Seller shall begin initial deliveries of Net Output; and

2.2.2 By **December 31, 2017** Seller shall have completed all requirements under Section 1.5 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 the date 20 Years from Effective Date, or the date the Agreement is terminated in accordance with Section 9 or 11, 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 Corporation duly organized under the laws of Oregon.

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 (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 10,000 kW.

3.1.8. Seller warrants that Net Dependable Capacity of the Facility is 750 kW.

3.1.9. Seller estimates that the average annual Net Output to be delivered by the Facility to PGE is 731,374 kilowatt-hours (“kWh”), which amount PGE will include in its resource planning.

3.1.10. Seller represents and warrants that the Facility shall achieve the following Mechanical Availability Percentages (“Guarantee of Mechanical Availability”):

3.1.10.1 Ninety percent (90%) beginning in the first Contract Year and extending through the Term for the Facility, if the Facility was operational and sold electricity to PGE or another buyer prior to the Effective Date of this Agreement; or

3.1.10.2 Ninety percent (90%) beginning in Contract Year three and extending throughout the remainder of the Term.

3.1.10.3 Annually, within 90 days of the end of each Contract Year Seller shall send to PGE a detailed written report demonstrating and providing evidence of the actual MAP for the previous Contract Year.

3.1.10.4 Seller’s failure to meet the Guarantee of Mechanical Availability in a Calendar Year shall result in damages payable to PGE by Seller equal to the Lost Energy Value. PGE shall bill Seller for such damages in accordance with Section 8.

3.1.11. Seller will deliver from the Facility to PGE at the Point of Delivery Net Output not to exceed a maximum of 1,628,620 kWh of Net Output during each Contract Year (“Maximum Net Output”).

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

3.1.13. 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.

3.1.14. Seller warrants that (i) the Facility satisfies the eligibility requirements specified in the Definition of a Small Cogeneration Facility or Small Power Production Facility Eligible to Receive the Standard Renewable Rates and Standard Renewable PPA in PGE’s Schedule and (ii) Seller will not make any changes in its ownership, control or management 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 Standard Renewable Rates and Standard Renewable PPA in PGE’s Schedule. 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 Public Utility Commission of Oregon upon the Commission’s request.

3.1.15. Seller warrants that it will comply with all requirements necessary for all Transferred RECs (as defined in Section 4.5) 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 ENVIRONMENTAL 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.

4.2. PGE shall pay Seller the Contract Price for all delivered Net Output.

4.3. 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 A 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 3.1.11 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 10,000 kW 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 10,000 kW, 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 10,000 kW.

4.4. 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.

4.5. 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 the Schedule and Seller shall retain ownership of all other Environmental Attributes (if any). During the Renewable Resource Sufficiency Period, Seller shall retain all Environmental Attributes in accordance with the Schedule. The Contract Price includes full payment for the Net Output and any RPS Attributes transferred to PGE under this Agreement. With respect to Environmental Attributes not transferred to PGE under this Agreement ("Seller-Retained Environmental Attributes") Seller may report under §1605(b) of the Energy Policy Act of 1992 or under any applicable program as belonging to Seller any of the Seller-Retained Environmental Attributes, and PGE shall not report under such program that such Seller-Retained Environmental Attributes belong to it. With respect to RPS Attributes transferred to PGE under this Agreement ("Transferred RECs"), PGE may

report under §1605(b) of the Energy Policy Act of 1992 or under any applicable program as belonging to it any of the Transferred RECs, and Seller shall not report under such program that such Transferred RECs belong to it.

#### SECTION 5: OPERATION AND CONTROL

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

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

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

#### SECTION 6: CREDITWORTHINESS

In the event Seller: a) is unable to represent or warrant as required by Section 3 that it has not been a debtor in any bankruptcy proceeding within the past two (2) years; b) becomes such a debtor during the Term; or c) is not or will not be current on all its financial obligations, 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 (Net Dependable Capacity). 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 the 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 monthly 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 (30<sup>th</sup>) 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. On or before the thirtieth (30<sup>th</sup>) day following the end of each Contract Year, PGE shall bill for any Lost Energy Value accrued pursuant to this Agreement.

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

## SECTION 9: DEFAULT, REMEDIES AND TERMINATION

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

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

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

9.1.3. Seller's failure to meet the Guarantee of Mechanical Availability established in Section 3.1.10 for two consecutive Contract Years or Seller's failure to provide any written report required by that section.

9.1.4. If Seller 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 under this Agreement, except as otherwise provided in this Agreement, the non-defaulting party may immediately terminate this Agreement at its sole discretion by delivering written notice to the other Party. In addition, the non-defaulting party 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. A termination hereunder shall be effective upon the date of delivery of notice, as provided in Section 20. 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.

9.5. 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.

9.6. Sections 9.1, 9.4, 9.5, 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, its directors, officers and employees as additional insureds; provisions that such insurance is primary insurance with respect to the interest of PGE and that any insurance or self-insurance maintained by PGE is excess and not contributory insurance with the insurance required hereunder; a cross-liability or severability of insurance interest clause; and provisions that such policies shall not be canceled or their limits of liability reduced without thirty (30) days' prior written notice to PGE. Initial limits of liability for all requirements under this section shall be \$1,000,000 million single



limit, which limits may be required to be increased or decreased by PGE as PGE determines in its reasonable judgment economic conditions or claims experience may warrant.

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

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

## SECTION 12: FORCE MAJEURE

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

12.2. If either Party is rendered wholly or in part unable to perform its obligation under this Agreement because of an event of Force Majeure, that Party shall be excused from whatever performance is affected by the event of Force Majeure to the

extent and for the duration of the Force Majeure, after which such Party shall recommence 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:

Volcano Solar, LLC  
C/O TLS Capital, Inc  
7455 SW Bridgeport Road, Ste 220  
Tigard, OR 97224



with a copy to: **TLS Capital, Inc**  
**3519 NE 15th Ave, #325**  
**Portland, OR 97212**

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: \_\_\_\_\_

**Volcano Solar, LLC**  
\_\_\_\_\_  
(Name Seller)

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

Draft - NOT FOR EXECUTION

Standard Renewable In-System Variable Power Purchase Agreement  
Form Effective August 12, 2016

**EXHIBIT A**  
**DESCRIPTION OF SELLER'S FACILITY**

Contract Information	
a. Seller Legal Name	Volcano Solar, LLC
b. Type of facility (solar, or wind for example)	Solar
c. County and GPS Coordinate to 3 decimals	Marion - 45°01'32.2"N 122°59'24.6"W
d. State	Oregon
e. Name Plate Rating in kW	750
f. Section 1.11 Electric system to interconnect to and <b>the Point of Delivery</b>	PGE
g. Section 2.2.1 date to be begin delivery	11/30/2017
h. Section 2.2.3 date of Commercial Operation Date	12/31/2017
i. Section 2.3 Termination Date	20 Years from Effective Date
j. Corporation type	Limited Liability Corporation
k. State of organization	Oregon
l. Net Dependable Capacity in kW	750
m. Estimated average annual Net Output	731374
n. Maximum of kWh	1628620
o. Notice address line 1	Volcano Solar, LLC
p. Notice address line 2	C/O TLS Capital, Inc
q. Notice address line 3	7455 SW Bridgeport Road, Ste 220
r. Notice address line 4	Tigard, OR 97224
s. Copy to address line 1	TLS Capital, Inc
t. Copy to address line 2	3519 NE 15th Ave, #325
u. Copy to address line 3	Portland, OR 97212
v. Copy to address line 4	
w. On a separate sheet include a detailed facility description, <b>including one-line diagram</b> .	Attached
2. Status of Seller's incorporation	Filed - 1/23/17
3. Seller's financial statements:	
a. Income statement	N/A
b. Balance sheet	N/A
4. D & B report on seller, of the project sponsor if the seller is not in D & B	Does not exist
5. List of all entities with an ownership interest in the facility	TLS Capital, Inc
6. List all natural persons or persons or any legal entity or entities who:	TLS Capital, Inc & List of Entities on Attached List
a. Share common ownership with Seller	
b. Share common management with Seller	
c. Act jointly or in concert with Seller	
d. Exercise influence over the policies or actions of Seller	
7. The legal name of the manager of the Facility, if applicable	TLS Capital, Inc
8. Proof of site control (lease, title to land, property tax bill, or other)	Lease - Attached
9. FERC Form 556 and docket number as proof of submittal and acceptance by FERC	QF17-548-000 - Attached
10. Map adjoining QF sites owned by the same seller at this time, or within the past 12 months	Attached
11. Staffing plan for getting the project online	Hire EPC Contractor
12. Status of interconnection and transmission agreements	Interconnection Application Filed
13. Does Seller have FERC Market Based Rate Authority? If yes provide docket #.	No
Generation information	
1. Motive force plan	Solar PV
2. Expected energy delivery start date	11/30/2017
3. Expected Availability of generation	90%
4. PVSyst (or equivalent) simulation results detail, including but not limited to:	
a. Annual MWh (AC) for the first calendar year of commercial operation and an annual degradation factor	1219
b. Average 24-hr profile of generation MWh (AC) for each month during the first calendar year	Attached
c. Maximum 24-hr profile of generation MWh (AC) for each month during the first calendar year	Attached
d. Maximum annual output (monthly MWh detail)	Attached
e. Loss Diagram	Attached
Location of facility	
1. GPS Coordinates (rounded to three decimal - please provide in decimal format)	45°01'32.2"N 122°59'24.6"W
2. Facility physical address	35th Ave NE, Keizer, OR
3. Legal description of parcel (proof of site control to be attached)	Marion County Taxlot # 062W19C00900
4. Aerial Facility site boundary map	Attached

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1. Generation		
a. PVSystem (or equivalent) simulation results detail, including but not limited to:		
i. Annual MWh (AC) for the first calendar year of commercial operation		1219
ii. Annual degradation factor		2.65
iii. Average 24-hr profile of generation MWh (AC) for each month during the first calendar year		Attached
iv. Expected Solar Capacity Factor		18.55%
v. Maximum annual output (monthly MWh detail)		Attached
iv. Loss Diagram		Attached
2. Description of Modules:		
a. Module type		Poly-crystalline
b. # of modules		3325
c. Max power voltage		36.6W
d. Max power current		9.18V
e. Max system voltage		1000V
f. Total DC system size		1,047,375
3. Description of Racking		
a. Racking		
i. Type: (fixed tilt, single-axis tracking, or dual-axis tracking, etc.)		Fixed
ii. Tilt angle (if fixed-tilt)		25
iii. Azimuth (default = south-facing)		180
4. Description of Inverters:		
a. Number of Inverters		1
b. Model		SMA SC-750US
c. Maximum Power (kW)		750 kW
d. Operating Voltage (VAC)		324V-396V
e. Max. Output Current (A)		1411 A
f. Rated DC Voltage		1000V
g. Rated DC current		1600A
h. Maximum Output (kW)		
g. Facility AC Capacity Rating		750
h. Inverter loading ratio		1.4/1.0
i. Facility AC rating		750
5. Description of transformers		
a. # of transformers		1
b. Model		Cooper 210-12
c. High Voltage Rating		
d. Low Voltage Rating		
e. MVA rating		
f. High voltage connection		
g. Low voltage connection		
6. Description of metering, communications, and monitoring		PGE Supplied
7. Description of station service requirements		PGE Supplied
8. Description and timeline of interconnection and transmission plan		Interconnection application submitted
9. Transaction Service Request Number, Interconnection Queue number, and System impact/interconnection study documentation		Interconnection Application Attached

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<b>Volcano Solar, LLC</b>			
<b>Monthly Generation Profile</b>			
<b>AC System Output (kWh)</b>			
<b>Month</b>	<b>Year 1</b>	<b>Avg</b>	<b>Max</b>
1	39,680	23,808	59,519
2	79,538	47,723	119,306
3	88,131	52,879	132,197
4	116,589	69,953	174,884
5	136,690	82,014	205,035
6	142,613	85,568	213,919
7	163,685	98,211	245,527
8	142,554	85,532	213,831
9	130,639	78,383	195,958
10	87,628	52,577	131,442
11	52,554	31,532	78,831
12	38,658	23,195	57,987
	1,218,957	731,374	1,828,436

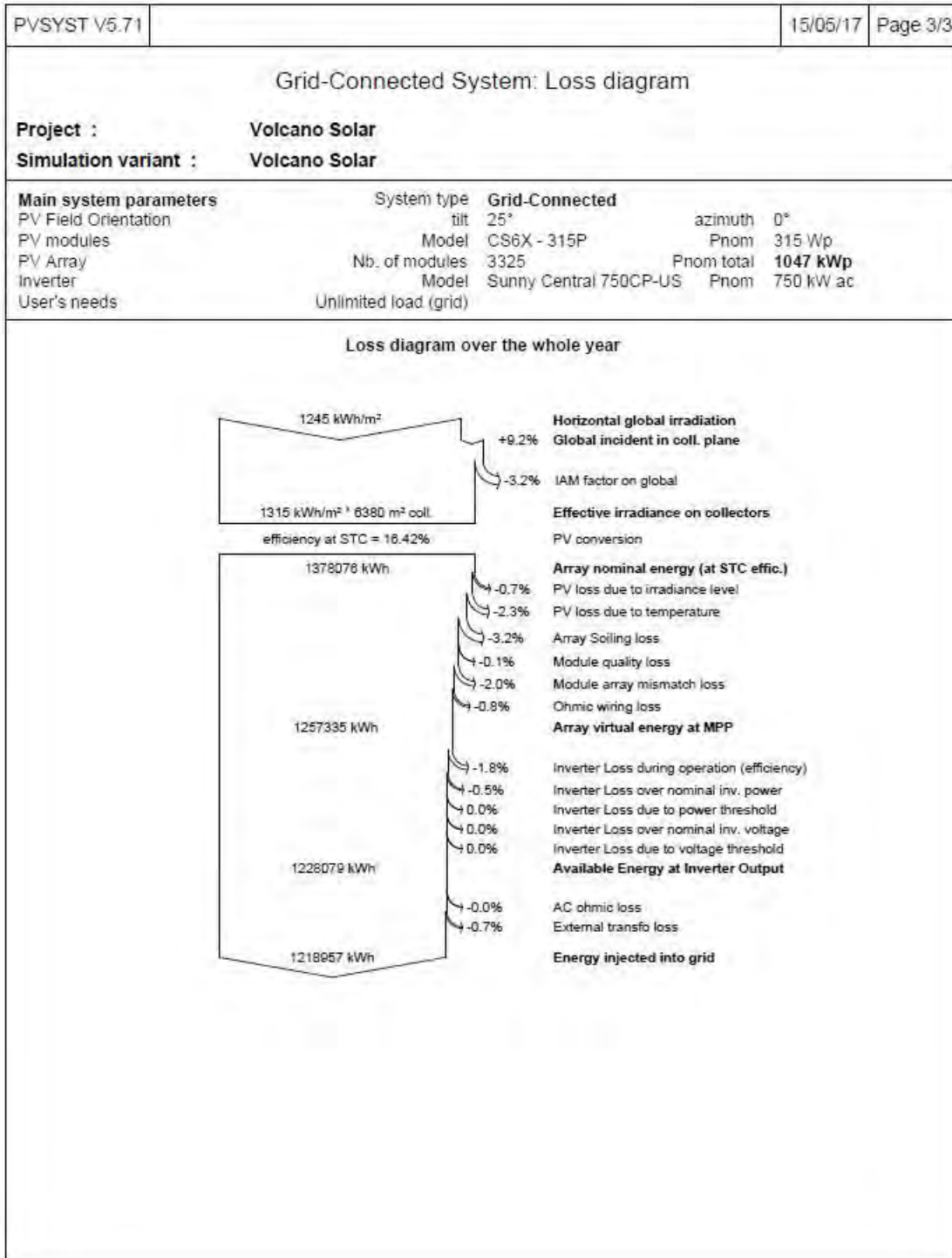
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PVSYST V5.71		15/05/17 Page 1/3		
<b>Grid-Connected System: Simulation parameters</b>				
<b>Project :</b>	<b>Volcano Solar</b>			
<b>Geographical Site</b>	Portland, OR	<b>Country</b>	USA	
<b>Situation</b>	Latitude 45.5°N	Longitude	122.7°W	
Time defined as	Legal Time	Time zone	UT-8	
	Albedo		50 m	
<b>Meteo data :</b>	Portland, OR, Synthetic Hourly data			
<b>Simulation variant :</b>	<b>Volcano Solar</b>			
	Simulation date	15/05/17 16h36		
<b>Simulation parameters</b>				
<b>Collector Plane Orientation</b>	Tilt	25°	Azimuth 0°	
<b>Horizon</b>	Free Horizon			
<b>Near Shadings</b>	No Shadings			
<b>PV Array Characteristics</b>				
<b>PV module</b>	Si-poly	Model	CS6X - 315P	
		Manufacturer	Canadian Solar Inc.	
Number of PV modules	In series	19 modules	In parallel 175 strings	
Total number of PV modules	Nb. modules	3325	Unit Nom. Power 315 Wp	
Array global power	Nominal (STC)	1047 kWp	At operating cond. 940 kWp (50°C)	
Array operating characteristics (50°C)	U mpp	618 V	I mpp 1521 A	
Total area	Module area	6380 m²	Cell area 5627 m²	
<b>Inverter</b>	Model	Sunny Central 750CP-US		
	Manufacturer	SMA		
<b>Characteristics</b>	Operating Voltage	545-620 V	Unit Nom. Power 750 kW AC	
<b>PV Array loss factors</b>				
Thermal Loss factor	Uc (const)	29.0 W/m²K	Uv (wind)	0.0 W/m²K / m/s
	⇒ Nominal Oper. Coll. Temp. (G=800 W/m², Tamb=20°C, Wind=1 m/s.)			
Wiring Ohmic Loss	Global array res.	7.1 mOhm	Loss Fraction	1.5 % at STC
Array Soiling Losses			Loss Fraction	3.2 %
Module Quality Loss			Loss Fraction	0.1 %
Module Mismatch Losses			Loss Fraction	2.0 % at MPP
Incidence effect, ASHRAE parametrization	IAM =	1 - bo (1/cos i - 1)	bo Parameter	0.05
<b>System loss factors</b>				
AC wire loss inverter to transfo	Inverter voltage	342 Vac tri	Loss Fraction	0.0 % at STC
	Wires	2 m 3x1200 mm²	Loss Fraction	0.1 % at STC
External transformer	Iron loss (24h connection)	1026 W	Loss Fraction	0.0 % at STC
	Resistive/Inductive losses	0.0 mOhm	Loss Fraction	0.0 % at STC
<b>User's needs :</b>	Unlimited load (grid)			

PVSYST V5.71		15/05/17 Page 2/3						
<b>Grid-Connected System: Main results</b>								
<b>Project :</b>	<b>Volcano Solar</b>							
<b>Simulation variant :</b>	<b>Volcano Solar</b>							
<b>Main system parameters</b>	System type	Grid-Connected						
<b>PV Field Orientation</b>	tilt	25°	azimuth 0°					
<b>PV modules</b>	Model	CS6X - 315P	Pnom 315 Wp					
<b>PV Array</b>	Nb. of modules	3325	Pnom total 1047 kWp					
<b>Inverter</b>	Model	Sunny Central 750CP-US	Pnom 750 kW ac					
<b>User's needs</b>	Unlimited load (grid)							
<b>Main simulation results</b>	System Production	<b>Produced Energy</b>	<b>1218957 kWh/year</b>					
		Performance Ratio PR	85.6 %					
		Specific prod.	1164 kWh/kWp/year					
<div style="display: flex; justify-content: space-around;"> <div> <p><b>Normalized productions (per installed kWp): Nominal power 1047 kWp</b></p> </div> <div> <p><b>Performance Ratio PR</b></p> </div> </div>								
<b>Volcano Solar</b>								
<b>Balances and main results</b>								
	GloHor	T Amb	GloEIR	EArray	E_Grid	EMeRr	EMeYSR	
	kWh/m²	°C	kWh/m²	kWh	kWh	%	%	
January	27.0	4.90	34.5	33058	31498	15.03	14.32	
February	48.0	8.70	60.2	57694	55642	15.52	14.57	
March	91.0	7.90	108.1	102952	100993	14.89	14.52	
April	123.0	10.50	131.8	127.5	123760	120867	14.72	14.38
May	168.0	13.90	171.5	166.4	166878	163369	14.34	14.01
June	196.0	18.40	181.6	175.9	164719	161073	14.23	13.91
July	190.0	18.60	196.1	186.9	175216	171301	14.00	13.69
August	164.0	18.00	173.4	168.0	165988	163067	14.15	13.83
September	115.0	15.20	134.7	130.4	122229	119342	14.22	13.88
October	74.0	12.20	94.0	90.7	89108	86540	14.70	14.32
November	33.0	8.20	42.1	40.6	39681	38200	14.84	14.25
December	22.0	6.00	31.3	30.1	29077	28256	14.60	14.17
Year	1248.0	11.70	1396.1	1316.2	1250948	1218957	14.42	14.06
<p><b>Legends:</b> GloHor Horizontal global irradiation EArray Effective energy at the output of the array  T Amb Ambient Temperature E_Grid Energy injected into grid  GloEIR Global incident in coll. plane EMeRr Effc. Ecol array / rough area  GloEIR Effective Global, com. for IAM and shadings EMeYSR Effc. Ecol system / rough area</p>								

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Standard Renewable In-System Variable Power Purchase Agreement  
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EXHIBIT B									
REQUIRED FACILITY DOCUMENTS									
Please complete this list, including but not limited to:									
Sellers Generation Interconnection Agreement									
All required environmental permits									
All required agreement to record Renewable Energy Certificates									
Required site control documents									
FERC Self-Certification and acceptance									
Any Conditional Use Permits									
Any Access Permit									
Construction Permits									
Water quality permits									

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## EXHIBIT C START-UP TESTING

Exhibit C			
Required Testing			
<p>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 BPA/EIM/PGE's electrical system for delivery to PGE, which may include but are not limited to (as applicable) the following:</p>			
<ol style="list-style-type: none"> <li>1. Safety plan during startup and commissioning (including the expected number of individuals covered)</li> <li>2. Review of all QA/QC testing</li> <li>3. Confirm testing and energizing inverters in conformance with manufacturer's recommended procedures; note operating voltages; and confirm inverter is performing as expected</li> <li>4. Energizing transformers</li> <li>5. Under full sun conditions, and after at least 15 minutes of operation, taking and recording PV Plant operating data—such as but not limited to MWDC, MWAC, VDC, VAC, IDC, IAC, Solar Radiation, etc.</li> <li>6. Testing the system control and monitoring system to verify that it is performing correctly</li> <li>7. Testing the communication system for offsite monitoring and all requirements of the Western Energy Imbalance Market</li> <li>8. Testing the Plant metering and protective relaying to verify they meet utility requirements</li> <li>9. Documentation of successful startup and commissioning procedure</li> <li>10. Written notification submitted by Contractor to Owner that the completion of Acceptance Testing and Commissioning has occurred</li> <li>11. Testing to meet the requirements of Section 1.5.3.</li> </ol>			

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EXHIBIT D  
SCHEDULE

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**SCHEDULE 201  
QUALIFYING FACILITY 10 MW or LESS  
AVOIDED COST POWER PURCHASE INFORMATION**

**PURPOSE**

To provide information about Standard Avoided Costs and Renewable Avoided Costs, Standard Power Purchase Agreements (PPA) and Negotiated PPAs, power purchase prices and price options for power delivered by a Qualifying Facility (QF) to the Company with nameplate capacity of 10,000 kW (10MW) or less.

**AVAILABLE**

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

**APPLICABLE**

For power purchased from small power production or cogeneration facilities that are QFs as defined in 18 Code of Federal Regulations (CFR) Section 292, that meet the eligibility requirements described herein and where the energy is delivered to the Company's system and made available for Company purchase pursuant to a Standard PPA.

**ESTABLISHING CREDITWORTHINESS**

The Seller must establish creditworthiness prior to service under this schedule. For a Standard PPA, a Seller may establish creditworthiness with a written acknowledgment that it is current on all existing debt obligations and that it was not a debtor in a bankruptcy proceeding within the preceding 24 months. If the Seller is not able to establish creditworthiness, the Seller must provide security deemed sufficient by the Company as set forth in the Standard PPA.

**POWER PURCHASE INFORMATION**

A Seller 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.

**PPA**

In accordance with terms set forth in this schedule and the Commission's Rules as applicable, the Company will purchase any Energy in excess of station service (power necessary to produce generation) and amounts attributable to conversion losses, which are made available from the Seller.

A Seller must execute a PPA with the Company prior to delivery of power to the Company. The agreement will have a term of up to 20 years as selected by the QF.

A QF with a nameplate capacity rating of 10 MW or less as defined herein may elect the option of a Standard PPA.

## **SCHEDULE 201 (Continued)**

### PPA (Continued)

Any Seller may elect to negotiate a PPA with the Company. Such negotiation will comply with the requirements of the Federal Energy Regulatory Commission (FERC), and the Commission including the guidelines in Order No. 07-360, and Schedule 202. Negotiations for power purchase pricing will be based on either the filed Standard Avoided Costs or Renewable Avoided Costs in effect at that time.

### **STANDARD PPA (Nameplate capacity of 10 MW or less)**

A Seller choosing a Standard PPA will complete all informational and price option selection requirements in the applicable Standard PPA and submit the executed Agreement to the Company prior to service under this schedule. The Standard PPA is available at [www.portlandgeneral.com](http://www.portlandgeneral.com). The available Standard PPAs are:

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

The Standard PPAs applicable to variable resources are available only to QFs utilizing wind, solar or run of river hydro as the primary motive force.

### **GUIDELINES FOR 10 MW OR LESS FACILITIES ELECTING STANDARD PPA**

To execute the Standard PPA the Seller must complete all of the general project information requested in the applicable Standard PPA.

When all information required in the Standard PPA has been received in writing from the Seller, the Company will respond within 15 business days with a draft Standard PPA.

The Seller may request in writing that the Company prepare a final draft Standard PPA. The Company will respond to this request within 15 business days. In connection with such request, the QF must provide the Company with any additional or clarified project information that the Company reasonably determines to be necessary for the preparation of a final draft Standard PPA.

When both parties are in full agreement as to all terms and conditions of the draft Standard PPA, the Company will prepare and forward to the Seller a final executable version of the agreement within 15 business days. Following the Company's execution, an executed copy will be returned to the Seller.

Prices and other terms and conditions in the PPA will not be final and binding until the Standard PPA has been executed by both parties.

## SCHEDULE 201 (Continued)

### OFF-SYSTEM PPA

A Seller with a facility that interconnects with an electric system other than the Company's electric system may enter into a PPA with the Company after following the applicable Standard or Negotiated PPA guidelines and making the arrangements necessary for transmission of power to the Company's system.

### BASIS FOR POWER PURCHASE PRICE

#### AVOIDED COST SUMMARY

The power purchase prices are based on either the Company's Standard Avoided Costs or Renewable Avoided Costs in effect at the time the agreement is executed. Avoided Costs are defined in 18 CFR 292.101(6) as "the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source."

Monthly On-Peak prices are included in both the Standard Avoided Costs as listed in Tables 1a, 2a, and 3a and Renewable Avoided Costs as listed in Tables 4a, 5a, and 6a. Monthly Off-Peak prices are included in both the Standard Avoided Costs as listed in Tables 1b, 2b, and 3b and Renewable Avoided Costs as listed in Tables 4b, 5b, and 6b.

#### ON-PEAK PERIOD

The On-Peak period is 6:00 a.m. until 10:00 p.m., Monday through Saturday.

#### OFF-PEAK PERIOD

The Off-Peak period is 10:00 p.m. until 6:00 a.m., Monday through Saturday, and all day on Sunday.

Standard Avoided Costs are based on forward market price estimates through the Resource Sufficiency Period, the period of time during which the Company's Standard Avoided Costs are associated with incremental purchases of Energy and capacity from the market. For the Resource Deficiency Period, the Standard Avoided Costs reflect the fully allocated costs of a natural gas fueled combined cycle combustion turbine (CCCT) including fuel and capital costs. The CCCT Avoided Costs are based on the variable cost of Energy plus capitalized Energy costs at a 93% capacity factor based on a natural gas price forecast, with prices modified for shrinkage and transportation costs.

Renewable Avoided Costs are based on forward market price estimates through the Renewable Resource Sufficiency Period, the period of time during which the Company's Renewable Avoided Costs are associated with incremental purchases of energy and capacity from the market. For the Renewable Resource Deficiency Period, the Renewable Avoided Costs reflect the fully allocated costs of a wind plant including capital costs.

**SCHEDULE 201 (Continued)**

**PRICING FOR STANDARD PPA**

Pricing represents the purchase price per MWh the Company will pay for electricity delivered to a Point of Delivery (POD) within the Company's service territory pursuant to a Standard PPA up to the nameplate rating of the QF in any hour. Any Energy delivered in excess of the nameplate rating will be purchased at the applicable Off-Peak Prices for the selected pricing option.

The Standard PPA pricing will be based on either the Standard or Renewable Avoided Costs in effect at the time the agreement is executed.

The Company will pay the Seller either the Off-Peak Standard Avoided Cost pursuant to Tables 1b, 2b, or 3b or the Off-Peak Renewable Avoided Costs pursuant to Tables 4b, 5b, or 6b for: (a) all Net Output delivered prior to the Commercial Operation Date; (b) all Net Output deliveries greater than Maximum Net Output in any PPA year; (c) any generation subject to and as adjusted by the provisions of Section 4.3 of the Standard PPA; (d) Net Output delivered in the Off-Peak Period; and (e) deliveries above the nameplate capacity in any hour. The Company will pay the Seller either the On-Peak Standard Avoided Cost pursuant to Tables 1a, 2a, or 3a or the On-Peak Renewable Avoided Costs pursuant to Tables 4a, 5a, or 6a for all other Net Output. (See the PPA for defined terms.)

**1) Standard Fixed Price Option**

The Standard Fixed Price Option is based on Standard Avoided Costs including forecasted natural gas prices. It is available to all QFs.

This option is available for a maximum term of 15 years. Prices will be as established at the time the Standard PPA is executed and will be equal to the Standard Avoided Costs in Tables 1a and 1b, 2a and 2b, or 3a and 3c, depending on the type of QF, effective at execution. QFs using any resource type other than wind and solar are assumed to be Base Load QFs.

Prices paid to the Seller under the Standard Fixed Price Option include adjustments for the capacity contribution of the QF resource type relative to that of the avoided proxy resource. Both the Base Load QF resources (Tables 1a and 1b) and the avoided proxy resource, the basis used to determine Standard Avoided Costs for the Standard Fixed Price Option, are assumed to have a capacity contribution to peak of 100%. The capacity contribution for Wind QF resources (Tables 2a and 2b) is assumed to be 5%. The capacity contribution for Solar QF resources (Tables 3a and 3b) is assumed to be 5%.

Prices paid to the Seller under the Standard Fixed Price Option for Wind QFs (Tables 2a and 2b) include a reduction for the wind integration costs in Table 7. However, if the Wind QF is outside of PGE's Balancing Authority Area as contemplated in the Commission's Order No. 14-058, the Seller is paid the wind integration charges in Table 7, in addition to the prices listed in Tables 2a and 2b, for a net-zero effect.

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

Sellers with PPAs exceeding 15 years will receive pricing equal to the Mid-C Index Price for all years up to five in excess of the initial 15.

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

TABLE 1a												
Avoided Costs												
Standard Fixed Price Option for Base Load QF												
On-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	42.81	30.21	19.11	12.56	16.71	18.71	29.71	33.71	30.21	27.21	29.21	35.71
2018	31.71	31.11	28.10	19.97	19.21	19.21	28.16	31.40	28.82	25.64	28.54	31.96
2019	32.37	31.76	28.69	20.40	19.63	19.63	28.75	32.05	29.42	26.18	29.14	32.62
2020	34.85	34.19	30.88	21.93	21.10	21.10	30.95	34.51	31.67	28.17	31.37	35.13
2021	62.41	62.19	61.99	60.93	60.73	60.74	60.79	60.84	60.93	61.16	61.76	62.44
2022	64.10	64.19	64.27	63.87	63.84	63.93	64.00	64.10	64.20	64.30	65.26	65.35
2023	67.48	67.59	67.69	67.06	67.11	67.22	67.31	67.40	67.52	67.62	68.68	68.79
2024	69.99	70.11	70.22	69.82	69.50	69.62	69.72	69.83	69.95	70.62	70.85	70.98
2025	72.67	72.80	72.93	72.99	72.19	72.23	72.34	72.47	72.59	72.71	73.55	73.69
2026	75.30	75.45	75.57	74.87	74.74	74.85	74.96	75.09	75.22	75.35	76.40	76.54
2027	78.22	78.36	78.50	77.76	77.61	77.68	77.81	77.94	78.10	78.23	79.36	79.50
2028	81.14	81.30	81.45	80.70	80.63	80.69	80.83	80.97	81.15	81.28	82.65	82.83
2029	84.83	85.00	85.16	84.37	84.30	84.37	84.48	84.64	84.22	84.37	85.47	85.64
2030	87.51	87.70	87.57	86.46	86.68	85.53	85.69	85.84	86.03	86.19	87.36	87.55
2031	89.53	89.73	89.77	88.64	88.86	88.39	88.54	88.71	88.91	89.07	90.39	90.59
2032	92.27	92.47	92.59	91.42	91.60	91.64	91.81	91.99	92.20	92.38	93.65	93.87
2033	96.34	96.55	96.65	95.42	95.65	94.02	94.19	94.39	94.59	94.77	96.09	96.31
2034	98.49	98.72	97.24	96.01	96.24	95.79	95.98	96.17	96.38	96.57	98.03	98.25
2035	100.40	100.63	100.56	99.28	99.52	98.82	99.00	99.19	99.43	99.62	101.11	101.34
2036	102.77	103.00	102.93	101.62	101.89	101.16	101.36	101.55	101.79	101.99	103.52	103.73
2037	105.59	105.82	105.75	104.40	104.68	103.94	104.13	104.34	104.57	104.78	106.33	106.56
2038	108.31	108.55	108.46	107.11	107.39	106.62	106.83	107.04	107.27	107.49	109.07	109.30
2039	110.86	111.12	111.03	109.65	109.93	109.15	109.36	109.56	109.83	110.04	111.63	111.89
2040	113.79	114.03	113.96	112.54	112.81	112.04	112.24	112.45	112.71	112.93	114.58	114.82
2041	116.46	116.72	116.63	115.20	115.47	114.67	114.89	115.10	115.37	115.58	117.26	117.52



**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

<b>TABLE 1b</b>												
<b>Avoided Costs</b>												
<b>Standard Fixed Price Option for Base Load QF</b>												
<b>Off-Peak Forecast (\$/MWH)</b>												
<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
2017	30.96	25.46	12.96	4.46	7.71	9.21	17.71	24.96	25.21	23.71	24.96	29.71
2018	24.82	26.66	24.24	15.66	11.92	10.25	17.66	24.16	24.06	22.13	24.58	26.67
2019	25.39	27.27	24.80	16.04	12.22	10.52	18.08	24.72	24.62	22.65	25.15	27.28
2020	27.90	29.97	27.24	17.56	13.34	11.45	19.82	27.15	27.04	24.86	27.63	29.99
2021	23.86	23.65	23.45	22.38	22.19	22.20	22.25	22.30	22.38	22.62	23.21	23.90
2022	24.81	24.90	24.99	24.59	24.55	24.64	24.71	24.81	24.91	25.01	25.97	26.07
2023	27.30	27.42	27.52	26.88	26.94	27.04	27.14	27.23	27.35	27.44	28.51	28.62
2024	29.30	29.42	29.53	29.13	28.81	28.94	29.03	29.14	29.26	29.94	30.17	30.29
2025	31.06	31.20	31.32	31.39	30.58	30.63	30.74	30.86	30.98	31.11	31.95	32.08
2026	32.90	33.04	33.16	32.46	32.33	32.44	32.55	32.68	32.82	32.94	33.99	34.13
2027	34.99	35.13	35.27	34.54	34.38	34.45	34.58	34.71	34.87	35.00	36.13	36.27
2028	37.08	37.23	37.39	36.64	36.57	36.63	36.77	36.91	37.09	37.22	38.59	38.77
2029	39.92	40.09	40.25	39.46	39.39	39.46	39.57	39.72	39.31	39.46	40.56	40.73
2030	41.73	41.92	41.80	40.68	40.90	39.75	39.91	40.06	40.25	40.41	41.59	41.77
2031	42.86	43.07	43.10	41.98	42.20	41.73	41.88	42.04	42.25	42.41	43.72	43.93
2032	45.01	45.20	45.33	44.16	44.34	44.38	44.55	44.73	44.93	45.11	46.39	46.61
2033	47.85	48.06	48.17	46.94	47.17	45.54	45.71	45.91	46.11	46.29	47.61	47.83
2034	48.91	49.14	47.67	46.43	46.66	46.22	46.41	46.59	46.81	47.00	48.46	48.67
2035	50.03	50.26	50.19	48.91	49.15	48.45	48.63	48.82	49.06	49.25	50.74	50.97
2036	51.59	51.83	51.76	50.44	50.71	49.98	50.18	50.38	50.61	50.81	52.34	52.55
2037	53.26	53.48	53.41	52.06	52.35	51.61	51.79	52.01	52.23	52.45	54.00	54.22
2038	54.97	55.20	55.12	53.77	54.04	53.27	53.49	53.69	53.93	54.14	55.73	55.96
2039	56.49	56.74	56.65	55.28	55.56	54.78	54.98	55.19	55.46	55.66	57.26	57.51
2040	58.37	58.61	58.54	57.12	57.39	56.62	56.82	57.03	57.28	57.51	59.15	59.40
2041	59.97	60.23	60.14	58.70	58.98	58.18	58.40	58.61	58.87	59.09	60.77	61.03

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

TABLE 2a												
Avoided Costs												
Standard Fixed Price Option for Wind QF												
On-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	38.90	26.30	15.20	8.65	12.80	14.80	25.80	29.80	26.30	23.30	25.30	31.80
2018	27.72	27.12	24.11	15.98	15.22	15.22	24.17	27.41	24.83	21.65	24.55	27.97
2019	28.30	27.69	24.62	16.33	15.56	15.56	24.68	27.98	25.35	22.11	25.07	28.55
2020	30.70	30.04	26.73	17.78	16.95	16.95	26.80	30.36	27.52	24.02	27.22	30.98
2021	25.66	25.45	25.25	24.18	23.99	24.00	24.05	24.10	24.18	24.42	25.01	25.69
2022	26.64	26.74	26.82	26.42	26.39	26.47	26.55	26.64	26.75	26.84	27.81	27.90
2023	29.20	29.31	29.41	28.78	28.83	28.94	29.03	29.12	29.24	29.34	30.40	30.51
2024	31.19	31.31	31.42	31.03	30.71	30.83	30.93	31.04	31.16	31.83	32.06	32.18
2025	33.01	33.15	33.27	33.34	32.53	32.57	32.69	32.81	32.93	33.06	33.90	34.03
2026	34.88	35.03	35.14	34.44	34.32	34.42	34.54	34.66	34.80	34.92	35.98	36.11
2027	37.01	37.15	37.29	36.56	36.41	36.48	36.60	36.73	36.90	37.02	38.16	38.30
2028	39.14	39.30	39.45	38.70	38.63	38.69	38.83	38.97	39.15	39.28	40.65	40.83
2029	42.02	42.19	42.35	41.56	41.49	41.56	41.67	41.83	41.42	41.56	42.67	42.84
2030	43.87	44.06	43.94	42.82	43.04	41.89	42.05	42.20	42.39	42.55	43.73	43.91
2031	45.04	45.24	45.28	44.16	44.37	43.91	44.06	44.22	44.42	44.59	45.90	46.10
2032	47.19	47.39	47.52	46.34	46.52	46.56	46.73	46.91	47.12	47.30	48.57	48.79
2033	50.13	50.34	50.44	49.21	49.44	47.82	47.99	48.18	48.38	48.56	49.88	50.10
2034	51.25	51.47	50.00	48.77	49.00	48.55	48.74	48.93	49.14	49.33	50.79	51.01
2035	52.38	52.62	52.55	51.26	51.51	50.81	50.99	51.18	51.41	51.61	53.10	53.33
2036	53.96	54.20	54.13	52.82	53.08	52.36	52.55	52.75	52.99	53.18	54.72	54.92
2037	55.70	55.93	55.86	54.51	54.79	54.05	54.24	54.45	54.68	54.89	56.44	56.67
2038	57.46	57.70	57.61	56.26	56.54	55.77	55.98	56.19	56.42	56.64	58.22	58.45
2039	59.04	59.29	59.20	57.82	58.10	57.32	57.53	57.73	58.00	58.21	59.81	60.06
2040	60.96	61.20	61.12	59.71	59.98	59.21	59.40	59.62	59.87	60.10	61.74	61.98
2041	62.61	62.87	62.78	61.35	61.63	60.83	61.04	61.26	61.52	61.73	63.41	63.67

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

<b>TABLE 2b</b>												
<b>Avoided Costs</b>												
<b>Standard Fixed Price Option for Wind QF</b>												
<b>Off-Peak Forecast (\$/MWH)</b>												
<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
2017	27.05	21.55	9.05	0.55	3.80	5.30	13.80	21.05	21.30	19.80	21.05	25.80
2018	20.83	22.67	20.25	11.67	7.93	6.26	13.67	20.17	20.07	18.14	20.59	22.68
2019	21.32	23.20	20.73	11.97	8.15	6.45	14.01	20.65	20.55	18.58	21.08	23.21
2020	23.75	25.82	23.09	13.41	9.19	7.30	15.67	23.00	22.89	20.71	23.48	25.84
2021	19.63	19.42	19.22	18.15	17.96	17.97	18.02	18.07	18.15	18.39	18.98	19.67
2022	20.50	20.59	20.68	20.28	20.24	20.33	20.40	20.50	20.60	20.70	21.66	21.76
2023	22.91	23.03	23.13	22.49	22.55	22.65	22.75	22.84	22.96	23.05	24.12	24.23
2024	24.83	24.95	25.06	24.66	24.34	24.47	24.56	24.67	24.79	25.47	25.70	25.82
2025	26.50	26.64	26.76	26.83	26.02	26.07	26.18	26.30	26.42	26.55	27.39	27.52
2026	28.25	28.39	28.51	27.81	27.68	27.79	27.90	28.03	28.17	28.29	29.34	29.48
2027	30.25	30.39	30.53	29.80	29.64	29.71	29.84	29.97	30.13	30.26	31.39	31.53
2028	32.25	32.40	32.56	31.81	31.74	31.80	31.94	32.08	32.26	32.39	33.76	33.94
2029	35.00	35.17	35.33	34.54	34.47	34.54	34.65	34.80	34.39	34.54	35.64	35.81
2030	36.71	36.90	36.78	35.66	35.88	34.73	34.89	35.04	35.23	35.39	36.57	36.75
2031	37.74	37.95	37.98	36.86	37.08	36.61	36.76	36.92	37.13	37.29	38.60	38.81
2032	39.80	39.99	40.12	38.95	39.13	39.17	39.34	39.52	39.72	39.90	41.18	41.40
2033	42.54	42.75	42.86	41.63	41.86	40.23	40.40	40.60	40.80	40.98	42.30	42.52
2034	43.49	43.72	42.25	41.01	41.24	40.80	40.99	41.17	41.39	41.58	43.04	43.25
2035	44.51	44.74	44.67	43.39	43.63	42.93	43.11	43.30	43.54	43.73	45.22	45.45
2036	45.96	46.20	46.13	44.81	45.08	44.35	44.55	44.75	44.98	45.18	46.71	46.92
2037	47.52	47.74	47.67	46.32	46.61	45.87	46.05	46.27	46.49	46.71	48.26	48.48
2038	49.12	49.35	49.27	47.92	48.19	47.42	47.64	47.84	48.08	48.29	49.88	50.11
2039	50.53	50.78	50.69	49.32	49.60	48.82	49.02	49.23	49.50	49.70	51.30	51.55
2040	52.29	52.53	52.46	51.04	51.31	50.54	50.74	50.95	51.20	51.43	53.07	53.32
2041	53.78	54.04	53.95	52.51	52.79	51.99	52.21	52.42	52.68	52.90	54.58	54.84

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

TABLE 3a												
Avoided Costs												
Standard Fixed Price Option for Solar QF												
On-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	42.81	30.21	19.11	12.56	16.71	18.71	29.71	33.71	30.21	27.21	29.21	35.71
2018	31.71	31.11	28.10	19.97	19.21	19.21	28.16	31.40	28.82	25.64	28.54	31.96
2019	32.37	31.76	28.69	20.40	19.63	19.63	28.75	32.05	29.42	26.18	29.14	32.62
2020	34.85	34.19	30.88	21.93	21.10	21.10	30.95	34.51	31.67	28.17	31.37	35.13
2021	28.96	28.74	28.54	27.48	27.28	27.29	27.34	27.39	27.48	27.71	28.31	28.99
2022	30.00	30.09	30.18	29.78	29.75	29.83	29.90	30.00	30.11	30.20	31.16	31.26
2023	32.61	32.73	32.83	32.19	32.25	32.35	32.45	32.54	32.65	32.75	33.82	33.93
2024	34.67	34.80	34.91	34.51	34.19	34.31	34.41	34.52	34.64	35.31	35.54	35.66
2025	36.56	36.70	36.82	36.89	36.08	36.12	36.24	36.36	36.48	36.61	37.45	37.58
2026	38.50	38.65	38.76	38.06	37.94	38.04	38.16	38.28	38.42	38.54	39.60	39.73
2027	40.70	40.84	40.98	40.25	40.10	40.17	40.29	40.42	40.59	40.71	41.85	41.99
2028	42.90	43.06	43.21	42.46	42.39	42.45	42.59	42.74	42.91	43.04	44.41	44.59
2029	45.85	46.02	46.18	45.39	45.32	45.39	45.50	45.66	45.25	45.39	46.50	46.67
2030	47.78	47.97	47.84	46.73	46.95	45.80	45.96	46.11	46.30	46.46	47.63	47.82
2031	49.03	49.23	49.27	48.15	48.36	47.89	48.05	48.21	48.41	48.58	49.89	50.09
2032	51.26	51.45	51.58	50.41	50.59	50.63	50.79	50.97	51.18	51.36	52.63	52.85
2033	54.26	54.47	54.58	53.34	53.58	51.95	52.12	52.32	52.51	52.70	54.01	54.23
2034	55.46	55.69	54.22	52.98	53.21	52.77	52.96	53.15	53.36	53.55	55.01	55.22
2035	56.68	56.91	56.85	55.56	55.81	55.11	55.29	55.48	55.71	55.90	57.39	57.63
2036	58.35	58.59	58.52	57.21	57.47	56.75	56.94	57.14	57.38	57.57	59.10	59.31
2037	60.17	60.40	60.33	58.98	59.26	58.52	58.71	58.92	59.15	59.36	60.91	61.14
2038	62.02	62.25	62.16	60.82	61.09	60.32	60.54	60.74	60.98	61.19	62.77	63.01
2039	63.68	63.93	63.84	62.46	62.74	61.96	62.17	62.37	62.64	62.85	64.45	64.70
2040	65.69	65.94	65.86	64.44	64.71	63.94	64.14	64.35	64.61	64.83	66.48	66.72
2041	67.43	67.69	67.60	66.17	66.45	65.65	65.86	66.08	66.34	66.55	68.23	68.49

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Standard Fixed Price Option (Continued)

<b>TABLE 3b</b>												
<b>Avoided Costs</b>												
<b>Standard Fixed Price Option for Solar QF</b>												
<b>Off-Peak Forecast (\$/MWH)</b>												
<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
2017	30.96	25.46	12.96	4.46	7.71	9.21	17.71	24.96	25.21	23.71	24.96	29.71
2018	24.82	26.66	24.24	15.66	11.92	10.25	17.66	24.16	24.06	22.13	24.58	26.67
2019	25.39	27.27	24.80	16.04	12.22	10.52	18.08	24.72	24.62	22.65	25.15	27.28
2020	27.90	29.97	27.24	17.56	13.34	11.45	19.82	27.15	27.04	24.86	27.63	29.99
2021	23.86	23.65	23.45	22.38	22.19	22.20	22.25	22.30	22.38	22.62	23.21	23.90
2022	24.81	24.90	24.99	24.59	24.55	24.64	24.71	24.81	24.91	25.01	25.97	26.07
2023	27.30	27.42	27.52	26.88	26.94	27.04	27.14	27.23	27.35	27.44	28.51	28.62
2024	29.30	29.42	29.53	29.13	28.81	28.94	29.03	29.14	29.26	29.94	30.17	30.29
2025	31.06	31.20	31.32	31.39	30.58	30.63	30.74	30.86	30.98	31.11	31.95	32.08
2026	32.90	33.04	33.16	32.46	32.33	32.44	32.55	32.68	32.82	32.94	33.99	34.13
2027	34.99	35.13	35.27	34.54	34.38	34.45	34.58	34.71	34.87	35.00	36.13	36.27
2028	37.08	37.23	37.39	36.64	36.57	36.63	36.77	36.91	37.09	37.22	38.59	38.77
2029	39.92	40.09	40.25	39.46	39.39	39.46	39.57	39.72	39.31	39.46	40.56	40.73
2030	41.73	41.92	41.80	40.68	40.90	39.75	39.91	40.06	40.25	40.41	41.59	41.77
2031	42.86	43.07	43.10	41.98	42.20	41.73	41.88	42.04	42.25	42.41	43.72	43.93
2032	45.01	45.20	45.33	44.16	44.34	44.38	44.55	44.73	44.93	45.11	46.39	46.61
2033	47.85	48.06	48.17	46.94	47.17	45.54	45.71	45.91	46.11	46.29	47.61	47.83
2034	48.91	49.14	47.67	46.43	46.66	46.22	46.41	46.59	46.81	47.00	48.46	48.67
2035	50.03	50.26	50.19	48.91	49.15	48.45	48.63	48.82	49.06	49.25	50.74	50.97
2036	51.59	51.83	51.76	50.44	50.71	49.98	50.18	50.38	50.61	50.81	52.34	52.55
2037	53.26	53.48	53.41	52.06	52.35	51.61	51.79	52.01	52.23	52.45	54.00	54.22
2038	54.97	55.20	55.12	53.77	54.04	53.27	53.49	53.69	53.93	54.14	55.73	55.96
2039	56.49	56.74	56.65	55.28	55.56	54.78	54.98	55.19	55.46	55.66	57.26	57.51
2040	58.37	58.61	58.54	57.12	57.39	56.62	56.82	57.03	57.28	57.51	59.15	59.40
2041	59.97	60.23	60.14	58.70	58.98	58.18	58.40	58.61	58.87	59.09	60.77	61.03

## SCHEDULE 201 (Continued)

### PRICING OPTIONS FOR STANDARD PPA (Continued)

#### 2) Renewable Fixed Price Option

The Renewable Fixed Price Option is based on Renewable Avoided Costs. It is available only to Renewable QFs that generate electricity from a renewable energy source that may be used by the Company to comply with the Oregon Renewable Portfolio Standard as set forth in ORS 469A.005 to 469A.210.

This option is available for a maximum term of 15 years. Prices will be as established at the time the Standard PPA is executed and will be equal to the Renewable Avoided Costs in Tables 4a and 4b, 5a and 5b, or 6a and 6b, depending on the type of QF, effective at execution. QFs using any resource type other than wind and solar are assumed to be Base Load QFs.

Sellers will retain all Environmental Attributes generated by the facility during the Renewable Resource Sufficiency Period. A Renewable QF choosing the Renewable Fixed Price Option must cede all RPS Attributes generated by the facility to the Company from the start of the Renewable Resource Deficiency Period through the remainder of the PPA term.

Prices paid to the Seller under the Renewable Fixed Price Option include adjustments for the capacity contribution of the QF resource type relative to that of the avoided proxy resource. Both Wind QF resources (Tables 5a and 5b) and the avoided proxy resource, the basis used to determine Renewable Avoided Costs for the Renewable Fixed Price Option, are assumed to have a capacity contribution to peak of 5%. The capacity contribution for Solar QF resources (Tables 6a and 6b) is assumed to be 5%. The capacity contribution for Base Load QF resources (Tables 4a and 4b) is assumed to be 100%.

The Renewable Avoided Costs during the Renewable Resource Deficiency Period reflect an increase for avoided wind integration costs, shown in Table 7.

Prices paid to the Seller under the Renewable Fixed Price Option for Wind QFs (Tables 5a and 5b) include a reduction for the wind integration costs in Table 7, which cancels out wind integration costs included in the Renewable Avoided Costs during the Renewable Resource Deficiency Period. However, if the Wind QF is outside of PGE's Balancing Authority Area as contemplated in the Commission's Order No. 14-058, the Seller is paid the wind integration charges in Table 7, in addition to the prices listed in Tables 5a and 5b.

Sellers with PPAs exceeding 15 years will receive pricing equal to the Mid-C Index Price for all years up to five in excess of the initial 15.

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)

Renewable Fixed Price Option (Continued)

TABLE 4a												
Renewable Avoided Costs												
Renewable Fixed Price Option for Base Load QF												
On-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	31.96	31.36	28.35	20.22	19.46	19.46	28.41	31.65	29.07	25.89	28.79	32.21
2018	32.63	32.02	28.95	20.66	19.89	19.89	29.01	32.31	29.68	26.44	29.40	32.88
2019	35.13	34.47	31.16	22.21	21.38	21.38	31.23	34.79	31.95	28.45	31.65	35.41
2020	105.59	105.58	104.91	105.31	108.12	107.33	107.05	106.95	105.82	104.97	105.70	104.81
2021	107.97	108.18	106.86	107.80	110.30	109.63	109.13	109.57	108.25	107.36	108.50	107.34
2022	110.29	110.18	108.51	110.03	112.64	111.74	111.34	111.31	110.35	109.47	110.72	109.45
2023	112.83	112.45	110.71	112.53	114.68	114.03	113.73	113.41	112.67	111.65	113.16	112.19
2024	114.30	114.43	112.71	114.48	116.87	115.98	115.88	115.65	115.49	113.39	114.27	114.38
2025	116.91	117.20	115.28	117.34	120.36	119.33	118.49	118.61	117.89	115.92	116.94	116.63
2026	119.80	119.51	118.23	120.15	124.05	121.00	121.00	121.36	121.11	118.42	120.03	119.20
2027	122.14	121.76	120.31	122.17	127.41	123.38	123.05	124.32	123.30	120.82	121.96	121.54
2028	124.42	123.50	121.73	124.67	129.54	125.27	125.89	125.90	125.14	123.37	124.32	123.63
2029	127.02	126.81	124.48	127.44	136.23	128.72	128.78	128.78	128.83	125.88	126.59	126.49
2030	129.65	129.39	127.38	129.92	139.73	132.73	130.84	130.74	131.95	128.33	128.82	128.86
2031	132.04	131.60	130.17	133.11	142.39	136.41	133.28	134.11	134.29	130.94	131.91	131.53
2032	134.05	133.61	132.16	135.15	144.58	138.50	135.32	136.16	136.35	132.94	133.93	133.54
2033	137.18	136.73	135.24	138.30	147.94	141.72	138.47	139.33	139.53	136.04	137.05	136.65
2034	139.98	139.52	138.00	141.12	150.95	144.61	141.30	142.17	142.37	138.82	139.85	139.44
2035	142.53	142.06	140.51	143.69	153.71	147.25	143.87	144.76	144.97	141.35	142.39	141.98
2036	144.86	144.38	142.81	146.04	156.22	149.66	146.23	147.13	147.34	143.66	144.72	144.30
2037	148.08	147.59	145.99	149.29	159.70	152.99	149.48	150.41	150.62	146.85	147.94	147.51
2038	150.94	150.44	148.81	152.17	162.78	155.94	152.36	153.31	153.52	149.69	150.80	150.36
2039	153.85	153.34	151.68	155.11	165.92	158.95	155.30	156.27	156.48	152.58	153.71	153.26
2040	156.54	156.02	154.33	157.81	168.81	161.72	158.01	158.99	159.21	155.24	156.39	155.94
2041	159.85	159.32	157.59	161.15	172.39	165.14	161.36	162.36	162.58	158.52	159.70	159.24

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Renewable Fixed Price Option (Continued)

TABLE 4b												
Renewable Avoided Costs												
Renewable Fixed Price Option for Base Load QF												
Off-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	25.07	26.91	24.49	15.91	12.17	10.50	17.91	24.41	24.31	22.38	24.83	26.92
2018	25.65	27.53	25.06	16.30	12.48	10.78	18.34	24.98	24.88	22.91	25.41	27.54
2019	28.18	30.25	27.52	17.84	13.62	11.73	20.10	27.43	27.32	25.14	27.91	30.27
2020	55.06	55.29	56.65	55.55	52.58	52.78	53.04	54.06	54.85	55.93	55.76	56.14
2021	56.97	56.29	57.78	56.57	54.03	54.07	54.64	54.94	55.96	57.75	55.61	57.11
2022	57.78	57.49	59.46	57.46	54.79	55.12	56.44	55.58	57.03	58.82	56.52	58.16
2023	58.53	58.57	60.63	59.03	55.13	56.16	57.38	56.90	58.03	60.02	57.37	59.34
2024	59.00	59.06	61.83	58.87	55.44	57.84	56.81	57.13	58.45	60.26	59.15	59.71
2025	60.20	60.19	63.12	59.74	55.43	58.15	58.02	58.89	58.99	61.58	61.14	60.59
2026	60.49	61.29	63.41	60.15	56.02	58.98	58.83	59.45	58.83	62.40	61.28	61.32
2027	62.57	62.55	64.16	61.72	55.88	60.06	60.36	59.81	60.16	64.24	62.01	62.45
2028	63.42	63.96	66.16	63.26	55.35	61.40	61.55	60.38	61.59	64.74	62.71	64.41
2029	63.86	64.58	67.38	64.49	51.11	61.67	62.62	61.41	62.76	65.44	64.59	65.53
2030	64.85	65.65	68.76	64.61	50.89	62.20	63.19	63.34	63.17	66.67	66.12	66.88
2031	66.26	67.30	69.67	64.93	51.92	62.00	64.53	64.67	63.31	67.77	67.62	66.96
2032	67.35	68.41	70.82	66.00	52.77	63.03	65.60	65.74	64.36	68.89	68.74	68.06
2033	68.84	69.92	72.38	67.46	53.94	64.42	67.05	67.19	65.78	70.41	70.26	69.57
2034	70.17	71.27	73.78	68.76	54.98	65.66	68.34	68.49	67.05	71.77	71.61	70.91
2035	71.52	72.65	75.20	70.09	56.04	66.93	69.66	69.81	68.34	73.16	73.00	72.28
2036	72.70	73.85	76.45	71.25	56.97	68.03	70.81	70.97	69.47	74.37	74.20	73.47
2037	74.31	75.48	78.13	72.82	58.22	69.54	72.37	72.53	71.01	76.01	75.84	75.10
2038	75.74	76.94	79.64	74.23	59.35	70.88	73.77	73.93	72.38	77.48	77.30	76.55
2039	77.20	78.42	81.18	75.66	60.49	72.25	75.20	75.36	73.77	78.97	78.80	78.02
2040	78.48	79.72	82.52	76.91	61.49	73.44	76.44	76.61	74.99	80.27	80.10	79.31
2041	80.21	81.48	84.34	78.61	62.85	75.06	78.13	78.30	76.65	82.05	81.87	81.06



**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Renewable Fixed Price Option (Continued)

TABLE 5a												
Renewable Avoided Costs												
Renewable Fixed Price Option for Wind QF												
On-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	28.05	27.45	24.44	16.31	15.55	15.55	24.50	27.74	25.16	21.98	24.88	28.30
2018	28.64	28.03	24.96	16.67	15.90	15.90	25.02	28.32	25.69	22.45	25.41	28.89
2019	31.06	30.40	27.09	18.14	17.31	17.31	27.16	30.72	27.88	24.38	27.58	31.34
2020	65.63	65.62	64.95	65.35	68.16	67.37	67.09	66.99	65.86	65.01	65.74	64.85
2021	67.13	67.33	66.01	66.95	69.45	68.79	68.28	68.73	67.40	66.52	67.66	66.49
2022	68.65	68.54	66.88	68.40	71.01	70.11	69.71	69.68	68.71	67.83	69.09	67.82
2023	70.27	69.89	68.16	69.98	72.13	71.48	71.17	70.85	70.12	69.10	70.60	69.63
2024	71.17	71.30	69.58	71.35	73.75	72.85	72.75	72.52	72.36	70.27	71.15	71.26
2025	72.83	73.12	71.19	73.26	76.28	75.24	74.41	74.52	73.80	71.83	72.86	72.55
2026	74.86	74.57	73.29	75.21	79.12	76.06	76.06	76.42	76.17	73.48	75.09	74.26
2027	76.34	75.95	74.50	76.36	81.61	77.57	77.25	78.51	77.50	75.01	76.15	75.73
2028	77.73	76.81	75.04	77.98	82.85	78.58	79.21	79.22	78.45	76.68	77.63	76.94
2029	79.43	79.22	76.89	79.86	88.64	81.13	81.20	81.20	81.24	78.29	79.00	78.91
2030	81.14	80.88	78.87	81.41	91.22	84.22	82.33	82.23	83.44	79.82	80.31	80.35
2031	82.59	82.15	80.72	83.66	92.94	86.96	83.83	84.66	84.84	81.49	82.46	82.08
2032	83.94	83.50	82.05	85.04	94.47	88.39	85.21	86.05	86.24	82.83	83.82	83.43
2033	85.81	85.36	83.88	86.93	96.58	90.36	87.11	87.97	88.16	84.68	85.69	85.29
2034	87.46	87.00	85.49	88.60	98.43	92.09	88.78	89.66	89.85	86.30	87.33	86.93
2035	89.16	88.68	87.14	90.32	100.34	93.88	90.50	91.39	91.59	87.97	89.02	88.61
2036	90.61	90.13	88.56	91.79	101.97	95.41	91.98	92.88	93.09	89.41	90.47	90.05
2037	92.63	92.14	90.53	93.83	104.24	97.53	94.02	94.95	95.16	91.40	92.49	92.06
2038	94.41	93.91	92.28	95.64	106.25	99.41	95.84	96.78	97.00	93.16	94.27	93.83
2039	96.24	95.73	94.07	97.49	108.31	101.33	97.69	98.65	98.87	94.96	96.09	95.65
2040	97.81	97.29	95.60	99.08	110.08	102.99	99.28	100.26	100.48	96.51	97.66	97.21
2041	99.99	99.46	97.73	101.29	112.53	105.29	101.50	102.50	102.73	98.67	99.84	99.38

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Renewable Fixed Price Option (Continued)

<b>TABLE 5b</b>												
<b>Renewable Avoided Costs</b>												
<b>Renewable Fixed Price Option for Wind QF</b>												
<b>Off-Peak Forecast (\$/MWH)</b>												
<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
2017	21.23	23.07	20.65	12.07	8.33	6.66	14.07	20.57	20.47	18.54	20.99	23.08
2018	21.74	23.62	21.15	12.39	8.57	6.87	14.43	21.07	20.97	19.00	21.50	23.63
2019	24.19	26.26	23.53	13.85	9.63	7.74	16.11	23.44	23.33	21.15	23.92	26.28
2020	50.91	51.14	52.50	51.40	48.43	48.63	48.89	49.91	50.70	51.78	51.61	51.99
2021	52.74	52.06	53.55	52.34	49.80	49.84	50.41	50.71	51.73	53.52	51.38	52.88
2022	53.47	53.18	55.15	53.15	50.48	50.81	52.13	51.27	52.72	54.51	52.21	53.85
2023	54.14	54.18	56.24	54.64	50.74	51.77	52.99	52.51	53.64	55.63	52.98	54.95
2024	54.53	54.59	57.36	54.40	50.97	53.37	52.34	52.66	53.98	55.79	54.68	55.24
2025	55.64	55.63	58.56	55.18	50.87	53.59	53.46	54.33	54.43	57.02	56.58	56.03
2026	55.84	56.64	58.76	55.50	51.37	54.33	54.18	54.80	54.18	57.75	56.63	56.67
2027	57.83	57.81	59.42	56.98	51.14	55.32	55.62	55.07	55.42	59.50	57.27	57.71
2028	58.59	59.13	61.33	58.43	50.52	56.57	56.72	55.55	56.76	59.91	57.88	59.58
2029	58.94	59.66	62.46	59.57	46.19	56.75	57.70	56.49	57.84	60.52	59.67	60.61
2030	59.83	60.63	63.74	59.59	45.87	57.18	58.17	58.32	58.15	61.65	61.10	61.86
2031	61.14	62.18	64.55	59.81	46.80	56.88	59.41	59.55	58.19	62.65	62.50	61.84
2032	62.14	63.20	65.61	60.79	47.56	57.82	60.39	60.53	59.15	63.68	63.53	62.85
2033	63.53	64.61	67.07	62.15	48.63	59.11	61.74	61.88	60.47	65.10	64.95	64.26
2034	64.75	65.85	68.36	63.34	49.56	60.24	62.92	63.07	61.63	66.35	66.19	65.49
2035	66.00	67.13	69.68	64.57	50.52	61.41	64.14	64.29	62.82	67.64	67.48	66.76
2036	67.07	68.22	70.82	65.62	51.34	62.40	65.18	65.34	63.84	68.74	68.57	67.84
2037	68.57	69.74	72.39	67.08	52.48	63.80	66.63	66.79	65.27	70.27	70.10	69.36
2038	69.89	71.09	73.79	68.38	53.50	65.03	67.92	68.08	66.53	71.63	71.45	70.70
2039	71.24	72.46	75.22	69.70	54.53	66.29	69.24	69.40	67.81	73.01	72.84	72.06
2040	72.40	73.64	76.44	70.83	55.41	67.36	70.36	70.53	68.91	74.19	74.02	73.23
2041	74.02	75.29	78.15	72.42	56.66	68.87	71.94	72.11	70.46	75.86	75.68	74.87

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Renewable Fixed Price Option (Continued)

<b>TABLE 6a</b>												
<b>Renewable Avoided Costs</b>												
<b>Renewable Fixed Price Option for Solar QF</b>												
<b>On-Peak Forecast (\$/MWH)</b>												
<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
2017	31.96	31.36	28.35	20.22	19.46	19.46	28.41	31.65	29.07	25.89	28.79	32.21
2018	32.63	32.02	28.95	20.66	19.89	19.89	29.01	32.31	29.68	26.44	29.40	32.88
2019	35.13	34.47	31.16	22.21	21.38	21.38	31.23	34.79	31.95	28.45	31.65	35.41
2020	68.87	68.85	68.18	68.58	71.40	70.61	70.33	70.23	69.09	68.24	68.98	68.09
2021	70.42	70.63	69.31	70.25	72.74	72.08	71.57	72.02	70.70	69.81	70.95	69.79
2022	72.01	71.90	70.23	71.76	74.37	73.47	73.07	73.04	72.07	71.19	72.44	71.17
2023	73.69	73.31	71.57	73.39	75.54	74.89	74.59	74.27	73.53	72.51	74.02	73.05
2024	74.65	74.79	73.07	74.84	77.23	76.33	76.24	76.01	75.85	73.75	74.63	74.74
2025	76.38	76.67	74.74	76.81	79.83	78.79	77.96	78.07	77.35	75.38	76.41	76.10
2026	78.48	78.19	76.91	78.83	82.74	79.68	79.68	80.04	79.79	77.11	78.71	77.88
2027	80.03	79.64	78.19	80.05	85.30	81.26	80.94	82.20	81.19	78.71	79.84	79.42
2028	81.49	80.57	78.80	81.74	86.61	82.35	82.97	82.98	82.21	80.45	81.39	80.71
2029	83.26	83.05	80.72	83.69	92.47	84.96	85.03	85.03	85.07	82.12	82.83	82.74
2030	85.04	84.79	82.78	85.32	95.13	88.13	86.24	86.14	87.35	83.73	84.22	84.26
2031	86.57	86.14	84.71	87.65	96.93	90.95	87.82	88.65	88.83	85.48	86.45	86.07
2032	88.01	87.56	86.11	89.10	98.54	92.45	89.27	90.11	90.30	86.90	87.88	87.49
2033	89.95	89.49	88.01	91.06	100.71	94.49	91.24	92.10	92.29	88.81	89.82	89.42
2034	91.68	91.22	89.70	92.82	102.65	96.31	93.00	93.87	94.07	90.52	91.55	91.14
2035	93.45	92.98	91.44	94.61	104.63	98.17	94.80	95.69	95.89	92.27	93.32	92.91
2036	95.00	94.52	92.95	96.18	106.36	99.79	96.36	97.27	97.48	93.80	94.86	94.44
2037	97.10	96.61	95.00	98.30	108.71	102.00	98.49	99.42	99.63	95.87	96.96	96.53
2038	98.97	98.47	96.84	100.20	110.81	103.97	100.39	101.34	101.55	97.72	98.83	98.39
2039	100.88	100.37	98.71	102.13	112.95	105.97	102.33	103.29	103.51	99.60	100.74	100.29
2040	102.54	102.02	100.33	103.82	114.81	107.72	104.02	105.00	105.22	101.25	102.40	101.94
2041	104.81	104.28	102.55	106.11	117.35	110.10	106.32	107.32	107.55	103.49	104.66	104.20

**SCHEDULE 201 (Continued)**

PRICING OPTIONS FOR STANDARD PPA (Continued)  
Renewable Fixed Price Option (Continued)

TABLE 6b												
Renewable Avoided Costs												
Renewable Fixed Price Option for Solar QF												
Off-Peak Forecast (\$/MWH)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	25.07	26.91	24.49	15.91	12.17	10.50	17.91	24.41	24.31	22.38	24.83	26.92
2018	25.65	27.53	25.06	16.30	12.48	10.78	18.34	24.98	24.88	22.91	25.41	27.54
2019	28.18	30.25	27.52	17.84	13.62	11.73	20.10	27.43	27.32	25.14	27.91	30.27
2020	55.06	55.29	56.65	55.55	52.58	52.78	53.04	54.06	54.85	55.93	55.76	56.14
2021	56.97	56.29	57.78	56.57	54.03	54.07	54.64	54.94	55.96	57.75	55.61	57.11
2022	57.78	57.49	59.46	57.46	54.79	55.12	56.44	55.58	57.03	58.82	56.52	58.16
2023	58.53	58.57	60.63	59.03	55.13	56.16	57.38	56.90	58.03	60.02	57.37	59.34
2024	59.00	59.06	61.83	58.87	55.44	57.84	56.81	57.13	58.45	60.26	59.15	59.71
2025	60.20	60.19	63.12	59.74	55.43	58.15	58.02	58.89	58.99	61.58	61.14	60.59
2026	60.49	61.29	63.41	60.15	56.02	58.98	58.83	59.45	58.83	62.40	61.28	61.32
2027	62.57	62.55	64.16	61.72	55.88	60.06	60.36	59.81	60.16	64.24	62.01	62.45
2028	63.42	63.96	66.16	63.26	55.35	61.40	61.55	60.38	61.59	64.74	62.71	64.41
2029	63.86	64.58	67.38	64.49	51.11	61.67	62.62	61.41	62.76	65.44	64.59	65.53
2030	64.85	65.65	68.76	64.61	50.89	62.20	63.19	63.34	63.17	66.67	66.12	66.88
2031	66.26	67.30	69.67	64.93	51.92	62.00	64.53	64.67	63.31	67.77	67.62	66.96
2032	67.35	68.41	70.82	66.00	52.77	63.03	65.60	65.74	64.36	68.89	68.74	68.06
2033	68.84	69.92	72.38	67.46	53.94	64.42	67.05	67.19	65.78	70.41	70.26	69.57
2034	70.17	71.27	73.78	68.76	54.98	65.66	68.34	68.49	67.05	71.77	71.61	70.91
2035	71.52	72.65	75.20	70.09	56.04	66.93	69.66	69.81	68.34	73.16	73.00	72.28
2036	72.70	73.85	76.45	71.25	56.97	68.03	70.81	70.97	69.47	74.37	74.20	73.47
2037	74.31	75.48	78.13	72.82	58.22	69.54	72.37	72.53	71.01	76.01	75.84	75.10
2038	75.74	76.94	79.64	74.23	59.35	70.88	73.77	73.93	72.38	77.48	77.30	76.55
2039	77.20	78.42	81.18	75.66	60.49	72.25	75.20	75.36	73.77	78.97	78.80	78.02
2040	78.48	79.72	82.52	76.91	61.49	73.44	76.44	76.61	74.99	80.27	80.10	79.31
2041	80.21	81.48	84.34	78.61	62.85	75.06	78.13	78.30	76.65	82.05	81.87	81.06

SCHEDULE 201 (Continued)

WIND INTEGRATION

<b>TABLE 7</b>	
<b>Wind Integration</b>	
<b>Year</b>	<b>Cost</b>
2015	3.77
2016	3.84
2017	3.91
2018	3.99
2019	4.07
2020	4.15
2021	4.23
2022	4.31
2023	4.39
2024	4.47
2025	4.56
2026	4.65
2027	4.74
2028	4.83
2029	4.92
2030	5.02
2031	5.12
2032	5.21
2033	5.31
2034	5.42
2035	5.52
2036	5.63
2037	5.74
2038	5.85
2039	5.96
2040	6.08

## **SCHEDULE 201 (Continued)**

### **MONTHLY SERVICE CHARGE**

Each separately metered QF not associated with a retail Customer account will be charged \$10.00 per month.

### **INSURANCE REQUIREMENTS**

The following insurance requirements are applicable to Sellers with a Standard PPA:

- 1) QFs with nameplate capacity ratings greater than 200 kW are required to secure and maintain a prudent amount of general liability insurance. The Seller must certify to the Company that it is maintaining general liability insurance coverage for each QF at prudent amounts. A prudent amount will be deemed to mean liability insurance coverage for both bodily injury and property damage liability in the amount of not less than \$1,000,000 each occurrence combined single limit, which limits may be required to be increased or decreased by the Company as the Company determines in its reasonable judgment, that economic conditions or claims experience may warrant.
- 2) Such insurance will include an endorsement naming the Company as an additional insured insofar as liability arising out of operations under this schedule and a provision that such liability policies will not be canceled or their limits reduced without 30 days' written notice to the Company. The Seller will furnish the Company with certificates of insurance together with the endorsements required herein. The Company will have the right to inspect the original policies of such insurance.
- 3) QFs with a design capacity of 200 kW or less are encouraged to pursue liability insurance on their own. The Oregon Public Utility Commission in Order No. 05-584 determined that it is inappropriate to require QFs that have a design capacity of 200 kW or less to obtain general liability insurance.

### **TRANSMISSION AGREEMENTS**

If the QF is located outside the Company's service territory, the Seller is responsible for the transmission of power at its cost to the Company's service territory.

### **INTERCONNECTION REQUIREMENTS**

Except as otherwise provided in a generation Interconnection Agreement between the Company and Seller, if the QF is located within the Company's service territory, switching equipment capable of isolating the QF from the Company's system will be accessible to the Company at all times. At the Company's option, the Company may operate the switching equipment described above if, in the sole opinion of the Company, continued operation of the QF in connection with the utility's system may create or contribute to a system emergency.

## **SCHEDULE 201 (Continued)**

### **INTERCONNECTION REQUIREMENTS (Continued)**

The QF owner interconnecting with the Company's distribution system must comply with all requirements for interconnection as established pursuant to Commission rule, in the Company's Rules and Regulations (Rule C) or the Company's Interconnection Procedures contained in its FERC Open Access Transmission Tariff (OATT), as applicable. The Seller will bear full responsibility for the installation and safe operation of the interconnection facilities.

### **DEFINITION OF A SMALL COGENERATION FACILITY OR SMALL POWER PRODUCTION FACILITY ELIGIBLE TO RECEIVE PRICING UNDER THE STANDARD PPA**

A QF will be eligible to receive pricing under the Standard PPA if the nameplate capacity of the QF, together with any other electric generating facility using the same motive force, owned or controlled by the Same Person(s) or Affiliated Person(s), and located at the Same Site, does not exceed 10 MW. A Community-Based or Family-Owned QF is exempt from these restrictions.

#### **Definition of Community-Based**

- a. A community project (or a community sponsored project) must have a recognized and established organization located within the county of the project or within 50 miles of the project that has a genuine role in helping the project be developed and must have some not insignificant continuing role with or interest in the project after it is completed and placed in service.
- b. After excluding the passive investor whose ownership interests are primarily related to green tag values and tax benefits as the primary ownership benefit, the equity (ownership) interests in a community sponsored project must be owned in substantial percentage (80 percent or more) by the following persons (individuals and entities): (i) the sponsoring organization, or its controlled affiliates; (ii) members of the sponsoring organization (if it is a membership organization) or owners of the sponsorship organization (if it is privately owned); (iii) persons who live in the county in which the project is located or who live a county adjoining the county in which the project is located; or (iv) units of local government, charities, or other established nonprofit organizations active either in the county in which the project is located or active in a county adjoining the county in which the project is located.

#### **Definition of Family-Owned**

After excluding the ownership interest of the passive investor whose ownership interests are primarily related to green tag values and tax benefits as the primary ownership benefit, five or fewer individuals own 50 percent or more of the equity of the project entity, or fifteen or fewer individuals own 90 percent or more of the project entity. A "look through" rule applies to closely held entities that hold the project entity, so that equity held by LLCs, trusts, estates, corporations, partnerships or other similar entities is considered held by the equity owners of the look through entity. An individual is a natural person. In counting to five or fifteen, spouses or children of an equity owner of the project owner who also have an equity interest are aggregated and counted as a single individual.

**SCHEDULE 201 (Continued)**

**DEFINITION OF A SMALL COGENERATION FACILITY OR SMALL POWER PRODUCTION FACILITY ELIGIBLE TO RECEIVE PRICING UNDER THE STANDARD PPA (Continued)**

**Definition of Person(s) or Affiliated Person(s)**

As used above, the term “Same Person(s)” or “Affiliated Person(s)” means a natural person or persons or any legal entity or entities sharing common ownership, management or acting jointly or in concert with or exercising influence over the policies or actions of another person or entity. However, two facilities will not be held to be owned or controlled by the Same Person(s) or Affiliated Person(s) solely because they are developed by a single entity.

Furthermore, two facilities will not be held to be owned or controlled by the Same Person(s) or Affiliated Person(s) if such common person or persons is a “passive investor” whose ownership interest in the QF is primarily related to utilizing production tax credits, green tag values and MACRS depreciation as the primary ownership benefit and the facilities at issue are independent family-owned or community-based projects. A unit of Oregon local government may also be a “passive investor” in a community-based project if the local governmental unit demonstrates that it will not have an equity ownership interest in or exercise any control over the management of the QF and that its only interest is a share of the cash flow from the QF, which share will not exceed 20%. The 20% cash flow share limit may only be exceeded for good cause shown and only with the prior approval of the Commission.

**Definition of Same Site**

For purposes of the foregoing, generating facilities are considered to be located at the same site as the QF for which qualification for pricing under the Standard PPA is sought if they are located within a five-mile radius of any generating facilities or equipment providing fuel or motive force associated with the QF for which qualification for pricing under the Standard PPA is sought.

**Definition of Shared Interconnection and Infrastructure**

QFs otherwise meeting the above-described separate ownership test and thereby qualified for entitlement to pricing under the Standard PPA will not be disqualified by utilizing an interconnection or other infrastructure not providing motive force or fuel that is shared with other QFs qualifying for pricing under the Standard PPA so long as the use of the shared interconnection complies with the interconnecting utility’s safety and reliability standards, interconnection agreement requirements and Prudent Electrical Practices as that term is defined in the interconnecting utility’s approved Standard PPA.

**OTHER DEFINITIONS**

**Mid-C Index Price**

As used in this schedule, the daily Mid-C Index Price shall be the Day Ahead Intercontinental Exchange (“ICE”) for the bilateral OTC market for energy at the Mid-C Physical for Average



**SCHEDULE 201 (Continued)**

OTHER DEFINITIONS (Continued)

On-Peak Power and Average Off-Peak Power found on the following website: <https://www.theice.com/products/OTC/Physical-Energy/Electricity>. In the event ICE no longer publishes this index, PGE and the Seller agree to select an alternative successor index representative of the Mid-C trading hub.

**Definition of RPS Attributes**

As used in this schedule, 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.

**Definition of Environmental Attributes**

As used in this schedule, 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 (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and other pollutants; and (2) any avoided emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), 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.

**Definition of Resource Sufficiency Period**

This is the period from the current year through 2020.

**Definition of Resource Deficiency Period**

This is the period from 2021 through 2034.

**Definition of Renewable Resource Sufficiency Period**

This is the period from the current year through 2019.

**Definition of Renewable Resource Deficiency Period**

This is the period from 2020 through 2034.

**SCHEDULE 201 (Concluded)**

**DISPUTE RESOLUTION**

Upon request, the QF will provide the purchasing utility with documentation verifying the ownership, management and financial structure of the QF in reasonably sufficient detail to allow the utility to make an initial determination of whether or not the QF meets the above-described criteria for entitlement to pricing under the Standard PPA.

The QF may present disputes to the Commission for resolution using the following process:

The QF may file a complaint asking the Commission to adjudicate disputes regarding the formation of the standard contract. The QF may not file such a complaint during any 15-day period in which the utility has the obligation to respond, but must wait until the 15-day period has passed.

The utility may respond to the complaint within ten days of service.

The Commission will limit its review to the issues identified in the complaint and response, and utilize a process similar to the arbitration process adopted to facilitate the execution of interconnection agreements among telecommunications carriers. See OAR 860, Division 016. The administrative law judge will not act as an arbitrator.

**SPECIAL CONDITIONS**

1. Delivery of energy by Seller will be at a voltage, phase, frequency, and power factor as specified by the Company.
2. If the Seller also receives retail Electricity Service from the Company at the same location, any payments under this schedule will be credited to the Seller's retail Electricity Service bill. At the option of the Customer, any net credit over \$10.00 will be paid by check to the Customer.
3. Unless required by state or federal law, if the 1978 Public Utility Regulatory Policies Act (PURPA) is repealed, PPAs entered into pursuant to this schedule will not terminate prior to the Standard or Negotiated PPA's termination date.

**TERM OF AGREEMENT**

Not less than one year and not to exceed 20 years.