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May 11, 2020

Via Electronic Filing

Public Utility Commission of Oregon
Attn: Filing Center
PO Box 1088
Salem, OR 97308-1088

Re: UM 2074 - Zena Solar, LLC v. Portland General Electric Company

Attention Filing Center:

Enclosed for filing today in the above-named docket is Portland General Electric Company's Answer, Affirmative Defenses and Counterclaim.

Thank you for your assistance.

Very truly yours,

Jeffrey S. Lovinger

Attachment
993149

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 2074

ZENA SOLAR, LLC, Complainant, vs. PORTLAND GENERAL ELECTRIC COMPANY, Defendant.	**PORTLAND GENERAL ELECTRIC COMPANY'S ANSWER, AFFIRMATIVE DEFENSES, AND COUNTERCLAIM**

Pursuant to ORS 756.512 and OAR 860-001-0400, defendant Portland General Electric Company ("PGE") submits the following answer, affirmative defenses, and counterclaim ("Answer") to the complaint ("Complaint") filed by Zena Solar, LLC ("Zena Solar" or "Complainant") on March 27, 2020.

I. INTRODUCTION

This case involves an interconnection request under the Public Utility Commission of Oregon's ("Commission") small generator interconnection rules. Zena Solar has applied to interconnect a 2.5-megawatt solar project ("Project") to PGE's Wallace-13 feeder ("Feeder"), located near Kaiser, Oregon. PGE has complied with all of the Commission's interconnection rules. Zena Solar's claims for relief are without merit and should be denied. PGE has asserted a counterclaim asking the Commission to hold that Zena Solar's interconnection request is withdrawn by operation of OAR 860-082-0025(7)(e) because Zena Solar has refused to timely sign and return an interconnection agreement.

A. Facts of the Case

PGE has provided Zena Solar with interconnection studies that meet all requirements under the Commission's rules. On October 15, 2019, PGE provided Zena Solar with a facilities study (the "Zena Solar Facility Study") containing a good faith estimate of the cost of interconnection facilities and system upgrades ($804,926.00). On November 12, 2019, PGE provided Zena Solar an executable interconnection agreement based on this good faith cost estimate.

On December 4, 2020, PGE offered to enter into a new system impact study agreement with Zena Solar and to conduct a new system impact study of the Zena Solar project. PGE made this offer because Zena Solar objected to PGE using a November 6, 2018, system impact study originally performed for project SPQ0129 (the "SPQ0129 SIS") when PGE conducted the Zena Solar Facility Study. PGE's reliance on the SPQ0129 SIS was reasonable and appropriate.[1] However, to address Zena Solar's objection, PGE offered to conduct a new system impact study of the Zena Solar project. On December 4, 2020, Zena Solar rejected this offer.

PGE provided Zena Solar with an executable interconnection agreement on November 12, 2019. Pursuant to OAR 860-082-0025(7)(e), Zena Solar had 15 business days (PGE gave Zena Solar until December 5, 2019) to execute the interconnection agreement or to make a request to negotiate a nonstandard interconnection agreement, otherwise Zena Solar's application would be deemed withdrawn by operation of the rule. On December 5, 2020, Zena Solar requested to negotiate a nonstandard interconnection agreement.

[1] PGE relied on the SPQ0129 SIS because the SPQ0129 project and the Zena Solar project are functionally equivalent for purposes of a system impact study. They both have the same key inputs – the same nameplate capacity (2.5-megawatts), the same generation technology (solar photovoltaic), effectively the same point of interconnection (within one span on the Wallace-13 feeder). As a result, PGE expects the results of a system impact study on one project to be the same as the results of a system impact study on the other project, provided both are studied in the same queue position. When PGE was conducting the facilities study for Zena Solar, higher-queued project SPQ0140 withdrew from the queue. This caused Zena Solar to move from the second queue position to the first queue position. PGE realized that it did not need to conduct a new system impact study on Zena Solar in the first queue position because it already had the SPQ0129 SIS which studied a functionally equivalent project in the first queue position.

On January 10, 2020, Zena Solar proposed a nonstandard interconnection agreement. On January 31, 2020, PGE provided a detailed response to each of the proposed nonstandard terms and concluded that Zena Solar's proposal was unreasonable and unacceptable. As part of its January 31, 2020, response PGE enclosed another executable interconnection agreement and stated that Zena Solar had 15 business days to execute the interconnection agreement or Zena Solar's application would be deemed withdrawn by operation of rule.

Zena Solar did not make any further attempt to negotiate a nonstandard interconnection agreement. Instead, on February 10, 2020, Zena Solar's counsel sent PGE a letter threatening to file a complaint with the Commission unless PGE satisfied six demands. PGE agreed to extend the deadline to execute the interconnection agreement until March 20, 2020, so that PGE would have time to respond to the demand letter. On February 26, 2020, PGE provided a response that discussed each demand and explained why none of the demands had merit. PGE enclosed an executable interconnection agreement and reminded Zena Solar that it had until March 20, 2020, to execute the agreement or its application would be deemed withdrawn by operation of rule.

On March 16, 2020, Zena Solar sent PGE a second demand letter. In this letter, Zena Solar for the first time indicated it wanted to perform an independent system impact study of the type referenced in OAR 860-082-0060(7)(h). PGE agreed to extend the deadline to execute the interconnection agreement until March 27, 2020, so that PGE would have time to respond to the second demand letter. PGE responded on March 24, 2020, and noted that it was too late in the interconnection process to conduct an independent system impact study. Asking to conduct an independent system impact study five months *after* the utility has completed all interconnection studies is well beyond the point in the process where the Commission's rules require the utility to consider and address any alternative findings from an independent system impact study.

On March 25, 2020, Zena Solar sent PGE a third demand letter and PGE responded March 26, 2020, without extending the March 27, 2020, deadline to execute the interconnection agreement. On March 27, 2020, Zena Solar did not execute the interconnection agreement; instead, Zena Solar filed its complaint and a motion for interim relief and preliminary injunction.

B. Zena Solar's Motion for Interim Relief and Preliminary Injunction

PGE intends to oppose the motion for interim relief and preliminary injunction. Zena Solar has failed to demonstrate it will be irreparably harmed if it is removed from the queue. If Zena Solar prevails in this litigation, which is unlikely, PGE can reinstate Zena Solar to its former queue position and Zena Solar will be in no worse position than if it had remained in the queue during the litigation. Indeed, Zena Solar's position may improve because if any lower-queued project interconnects while Zena Solar is out of the queue, that lower-queued project likely will be required to pay for substation improvements that will benefit Zena Solar when it rejoins the queue and which Zena Solar would have otherwise had to pay for if it remained in the first queue position.

Allowing Zena Solar to remain in the queue during this litigation is contrary to OAR 860-082-0025(7)(e) and will delay and harm lower-queued project SPQ0240 and any other project that may apply to interconnect to the Wallace-13 feeder. This delay could also harm PGE and its customers if lower queued projects seek an extension of their power purchase agreements to "compensate" for interconnection delays. PGE reserves the right to raise these and any other arguments in its May 29, 2020, response opposing the motion for interim relief and preliminary injunction.

C. Zena Solar's Complaint

All claims for relief and prayers for relief asserted in Zena Solar's Complaint are without merit and should be denied. PGE has not violated any of the Commission's rules or orders or any statute administered by the Commission.

Zena Solar's first five claims are based on Zena Solar's assertion that the Zena Solar Facility Study does not provide results for the Zena Solar Project because the facilities study relied on the SPQ0129 SIS. This argument is without merit because the SPQ0129 SIS does effectively evaluate the adverse system impacts expected from a project with the Zena Solar Project's characteristics in the first queue position. The argument is also without merit because Zena Solar rejected PGE's offer to conduct a new Zena Solar SIS and Zena Solar is therefore estopped from arguing that a new Zena Solar SIS is necessary.

Zena Solar's sixth and seventh claims for relief misconstrue the Commission's small generator interconnection rules. The sixth claim is without merit because there is no right under the rules to conduct an independent system impact study after the utility has completed all interconnection studies and issued an interconnection agreement. The seventh claim is without merit because there is no requirement under the rules that PGE agree to allow an applicant to hire a third-party consultant to complete the interconnection studies in lieu of the utility completing the studies.

Zena Solar's eighth claim for relief misconstrues the standard power purchase agreement between the parties (the "PPA"). Section 2.2.3 of the PPA does not compel PGE to agree to amend the PPA to extend the scheduled commercial operation date.

Zena Solar's ninth claim for relief fails because PGE did not discriminate against Zena Solar. Differences in results between studies for SPQ0129, SPQ0140, and Zena Solar do not reflect undue prejudice or preference, they reflect the fact that the projects have different

characteristics, were at different stages in the interconnection study process, had cost estimates that were conducted at different times, or a combination of these factors.

PGE reserves the right to advance these and all other arguments and defenses PGE has against the claims for relief and prayers for relief found in the Complaint.

D. PGE's Counterclaim

By this pleading PGE also asserts a counterclaim seeking an order from the Commission that because Zena Solar did not execute the interconnection agreement by March 27, 2020, Zena Solar's application is deemed withdrawn by operation of OAR 860-082-0025(7)(e).

PGE provided Zena Solar with an executable standard interconnection agreement on February 26, 2020. PGE agreed to extend the deadline to execute the February 26, 2020, interconnection agreement until March 27, 2020. Zena Solar did not execute the agreement or request to negotiate a nonstandard interconnection agreement on or before March 27, 2020. Because Zena Solar did not timely execute the standard interconnection agreement, the Commission should conclude that Zena Solar's application is deemed withdrawn by operation of OAR 860-082-0025(7)(e). Without a pending interconnection application, all of Zena Solar's claims for relief in the Complaint are moot.

II. SERVICE

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

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Assistant General Counsel
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III. ANSWER

PGE denies all allegations contained in the Complaint except as hereafter expressly admitted.

Unless otherwise specified, the capitalized term "Paragraph" refers to the numbered paragraphs of the Complaint beginning on page six of the Complaint.

The first five 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 dispositive motion practice, through declarations, written testimony or mutually agreed statement of undisputed facts or, if needed, at a hearing and briefing 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 or legal arguments. If the Commission deems that responses are required in such instances, then PGE denies the allegations in question.

Some of the numbered Paragraphs in the Complaint characterize the contents of an interconnection study or the contents of written communications exchanged by the parties. In answer to some of those numbered Paragraphs, PGE has noted that a copy of the interconnection study or the written communications have been submitted to the Commission as exhibits to this Answer. In those instances, PGE denies all the allegations in the associated numbered Paragraphs except to the extent that PGE expressly admits an allegation. The exhibits submitted by PGE are true and correct copies of the interconnection studies or of the information exchanged by the

parties.[2] While the exhibits are true and correct copies, this does not mean that PGE agrees with all positions stated in the communications attached as exhibits or that all exhibits were free from errors when originally created or communicated. PGE reserves the right to provide testimony, declarations, or other evidence regarding the accuracy of the information contained in any exhibit.

In response to the numbered Paragraphs of the Complaint, PGE answers as follows:

IDENTITY OF THE PARTIES

1. PGE admits the allegations 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 in Paragraph 3 constitute legal conclusions or legal argument to which no response is required.

4. The allegations in Paragraph 4 constitute legal conclusions or legal argument to which no response is required.

JURISDICTION

5. The allegations in Paragraph 5 constitute legal conclusions or legal arguments to which no response is required.

6. The allegations in Paragraph 6 constitute legal conclusions or legal arguments to which no response is required.

7. The allegations in Paragraph 7 constitute legal conclusions or legal arguments to which no response is required.

[2] Some of the communications submitted as exhibits to this Answer are email that are part of a larger email string. In the interest of space and relevance, PGE is not attaching the entire email string, but only the specific email in question.

8. The allegations in Paragraph 8 constitute legal conclusions or legal arguments to which no response is required.

9. The allegations in Paragraph 9 constitute legal conclusions or legal arguments to which no response is required.

FACTUAL BACKGROUND

10. PGE admits Complainant proposes to construct a 2.5-megawatt ("MW") nameplate capacity solar generation facility located in Polk County, Oregon (the "Zena Solar Project").

11. PGE admits Complainant applied to interconnect the proposed Zena Solar Project to PGE's system.

12. PGE admits Complainant submitted an interconnection application to PGE on February 7, 2018.

13. PGE admits the allegations in Paragraph 13.

14. PGE admits that on or about February 19, 2018, Zena Solar and PGE conducted an interconnection scoping meeting via conference call.

15. PGE admits the allegations in Paragraph 15.

16. PGE admits that on or about May 24, 2018, PGE provided a Feasibility Study to Zena Solar.

17. PGE admits the allegations in Paragraph 17.

18. PGE admits the allegations in Paragraph 18.

19. PGE admits the allegations in Paragraph 19.

20. PGE admits the allegations in Paragraph 20.

21. PGE admits the allegations in Paragraph 21.

22. PGE denies the allegations in Paragraph 22.

23. PGE admits the allegations in Paragraph 23

24. PGE admits the allegations in Paragraph 24.

25. PGE denies the allegations in Paragraph 25.

26. PGE denies the allegations in the first sentence of Paragraph 26. PGE admits the allegations in the second sentence of Paragraph 26.

27. PGE denies the allegations in Paragraph 27.

28. PGE denies the allegations in Paragraph 28.

29. PGE admits that while it was conducting an SIS for SPQ0140, PGE temporarily concluded that a reconductor would be required as part of the interconnection facilities or system upgrades for SPQ0129 due to overvoltage and that PGE alerted SPQ0129 about this conclusion. PGE denies any other allegations in Paragraph 29.

30. PGE admits SPQ0129 withdrew from the queue on or about February 4, 2019. PGE denies the withdrawal of SPQ0129 from the queue prompted the second system impact studies of SPQ0140 and Zena Solar.

31. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 31 and therefore denies them.

32. The allegations in Paragraph 32 characterize the content of a February 22, 2019, email from PGE to Mr. Nelson (the "February 22 Email"). A copy of the February 22 Email is attached to this Answer as Exhibit 1.

33. The allegations in Paragraph 33 characterize the content of the February 22 Email which is attached as Exhibit 1.

34. The allegations in Paragraph 34 characterize the content of an April 26, 2019, email from PGE to Complainant (the "April 26 Email"). A copy of the April 26 Email is attached to this Answer as Exhibit 2.

35. The allegations in Paragraph 35 characterize the April 26 Email which is attached as Exhibit 2.

36. The allegations in Paragraph 36 characterize the April 26 Email which is attached as Exhibit 2.

37. PGE admits the allegations in Paragraph 37.

38. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 38 and therefore denies them.

39. PGE admits the allegations in Paragraph 39.

40. The allegations in Paragraph 40 characterize the content of the April 26 Email which is attached as Exhibit 2.

41. PGE admits the allegations in Paragraph 41.

42. The allegations in Paragraph 42 characterize the content of a June 7, 2019, email from PGE to Complainant (the "June 7 Email"). A copy of the June 7 Email is attached to this Answer as Exhibit 3.

43. The allegations in Paragraph 43 characterize the content of the June 7 Email, which is attached as Exhibit 3.

44. The allegations in Paragraph 44 characterize the content of the June 7 Email, which is attached as Exhibit 3. PGE notes that the June 7 Email contains a typographical error; the June 7 Email contains the phrase "lower queue positions" when the phrase "higher queue positions" was intended.

45. PGE admits the allegation in Paragraph 45.

46. PGE admits the allegation in Paragraph 46.

47. PGE admits the allegation in Paragraph 47.

48. PGE admits the allegations in Paragraph 48.

49. PGE denies the allegations in Paragraph 49.

50. The allegations in Paragraph 50 characterize the contents of PGE's second Zena Solar system impact study dated June 27, 2019 ("the Second Zena Solar SIS") which is attached to this answer as Exhibit 18.

51. The allegations in Paragraph 51 characterize the contents of the Second Zena Solar SIS which is attached to this answer as Exhibit 18.

52. PGE denies the allegations in Paragraph 52.

53. PGE admits that SPQ0140 was deemed withdrawn from the queue on or about July 26, 2019.

54. PGE denies the allegations in Paragraph 54.

55. PGE admits the allegations in Paragraph 55.

56. Paragraph 56 characterizes the contents of a November 5, 2019, email from Zena Solar representative Jonathon Nelson to PGE (the "November 5 Email"). A copy of the November 5 Email is attached to this Answer as Exhibit 4.

57. PGE admits that from November 6, 2019, to November 18, 2018, PGE and Zena Solar representative Jonathon Nelson exchanged at least seven emails regarding the Zena Solar interconnection request.

58. PGE denies any allegations in Paragraph 58 that the Second Zena Solar SIS did not comply with the Commission's small generator interconnection rules. The allegations contained

in Paragraph 58 are too vague and indefinite to allow PGE to understand which statements Complainant is characterizing and PGE therefore denies all allegations in Paragraph 58.

59. PGE admits that on November 12, 2019, PGE provided an executable standard interconnection agreement ("IA") to Complainant.

60. PGE admits the executable IA it provided to Zena Solar on November 12, 2019, contained the same estimate of costs found in the Zena Solar Facility Study.

61. PGE denies the allegations in Paragraph 61.

62. PGE admits the SPQ0140 application was deemed withdrawn by operation of rule on or about July 26, 2019. PGE admits Zena Solar executed a facilities study agreement with PGE on July 17, 2019. PGE admits that July 26, 2019, is less than 10 days after July 17, 2019.

63. PGE denies the allegations in Paragraph 63.

64. The allegations in Paragraph 64 characterize the content of a November 20, 2019, email from PGE to Zena Solar (the "November 20 Email"). A copy of the November 20 Email is attached to this Answer as Exhibit 5.

65. The allegations in Paragraph 65 characterize the content of a November 27, 2019, email from Zena Solar to PGE (the "November 27 Email"). A copy of the November 27 Email is attached to this Answer as Exhibit 6.

66. The allegations in Paragraph 66 characterize the content of the November 27 Email, which is attached as Exhibit 6.

67. The allegations in Paragraph 67 characterize the content of the November 27 Email, which is attached as Exhibit 6.

68. The allegations in Paragraph 68 characterize the content of the November 27 Email, which is attached as Exhibit 6.

69. The allegations in Paragraph 69 characterize the content of the November 20 Email, which is attached as Exhibit 5.

70. The allegations in Paragraph 70 constitute legal conclusions or legal argument to which no response is required.

71. The allegations in Paragraph 71 characterize the content of the November 20 Email, which is attached as Exhibit 5.

72. The allegations in Paragraph 72 characterize the content of the November 20 Email, which is attached as Exhibit 5.

73. PGE admits the allegations in Paragraph 73.

74. PGE denies any allegation in Paragraph 74 that PGE has not informed Zena Solar that PGE decided to use the SPQ0129 SIS as a system impact analysis for the Zena Solar Facility Study. PGE admits it informed Zena Solar of this decision after PGE issued the Zena Solar Facility Study.

75. PGE admits it did not ask Zena Solar if Zena Solar wanted PGE to perform a new (third) system impact study before PGE decided to use the SPQ0129 SIS in aid of the Zena Solar Facility Study.

76. PGE admits it did not ask Zena Solar if Zena Solar wanted to proceed with the Zena Solar Facility Study before PGE decided to use the SPQ0129 in aid of the Zena Solar Facility Study.

77. The allegations in Paragraph 71 characterize the content of the November 20 Email, which is attached as Exhibit 5.

78. The allegations in Paragraph 78 constitute legal conclusions or legal argument to which no response is required.

79. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 79 and therefore denies them.

80. PGE admits it did not provide Zena Solar with an endorsed statement from a PGE licensed professional engineer on December 4, 2019. PGE denies that there is any requirement under the Commission's rules or otherwise that requires PGE to provide Zena Solar with an endorsed statement from a PGE licensed professional engineer that the interconnection facilities and system upgrades required in the Zena Solar Facility Study are necessary and reasonable. PGE denies any allegation that the interconnection facilities and system upgrades in the Zena Solar Facility Study are not necessary or reasonable. PGE denies any other allegation in Paragraph 80.

81. PGE admits Zena Solar has paid a $1,000 deposit that partially reimbursed PGE's cost to perform a facilities study. PGE denies any allegation that the Zena Solar Facility Study is inadequate. PGE denies any other allegations in Paragraph 81.

82. The allegations in Paragraph 82 are too vague and indefinite to allow PGE to understand what facts are being alleged, if any, and PGE therefor denies all allegations contained in Paragraph 82. Additionally, the allegations in Paragraph 82 appear to constitute legal conclusions or legal argument to which no response is required.

83. PGE admits the allegations in Paragraph 83.

84. The allegations in Paragraph 84 characterize the content of the November 27 Email, which is attached as Exhibit 6.

85. PGE admits that the scheduled commercial operation date under Section 2.2.2 of Zena Solar's power purchase agreement is December 1, 2019, and that Zena Solar did not achieve commercial operation by that date.

86. PGE admits the allegations in Paragraph 86.

87. Paragraph 87 characterizes the contents of a December 4, 2019, email from PGE to Zena Solar (the "PGE December 4 Email"). A copy of the PGE December 4 Email is attached to this Answer as Exhibit 7.

88. PGE admits Zena Solar has paid a $1,000 facilities study deposit which has offset a portion of PGE's cost to perform the Zena Solar Facility Study. PGE denies any allegation that the Zena Solar Facility Study is inadequate. PGE denies any other allegations in Paragraph 88.

89. PGE denies the allegations in Paragraph 89.

90. PGE denies the allegations in Paragraph 90. The Zena Solar Facility Study complies with the requirements of the Commission's small generator interconnection rules. Zena Solar has not identified any alleged inaccuracies in the Zena Solar Facilities Study and PGE is not aware of any inaccuracies in the Zena Solar Facility Study.

91. Paragraph 91 characterizes the contents of a December 4, 2019, email from Zena Solar representative Jonathon Nelson to PGE (the "Nelson December 4 Email"). A copy of the Nelson December 4 Email is attached to this Answer as Exhibit 8.

92. Paragraph 92 characterizes the Nelson December 4 Email which is attached as Exhibit 8. PGE admits that on December 4, 2019, Zena Solar rejected PGE's offer to enter into a new system impact study agreement and to conduct a new system impact study on the Zena Solar interconnection request. PGE denies the allegation that "PGE had not yet performed under the prior study agreement." PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegation that "Zena Solar had considerable doubt that PGE would conduct another SIS in an accurate and timely manner" and therefore denies it.

93. Paragraph 93 characterizes the Nelson December 4 Email which is attached as Exhibit 8. The Zena Solar Facility Study complies with the requirements of the Commission's

small generator interconnection rules. Zena Solar has not identified any alleged inaccuracies in the Zena Solar Facilities Study and PGE is not aware of any inaccuracies in the Zena Solar Facility Study; PGE therefore denies any allegation that the Zena Solar Facility Study is inaccurate. PGE denies that the Commission's rules or orders require PGE to provide Zena Solar with an endorsed statement from one of PGE's licensed professional engineers.

94. PGE admits the allegations in Paragraph 94.

95. PGE admits the allegations in Paragraph 95.

96. PGE admits the allegations in Paragraph 96. A copy of Zena Solar's January 10, 2020, proposed terms to the interconnection agreement ("Zena Solar's Non-Standard Terms") is attached to this Answer as Exhibit 9.

97. Paragraph 97 characterizes the content of Zena Solar's Non-Standard Terms, which is attached as Exhibit 9. PGE lacks information or knowledge sufficient to form a belief as to Zena Solar's goals in proposing specific nonstandard terms and therefore denies all allegations in Paragraph 97. The allegations in Paragraph 97 allege that unspecified nonstandard terms address unspecified alleged errors, mistakes, and omissions PGE made during the interconnection process; these allegations are too vague and indefinite to allow PGE to understand the facts alleged and PGE therefore denies all allegations contained in Paragraph 97.

98. Paragraph 98 characterizes the content of Zena Solar's Non-Standard Terms, which is attached as Exhibit 9. PGE lacks information or knowledge sufficient to form a belief as to Zena Solar's purpose in proposing specific nonstandard terms and therefore denies all allegations in Paragraph 98.

99. Paragraph 99 characterizes the content of Zena Solar's Non-Standard Terms, which is attached as Exhibit 9.

100. Paragraph 100 characterizes the content of Zena Solar's Non-Standard Terms, which is attached as Exhibit 9.

101. PGE admits the allegations in Paragraph 101. A copy of PGE's January 31, 2020, letter ("PGE's January Letter") is attached to this Answer as Exhibit 10.

102. Paragraph 102 characterizes the content of PGE's January Letter, which is attached as Exhibit 10.

103. Paragraph 103 characterizes the content of PGE's January Letter, which is attached as Exhibit 10.

104. Paragraph 104 characterizes the content of PGE's January Letter, which is attached as Exhibit 10.

105. PGE admits the allegations in Paragraph 105. A copy of Zena Solar's February 10, 2020, letter ("Zena Solar's February Letter") is attached to this Answer as Exhibit 11.

106. Paragraph 106 characterizes the content of Zena Solar's February Letter, which is attached as Exhibit 11.

107. The allegations in Paragraph 107 constitute legal conclusions or legal arguments to which no response is required.

108. Paragraph 108 characterizes the content of Zena Solar's February Letter, which is attached as Exhibit 11.

109. Paragraph 109 characterizes the content of Zena Solar's February Letter, which is attached as Exhibit 11.

110. Paragraph 110 characterizes the content of Zena Solar's February Letter, which is attached as Exhibit 11.

111. Paragraph 111 characterizes the content of Zena Solar's February Letter, which is attached as Exhibit 11.

112. PGE admits that on February 13, 2020, PGE stated it would respond to Zena Solar's February 10, 2020, letter by February 26, 2020, and PGE agreed to extend the deadline for Zena Solar to execute the interconnection agreement to March 20, 2020.

113. PGE admits the allegations in Paragraph 113. A copy of PGE's February 26, 2020, letter ("PGE's February Letter") is attached to this Answer as Exhibit 12.

114. Paragraph 114 characterizes the content of PGE's February Letter, which is attached as Exhibit 12.

115. Paragraph 115 characterizes the content of PGE's February Letter, which is attached as Exhibit 12. PGE denies it made the admission alleged in Paragraph 115.

116. Paragraph 116 characterizes the content of PGE's February Letter, which is attached as Exhibit 12.

117. Paragraph 117 characterizes the content of PGE's February Letter, which is attached as Exhibit 12.

118. Paragraph 118 characterizes the content of PGE's February Letter, which is attached as Exhibit 12.

119. PGE denies the allegations in Paragraph 119.

120. PGE admits the allegations in Paragraph 120. A copy of Zena Solar's March 16, 2020, letter ("Zena Solar's March Letter") is attached to this Answer as Exhibit 13.

121. Paragraph 121 characterizes the content of Zena Solar's March Letter, which is attached to this Answer as Exhibit 13.

122. The allegations in Paragraph 122 constitute legal conclusions or legal arguments to which no response is required.

123. Paragraph 123 characterizes the content of Zena Solar's March Letter, which is attached to this Answer as Exhibit 13.

124. Paragraph 124 characterizes the content of Zena Solar's March Letter, which is attached to this Answer as Exhibit 13.

125. PGE admits the allegations in Paragraph 125.

126. PGE admits the allegations in Paragraph 126. A copy of PGE's March 24, 2020, letter ("PGE's March Letter") is attached to this Answer as Exhibit 14.

127. Paragraph 127 characterizes the content of PGE's March Letter, which is attached to this Answer as Exhibit 14.

128. Paragraph 128 characterizes the content of PGE's March Letter, which is attached to this Answer as Exhibit 14.

129. Paragraph 129 characterizes the content of PGE's March Letter, which is attached to this Answer as Exhibit 14

130. PGE admits the allegations in Paragraph 130. A copy of Zena Solar's March 25, 2020, letter ("Zena Solar's Second March Letter") is attached to this Answer as Exhibit 15.

131. Paragraph 131 characterizes Zena Solar's Second March Letter, which is attached to this Answer as Exhibit 15.

132. PGE admits the allegations in Paragraph 132. A copy of PGE's March 26, 2020, letter ("PGE's Second March Letter") is attached to this Answer as Exhibit 16.

133. Paragraph 133 characterizes the content of PGE's Second March Letter, which is attached to this Answer as Exhibit 16.

134. Paragraph 134 does not identify any specific concerns Zena Solar allegedly communicated to PGE regarding the accuracy of the Zena Solar Facility Study. Paragraph 134 does not identify any specific instance in which PGE allegedly failed to address Zena Solar's concerns regarding the accuracy of the Zena Solar Facility Study. The allegations contained in Paragraph 134 are too vague and indefinite to allow PGE to understand the specific facts being alleged and PGE therefore denies all allegations contained in Paragraph 134. PGE denies it failed to adequately address Zena Solar's questions regarding the Zena Solar Facility Study.

135. Paragraph 135 does not identify any specific concerns Zena Solar allegedly communicated to PGE regarding the reliability of the Zena Solar Facility Study. Paragraph 135 does not identify any specific instance in which PGE allegedly failed to address Zena Solar's concerns regarding the reliability of the Zena Solar Facility Study. The allegations contained in Paragraph 135 are too vague and indefinite to allow PGE to understand the specific facts being alleged and PGE therefore denies all allegations contained in Paragraph 135. PGE denies it failed to adequately address Zena Solar's questions regarding the Zena Solar Facility Study. PGE denies the allegations in Paragraph 135.

136. PGE lacks information and knowledge sufficient to admit or deny the allegations of Paragraph 136 regarding Zena's "concerns" and thus denies all allegations in Paragraph 136.

137. PGE denies the allegations in Paragraph 137.

138. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations in paragraph 138 that Zena Solar "is concerned" and therefore denies the allegation. PGE denies that it proposes to charge Zena Solar unreasonable costs for interconnection service.

139. PGE denies the allegations in Paragraph 139.

140. The allegations in Paragraph 140 constitute legal conclusions or legal arguments to which no response is required. To the extent that a response is required, PGE denies any allegations in this paragraph.

141. PGE admits that the Zena Solar Facility Study includes a total cost estimate of $804,926, including $459,600 for protection requirements and $195,326 for communication requirements. PGE denies the remainder of Paragraph 141. A copy of PGE's October 15, 2019, Zena Solar Facility Study is attached to this Answer as Exhibit 17.

142. PGE admits the allegations in Paragraph 142. A copy of PGE's June 27, 2019, Second Zena Solar SIS is attached to this Answer as Exhibit 18.

143. PGE admits that the total good faith cost estimate in the Zena Solar Facility Study is $480,614 greater than, and more than double, the total good faith cost estimate in the Second Zena Solar SIS.

144. PGE admits it has stated that changes in queue position are part of the reason for differing cost estimates in the Second Zena Solar SIS and in the Zena Solar Facilities Study. PGE denies it has stated a change in queue position is the sole reason for changes in estimated cost between the studies.

145. PGE admits that when it conducted the SPQ0129 SIS, SPQ0129 was the highest queued application on the Wallace-13 feeder.

146. PGE admits that the total estimated cost for interconnection facilities and system upgrades in the November 6, 2018, SPQ0129 SIS was $529,600.

147. PGE admits the allegations in Paragraph 147.

148. PGE admits the allegations in Paragraph 148.

149. PGE admits that when PGE completed its second SIS for SPQ0140 dated July 2, 2019, SPQ0140 was the highest queued application on the Wallace-13 feeder. PGE denies that when PGE began its second SIS for SPQ0140, SPQ0140 was the highest queued application on the Wallace-13 feeder.

150. PGE admits that the total estimated cost for interconnection facilities and system upgrades in the SPQ0140 SIS was $634,803.

151. PGE admits the allegations in Paragraph 151.

152. PGE admits the allegations in Paragraph 152.

153. PGE admits that on March 27, 2020, the date the Complaint was filed, the Zena Solar interconnection application was the highest queued application on the Wallace-13 feeder.

154. PGE admits that the total estimated cost for interconnection facilities and system upgrades in the Zena Solar Facility Study is $804,926.

155. PGE denies the allegations in Paragraph 155.

156. PGE denies the allegations in Paragraph 156.

157. The allegation in Paragraph 157 characterizes the content of PGE's Second Zena Solar SIS, which is attached to this Answer as Exhibit 18. PGE admits that the analysis in the Second Zena Solar SIS assumes the completion of higher queued interconnection request SPQ0140.

158. The allegations in Paragraph 158 characterizes the content of PGE's Second Zena Solar SIS, which is attached as Exhibit 18.

159. The allegations in Paragraph 159 characterizes the content of PGE's Second Zena Solar SIS, which is attached as Exhibit 18.

160. The allegations in Paragraph 160 characterizes the content of PGE's Second Zena Solar SIS, which is attached as Exhibit 18.

161. The allegations in Paragraph 161 characterizes the content of PGE's Second Zena Solar SIS, which is attached as Exhibit 18.

162. The allegations in Paragraph 162 are too vague and indefinite to allow PGE to identify the specific facts alleged and PGE therefore denies all allegations in Paragraph 162. Additionally, the allegations in Paragraph 162 appear to constitute legal conclusions or legal argument to which no response is required.

163. PGE denies the allegations in Paragraph 163.

164. The allegations in Paragraph 164 are too vague and indefinite to allow PGE to identify the specific facts alleged and PGE therefore denies all allegations in Paragraph 164. Additionally, the allegations in Paragraph 164 appear to constitute legal conclusions or legal argument to which no response is required.

165. The allegations in Paragraph 165 allege that the sum of the total cost estimate in the Second Zena Solar SIS and certain elements of the cost estimate in the Second SPQ0140 SIS is less than the total cost estimate in the Zena Solar Facility Study. It is unclear which values from the cost estimate for the Second SPQ0140 SIS the Complainant intends to add to the total cost estimate from the second Zena Solar SIS. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 165 and therefore denies them.

166. PGE denies the allegations in Paragraph 166.

167. PGE denies the allegations in Paragraph 167.

168. PGE admits the allegations in Paragraph 168.

169. PGE admits the allegations in Paragraph 169.

170. PGE admits it has stated it was reasonable for PGE to use the November 6, 2018 SIS originally conducted for SPQ0129 as a system impacts analysis for the Zena Solar Facility Study because both SPQ0129 and Zena Solar were the highest queued project when studied and because SPQ0129 was functionally identical to Zena Solar for purposes of a system impact study.

171. The allegations in Paragraph 171 constitute legal conclusions or legal arguments to which no response is required. To the extent that a response is required, PGE denies the allegations.

172. PGE admits the allegations in Paragraph 172.

173. PGE admits the SPQ0129 SIS contains a cost estimate with a line stating: "Protection Requirements $200,000.00."

174. PGE denies the allegations in Paragraph 174.

175. PGE admits the allegations in Paragraph 175.

176. The allegations in Paragraph 176 are too vague and indefinite to allow PGE to understand what facts are being alleged, if any, and PGE therefore denies all allegations contained in Paragraph 176. Additionally, the allegations in Paragraph 176 appear to constitute legal conclusions or legal argument to which no response is required.

177. The allegations in Paragraph 177 are too vague and indefinite to allow PGE to understand what facts are being alleged, if any, and PGE therefore denies all allegations contained in Paragraph 177. Additionally, the allegations in Paragraph 177 appear to constitute legal conclusions or legal argument to which no response is required.

178. PGE denies the allegations in Paragraph 178.

179. PGE admits that the Zena Solar Facility Study contains a cost estimate that includes $195,326.00 for "Communication Requirements" and that the Second Zena Solar SIS contains a

cost estimate that includes $74,812.00 for "Communication Requirements (fiber)" and that the difference between $195,326.00 and $74,812.00 is $120,514.

180. PGE denies the allegations in Paragraph 180.

181. PGE admits the November 6, 2018, SIS originally conducted for SPQ0129 includes a cost estimate that contains $189,600.00 for "Communication Requirements."

182. PGE admits the October 15, 2019, Zena Solar Facility Study includes a cost estimate that contains $195,326.00 for "Communication Requirements."

183. PGE denies that the system impact evaluation contain in the SPQ0129 SIS is outdated. PGE admits that the cost estimate in the SPQ0129 SIS is outdated. PGE denies it relied on the cost estimate in the SPQ0129 SIS when it relied on the SPQ0129 SIS as a system impact evaluation for the Zena Solar Facility Study. PGE denies any other allegations in Paragraph 183.

184. PGE admits the SPQ0129 SIS states "Transfer trip requires running fiber optic line from the Wallace substation to the point of interconnection which is approximately 2 miles." PGE admits the Zena Solar Facility study states "Transfer trip will require installing approximately 2.30 miles of fiber optic cable from the substation to the generation facility." PGE admits that 2 miles is a shorter distance than 2.30 miles.

185. PGE denies the allegations in Paragraph 185.

186. The allegations in Paragraph 186 are too vague and indefinite to allow PGE to understand precisely what is alleged and PGE therefore denies all allegations in Paragraph 186. To the extent Paragraph 186 is attempting to assert the same allegations as Paragraph 170, PGE reiterates its response to Paragraph 170.

187. PGE denies the allegations in Paragraph 187.

188. PGE denies the SPQ0129 SIS contains erroneous conclusions.

189. PGE denies the allegations in Paragraph 189.

190. PGE admits it has produced cost estimates for SPQ0129, SPQ0140, SPQ0163 (Zena Solar) when each application was the highest queued application on the Wallace-13 feeder and that these cost estimates differ. PGE denies any other allegations in Paragraph 190.

191. PGE admits that Paragraph 191 includes a table created by Zena Solar that provides Zena Solar's summary of the cost estimates contained in the SPQ0129 SIS, the Second Zena Solar SIS, the SPQ0140 SIS, and the Zena Solar Facility Study. PGE denies that the tables contains precisely the same information as contained in PGE's studies.

192. PGE admits that since November 5, 2019, Zena Solar has expressed to PGE concern with PGE's cost estimates.

193. The allegations in Paragraph 193 are vague and indefinite because they fail to specify the errors allegedly made by PGE or the interconnection studies in which the errors were allegedly made. Because PGE cannot determine what facts are being alleged in Paragraph 193, PGE denies all allegations in Paragraph 193.

194. The allegations in Paragraph 194 are vague and indefinite because they fail to specify the mistakes PGE allegedly made, they fail to specify the interconnection studies in which the mistakes were allegedly made, they fail to identify the other interconnection customers allegedly impacted, and they fail to specify how the other interconnection customers were allegedly materially impacted. Because PGE cannot determine what facts are being alleged in Paragraph 194, PGE denies all allegations in Paragraph 194.

195. The allegations in Paragraph 195 are vague and indefinite, and PGE therefore denies all allegations in Paragraph 195. To the extent Zena Solar is alleging that PGE has failed to provide Zena Solar with endorsed statements from PGE's licensed professional engineers, PGE

denies that the Commission's rules or order require that PGE provide any such endorsed statements.

196. The allegations in Paragraph 196 are vague and indefinite because it is unclear what information or what other project Zena Solar is referencing and it is unclear what Zena Solar means by "selectively cherry-picking data." Because PGE cannot determine what Zena Solar is alleging, PGE denies all allegations in Paragraph 196. PGE denies it has required unnecessary upgrades in the Zena Solar Facility Study.

197. The allegations in Paragraph 197 are vague and indefinite because it is unclear which specific communications from PGE to Zena Solar are being referenced by Zena Solar in Paragraph 197. Because PGE cannot determine what communications are being referenced in Paragraph 197, PGE denies all allegations in Paragraph 197. To the extent the allegations in Paragraph 197 attempt to characterize PGE's position in PGE's December 4 Email, in PGE's January Letter, in PGE's February Letter, in PGE's First March Letter, or in PGE's Second March Letter, those documents are attached as Exhibits 7, 10, 12, 14, and 16 respectively.

198. PGE admits that Zena Solar applied to interconnect the Facility to PGE's system.

199. The allegations in Paragraph 199 constitute legal conclusions or legal arguments to which no response is required.

200. The allegations in Paragraph 200 constitute legal conclusions or legal arguments to which no response is required.

201. PGE denies the allegations in Paragraph 201.

202. PGE denies that the facilities required in the Zena Solar Facility Study and the executable IA are unnecessary and denies that the cost estimate in the Zena Solar Facility Study and executable IA is unreasonable.

203. The allegations in Paragraph 203 constitute legal conclusions or legal arguments to which no response is required.

204. The allegations in Paragraph 204 constitute legal conclusions or legal arguments to which no response is required.

205. PGE admits that it has informed Zena Solar that its interconnection application will be deemed withdrawn by operation of OAR 860-082-0025(7)(e) if Zena Solar has not executed the interconnection agreement provided by PGE on or before March 27, 2020. PGE denies that it has threatened Zena Solar.

206. PGE denies the allegations in Paragraph 206.

207. The allegations in Paragraph 207 constitute legal conclusions or legal arguments to which no response is required.

Complainant's First Claim for Relief

208. In answer to the allegations in Paragraph 208, PGE repeats and realleges the responses made to Paragraphs 1 through 207.

209. The allegations in Paragraph 209 constitute legal conclusions or legal arguments to which no response is required.

210. The allegations in Paragraph 210 constitute legal conclusions or legal arguments to which no response is required.

211. The allegations in Paragraph 211 constitute legal conclusions or legal arguments to which no response is required.

212. The allegations in Paragraph 212 constitute legal conclusions or legal arguments to which no response is required.

213. The allegations in Paragraph 213 constitute legal conclusions or legal arguments to which no response is required.

214. The allegations in Paragraph 214 constitute legal conclusions or legal arguments to which no response is required.

215. The allegations in Paragraph 215 constitute legal conclusions or legal arguments to which no response is required.

216. PGE denies the allegations in Paragraph 216.

217. PGE denies the allegations in Paragraph 217.

218. The allegations in Paragraph 218 constitute legal conclusions or legal arguments to which no response is required. PGE denies it had a duty to obtain Zena Solar's agreement to continue with the Zena Solar facilities study after SPQ0140 withdrew.

219. PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 219 and therefore denies them. The allegations in Paragraph 219 are speculation.

220. PGE denies the allegations in Paragraph 220.

Complainant's Second Claim for Relief

221. In answer to the allegations in Paragraph 221, PGE repeats and realleges the responses made to Paragraphs 1 through 220.

222. The allegations in Paragraph 222 constitute legal conclusions or legal arguments to which no response is required.

223. The allegations in Paragraph 223 constitute legal conclusions or legal arguments to which no response is required. If a response is required, PGE denies that it did not identify the interconnection facilities and system upgrades required to safely interconnect the Zena Solar project and PGE denies all other allegations in Paragraph 223.

224. The allegations in Paragraph 224 constitute legal conclusions or legal arguments to which no response is required. If a response is required, PGE denies that it failed to identify, in

the Zena Solar Facility Study, only the interconnection facilities and system upgrades required to safely interconnect the small generator facility and PGE denies it violated the Commission's rules.

225. PGE denies the allegations in Paragraph 225.

Complainant's Third Claim for Relief

226. In answer to the allegations in Paragraph 226, PGE repeats and realleges the responses made to Paragraphs 1 through 225.

227. The allegations in Paragraph 227 constitute legal conclusions or legal arguments to which no response is required.

228. The allegations in Paragraph 228 constitute legal conclusions or legal arguments to which no response is required.

229. The allegations in Paragraph 229 constitute legal conclusions or legal arguments to which no response is required. PGE denies that it failed to determine the costs for interconnection facilities and system upgrades required to interconnect the Zena Solar Project.

230. The allegations in Paragraph 230 constitute legal conclusions or legal arguments to which no response is required. PGE denies it failed to provide a good-faith estimate of costs for the interconnection facilities and system upgrades required to interconnect the Zena Solar Project.

231. PGE denies the allegations in Paragraph 231.

Complainant's Fourth Claim for Relief

232. In answer to the allegations in Paragraph 232, PGE repeats and realleges the responses made to Paragraphs 1 through 231.

233. The allegations in Paragraph 233 constitute legal conclusions or legal arguments to which no response is required.

234. The allegations in Paragraph 234 constitute legal conclusions or legal arguments to which no response is required.

235. PGE denies the allegations in Paragraph 235.

236. PGE denies the allegations in Paragraph 236.

237. PGE denies the allegations in Paragraph 237.

238. PGE denies the allegations in Paragraph 238.

239. PGE denies the allegations in Paragraph 239.

Complainant's Fifth Claim for Relief

240. In answer to the allegations in Paragraph 240, PGE repeats and realleges the responses made to Paragraphs 1 through 239.

241. The allegations in Paragraph 241 constitute legal conclusions or legal arguments to which no response is required.

242. PGE denies the allegations in Paragraph 242.

243. PGE denies the allegations in Paragraph 243.

Complainant's Sixth Claim for Relief

244. In answer to the allegations in Paragraph 244, PGE repeats and realleges the responses made to Paragraphs 1 through 243.

245. The allegations in Paragraph 245 constitute legal conclusions or legal arguments to which no response is required.

246. The allegations in Paragraph 246 constitute legal conclusions or legal arguments to which no response is required.

247. The allegations in Paragraph 246 constitute legal conclusions or legal arguments to which no response is required. Alternatively, the allegations in Paragraph 246 are speculation and PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 237 and therefore denies them. PGE denies the allegation that PGE relied on an erroneous SIS for the Zena Solar Facility Study.

248. PGE denies the allegations in Paragraph 248.

249. The allegations in Paragraph 249 are vague and indefinite because they do not specify what information Zena Solar allegedly obtained and, as a result, PGE lacks information or knowledge sufficient to form a belief as to the truth of the allegations contained in Paragraph 249 and denies them.

250. The allegation in Paragraph 250 characterize PGE First March Letter and PGE's Second March Letter which are attached as Exhibits 14 and 16, respectively.

251. PGE denies the allegations in Paragraph 251.

252. PGE denies the allegations in Paragraph 252.

Complainant's Seventh Claim for Relief

253. In answer to the allegations in Paragraph 253, PGE repeats and realleges the responses made to Paragraphs 1 through 252.

254. The allegations in Paragraph 254 constitute legal conclusions or legal arguments to which no response is required.

255. The allegations in Paragraph 255 constitute legal conclusions or legal arguments to which no response is required. To the extend a response is required, PGE denies the allegations in Paragraph 255.

256. PGE denies the allegations in Paragraph 256.

257. PGE admits that by letter dated February 10, 2020, Zena Solar asked PGE to agree to allow Zena Solar to hire a third-party consultant to complete a system impact study pursuant to OAR 860-082-0060(9) and that by letter dated February 26, 2020, PGE indicated that it did not agree to allow Zena Solar to hire a third-party consultant to conduct interconnection studies pursuant to OAR 860-082-0060(9). PGE denies any other allegations in Paragraph 257,

258. PGE denies the allegations in Paragraph 258.

Complainant's Eighth Claim for Relief

259. In answer to the allegations in Paragraph 259, PGE repeats and realleges the responses made to Paragraphs 1 through 258.

260. The allegations in Paragraph 260 constitute legal conclusions or legal arguments to which no response is required.

261. The allegations in Paragraph 261 constitute legal conclusions or legal arguments to which no response is required.

262. The allegations in Paragraph 262 constitute legal conclusions or legal arguments to which no response is required.

263. PGE denies the allegations in Paragraph 263.

264. The allegations in Paragraph 264 constitute legal conclusions or legal arguments to which no response is required.

265. The allegations in Paragraph 265 characterize the content of PGE's June 7 Email which is attached as Exhibit 3. To the extent the allegations in Paragraph 265 refer to any statement by PGE other than the content of PGE's June 7 Email, the allegations are too vague and indefinite to allow PGE to determine what other statement by PGE the allegations are referring to and PGE therefore denies any allegations in Paragraph 265. PGE denies it ever agreed to modify the scheduled COD contained in Section 2.2.2 of the PPA.

266. PGE admits the Zena Solar Facility Study was completed approximately one and a half months prior to Zena Solar's scheduled COD under Section 2.2.2 of the PPA. PGE denies any other allegations in Paragraph 266.

267. The allegations in Paragraph 267 characterize the content of the Zena Solar Facility Study which is attached as Exhibit 17.

268. PGE denies the allegations in Paragraph 268.

269. PGE admits that after the Zena Solar Facility Study was completed, Zena Solar sent PGE a letter on February 10, 2020 (the Zena Solar's February Letter, attached as Exhibit 11) in which Zena Solar requested that PGE "agree to extend the scheduled Commercial Operation Date until January 31, 2021."

270. PGE denies the allegations in Paragraph 270.

271. PGE denies the allegations in Paragraph 271.

272. PGE admits that it has not agreed to amend the PPA and extend the scheduled COD of December 1, 2019, selected by Zena Solar at the time it entered into the PPA.

273. PGE denies the allegations in Paragraph 273.

274. PGE denies the allegations in Paragraph 274.

275. PGE denies that Zena Solar has achieved COD under the PPA. PGE admits the scheduled COD date selected by Zena Solar in Section 2.2.2 of the PPA is December 1, 2019, and that the scheduled COD date has passed.

276. PGE denies the allegations in Paragraph 276.

277. PGE denies the allegations in Paragraph 277.

278. PGE admits it issued a notice of default on December 4, 2019, because Zena Solar failed to achieve COD on or before December 1, 2019, as required by Section 2.2.2 of the PPA. A copy of that December 4, 2019 notice is attached to this Answer as Exhibit 19.

279. PGE admits that it has notified Zena Solar that PGE may exercise its right to terminate the PPA if Zena Solar has not cured its default within the one-year cure period established by the PPA.

280. PGE denies the allegations in Paragraph 280.

281. PGE denies the allegations in Paragraph 281.

282. PGE denies the allegations in Paragraph 282.

283. PGE denies the allegations in Paragraph 283.

284. PGE denies the allegations in Paragraph 284.

Complainant's Ninth Claim for Relief

285. In answer to the allegations in Paragraph 285, PGE repeats and realleges the responses made to Paragraphs 1 through 284.

286. The allegations in Paragraph 286 constitute legal conclusions or legal arguments to which no response is required.

287. PGE denies the allegations in Paragraph 287.

288. PGE denies the allegations in Paragraph 288.

289. PGE denies the allegations in Paragraph 289.

290. PGE denies the allegations in Paragraph 290.

291. PGE denies the allegations in Paragraph 291.

292. PGE denies the allegations in Paragraph 292.

Prayer for Relief

293. PGE does not understand the prayers for relief (paragraphs 293 to 310 of the Complaint) to contain allegations requiring a response, but to the extent they do, PGE denies all allegations contained in Zena Solar's Prayers for Relief and requests that the Commission deny the relief requested.

IV. PGE'S FACTUAL ALLEGATIONS

294. On February 7, 2018, Zena Solar submitted to PGE a Tier 4 application under the Commission's small generator interconnection rules (the "Application").

295. Zena Solar's Application seeks to interconnect a proposed 2.5-megawatt solar qualifying facility (the "Project" or "Facility") to PGE's 12.47-kilovolt Wallace-13 distribution feeder (the "Wallace-13 Feeder" or "Feeder"), located near Kaiser, Oregon.

296. Zena Solar's Application is governed by the Commission's small generator interconnection rules, codified at OAR 9860-082-0010 to OAR 860-082-0085.

297. On or about May 24, 2018, PGE provided a feasibility study to Zena Solar (the "Zena Solar Feasibility Study").

298. The Zena Solar Feasibility Study identifies the potential adverse system impacts that may result from the interconnection of the Zena Solar Project to the Wallace-13 Feeder when: (1) the Zena Solar Project is in the fifth queue position on the Feeder; (2) existing small generator SPQ0024 is already interconnected to the Feeder; and (3) completion and interconnection of higher-queued applications SPQ0122, SPQ0129, SPQ0140, and SPQ0159 is assumed.

299. On or about September 7, 2018, PGE provided a system impact study to Zena Solar (the "First Zena Solar SIS").

300. The First Zena Solar SIS identifies and details the adverse system impacts that would result from the interconnection of the Zena Solar Project to the Wallace-13 Feeder when: (1) the Zena Solar Project is in the fifth queue position on the Feeder; (2) existing small generator SPQ0024 is already interconnected to the Feeder; and (3) completion and interconnection of higher-queued applications SPQ0122, SPQ0129, SPQ0140, and SPQ0159 is assumed.

301. PGE and Zena Solar entered into a feasibility study agreement effective September 26, 2018.

302. On or about October 9, 2018, higher-queued interconnection application SPQ0122 withdrew from the interconnection queue. On or about October 10, 2018, higher-queued interconnection applicant SPQ0159 withdrew from the interconnection queue.

303. With the withdrawal of higher-queued applications SPQ0122 and SPQ0159, PGE determined that it was necessary to conduct a new system impact study on the Zena Solar Application.

304. With the withdrawal of higher-queued applications SPQ0122 and SPQ0159, PGE determined it was necessary to conduct a new system impact study on SPQ0129 and SPQ0140.

305. PGE and Zena Solar entered into a new (second) system impact study agreement effective December 13, 2018.

306. On or about December 13, 2018, PGE began its second system impact study of the Zena Solar Application assuming: (1) the Zena Solar Project is in the third queue position on the Wallace-13 Feeder; (2) existing small generator SPQ0024 was already interconnected to the Feeder; and (3) the completion and interconnection of higher-queued applications SPQ0129 and SPQ0140.

307. On or about February 4, 2019, higher-queued interconnection application SPQ0129 withdrew from the queue.

308. By February 22, 2019, PGE informed Zena Solar that the withdrawal of higher-queued SPQ0129 would impact PGE's second system impact study of the Zena Solar Application and extend the completion date of the study.

309. Between February 22, 2019, and June 12, 2019, PGE repeatedly informed Zena Solar that PGE required additional time to complete the second system impact study.

310. On June 27, 2019, PGE provided the Second Zena Solar SIS to Zena Solar. A copy of the Second Zena Solar SIS is attached as Exhibit 18.

311. The Second Zena Solar SIS identifies and details the adverse system impacts that would result from the interconnection of the Zena Solar Project to the Wallace-13 Feeder when: (1) the Zena Solar Project is in the second queue position on the Feeder; (2) existing small generator SPQ0024 is already interconnected to the Feeder; and (3) completion and interconnection of higher-queued applications SPQ0140 is assumed.

312. PGE and Zena Solar entered into a second feasibility study agreement effective July 17, 2019.

313. On or about July 17, 2019, PGE began its feasibility study of the Zena Solar Application assuming: (1) the Zena Solar Project is in the second queue position on the Wallace-13 Feeder; (2) existing small generator SPQ0024 is already interconnected to the Feeder; and (3) the completion and interconnection of higher-queued application SPQ0140.

314. On or about July 26, 2020, higher-queued application SPQ0140 withdrew from the queue by operation of rule.

315. The withdrawal of SPQ0140 from the queue left the Zena Solar Application in the first queue position on the Wallace-13 Feeder with one existing project, SPQ0024, already interconnected to the Feeder.

316. With the withdrawal of SPQ0140, the Second Zena Solar SIS was no longer an applicable system impact study of the Zena Solar Application because the Second Zena Solar SIS assumed the completion and interconnection of higher-queued SPQ0140.

317. After SPQ0140 withdrew from the queue, PGE determined it could proceed with the facilities study of the Zena Solar Application by relying on an existing November 6, 2019,

system impact study of the SPQ0129 interconnection application (the "SPQ0129 SIS") to identify and detail the adverse system impacts that would result from the interconnection of the Zena Solar Project to the Wallace-13 Feeder with the Zena Solar Project in the first queue position and one existing project, SPQ0024, interconnected to the Feeder.

318. The SPQ0129 SIS identifies and details the adverse system impacts that would result from the interconnection of the SPQ0129 project to the Wallace-13 Feeder with the SPQ0129 project in the first queue position and one existing project, SPQ0024, interconnected to the Feeder.

319. The conclusions of the SPQ0129 SIS are correct.

320. After PGE issued the SPQ0129 SIS on November 6, 2018, PGE temporarily concluded that there would be a voltage problem on the Feeder that was not identified in the SPQ0129 SIS and that the SPQ0129 project would be responsible for the cost of a reconductoring to mitigate this voltage problem. PGE subsequently determined that there was not a voltage problem, that the results of the SPQ0129 SIS were correct, and that it would not be necessary for the SPQ0129 project to reconductor to mitigate for a voltage problem.

321. The SPQ0129 project and the Zena Solar Project have the same key characteristics and are functionally equivalent or functionally identical for purposes of conducting a system impact study.

322. The SPQ0129 project and the Zena Solar project have the same nameplate capacity rating – 2.5-megawatts.

323. The SPQ0129 project and the Zena Solar project involve the same generation technology and equipment – solar photovoltaic generation.

324. The SPQ0129 project and the Zena Solar Project proposed to interconnect to PGE's system at effectively the same location (one span apart on the Wallace-13 Feeder).

325. Because the SPQ0129 project and the Zena Solar Project are functionally equivalent or functionally identical, the material and substantive inputs to a system impact study are the same (or do not differ materially) for the SPQ0129 project and the Zena Solar Project.

326. As a result, PGE reasonably concluded that if both the SPQ0129 project and the Zena Solar Project are in the same queue position (i.e., first queue position with one existing project, SPQ0024, interconnected to the Feeder), then the substantive results of a system impact study for one project should be the same as the substantive results of a system impact study for the other project.

327. After the withdrawal of SPQ0140 from the queue, PGE completed its facilities study of the Zena Solar Application in the first queue position relying on the adverse system impact analysis from the SPQ0129 SIS.

328. On October 15, 2019, PGE provided the Zena Solar Facility Study to Zena Solar. A copy of the Zena Solar Facility Study is attached at Exhibit 17.

329. The Zena Solar Facility Study identifies the interconnection facilities and system upgrades required to safely interconnect the Zena Solar Project to the Wallace-13 Feeder when: (1) the Zena Solar Project is in the first queue position on the Feeder; and (2) existing small generator SPQ0024 is already interconnected to the Feeder.

330. The Zena Solar Facility Study also provides a good faith estimate of the cost of the interconnection facilities and system upgrades required to safely interconnect the Zena Solar Project to the Wallace-13 Feeder when: (1) the Zena Solar Project is in the first queue position on the Feeder; and (2) existing small generator SPQ0024 is already interconnected to the Feeder.

331. PGE's Zena Solar Facility Study complies with the requirements of the Commission's small generator interconnection rules.

332. It was reasonable and appropriate under the circumstances for PGE to use the SPQ0129 SIS as part of its analysis for the Zena Solar Facility Study.

333. There is no need to perform a new (third) system impact study of the Zena Solar Application.

334. By using the SPQ0129 SIS as part of its analysis for the Zena Solar Facility Study, rather than conducting a new (third) system impact study of the Zena Solar Application, PGE saved time and expense for Zena Solar and any other applicant to interconnect to the Feeder.

335. On November 12, 2019, PGE provided an executable standard interconnection agreement ("IA") to Zena Solar.

336. The executable standard IA includes the interconnection facilities and system upgrades identified in the Zena Solar Facility Study and the cost estimate contained in the Zena Solar Facility Study.

337. Since at least November 27, 2019, Zena Solar has objected to PGE's use of the SPQ0129 SIS as part of its analysis for the Zena Solar Facility Study.

338. On December 4, 2019, PGE sent Zena Solar an executable system impact study agreement, offered to enter into a new system impact study agreement with Zena Solar, and offered to conduct a new system impact study of the Zena Solar Application.

339. PGE's purpose in offering to enter into a new system impact study and offering to conduct a new system impact study of the Zena Solar Application was to address Zena Solar's objection to PGE's use of the SPQ0129 SIS. No new system impact study is necessary.

340. On December 4, 2019, Zena Solar rejected PGE's offer to enter into a new system impact study agreement and to conduct a new system impact study of the Zena Solar Application.

341. On December 5, 2019, Zena Solar requested to negotiate a nonstandard interconnection agreement.

342. On December 11, 2019, PGE requested that Zena Solar provide its proposed terms for a nonstandard interconnection agreement.

343. On January 10, 2020, Zena Solar provided proposed terms for a nonstandard interconnection agreement. A copy of Zena Solar's January 10, 2020, proposal ("Zena Solar's Non-Standard Terms") is attached as Exhibit 9.

344. On January 31, 2020, PGE provided Zen Solar with a response to the proposed terms for a nonstandard interconnection agreement ("PGE's January Letter"). A copy of PGE's January Letter is attached as Exhibit 10.

345. In PGE's January Letter, PGE indicated that it did not agree to the nonstandard interconnection agreement proposed by Zena Solar and PGE explained why it could not agree to the proposed nonstandard interconnection agreement.

346. In PGE's January Letter to Zena Solar, PGE enclosed an updated version of the executable standard interconnection agreement and PGE stated that Zena Solar had 15 business days to execute and return the interconnection agreement or Zena Solar's Application would be deemed withdrawn by operation of OAR 860-082-0025(7)(e).

347. Zena Solar has not proposed a new nonstandard interconnection agreement in response to PGE's January 31, 2020, letter or made any other effort to continue negotiation of a nonstandard interconnection agreement.

348. On February 10, 2020, Zena Solar sent PGE a demand letter ("Zena Solar's February Letter"). A copy of Zena Solar's February Letter is attached as Exhibit 11.

349. On February 13, 2020, PGE agreed to extend the deadline for Zena Solar to execute the interconnection agreement from February 22, 2020, to March 20, 2020.

350. On February 26, 2020, PGE sent a letter to Zena Solar that provided PGE's response to Zena Solar's February 10, 2020, demand letter ("PGE's February Letter"). A copy of PGE's February Letter is attached as Exhibit 12.

351. As part of PGE's February 26, 2020, response, PGE responded in detail to each of Zena Solar's demands and concluded that each demand was without merit.

352. As part of PGE's February 26, 2020, response, PGE enclosed an updated executable standard interconnection agreement and stated that Zena Solar had until March 20, 2020, to execute and return the enclosed interconnection agreement or Zena Solar's Application would be deemed withdrawn by operation of OAR 860-082-0025(7)(e).

353. On March 16, 2020, Zena Solar sent PGE a second demand letter ("Zena Solar's March Letter"). A copy of Zena Solar's March Letter is attached as Exhibit 13.

354. In Zena Solar's March Letter, Zena Solar indicated that it wanted to conduct an independent system impact study of the type referenced in OAR 860-082-0060(7)(h). This was the first time Zena Solar indicated it wanted to conduct an independent system impact study.

355. On March 18, 2020, PGE agreed to extend the deadline for Zena Solar to execute the interconnection agreement from March 20, 2020, to March 27, 2020.

356. On March 24, 2020, PGE sent Zena Solar a letter responding to Zena Solar's March 16, 2020, demand letter (PGE's March Letter"). A copy of PGE's March Letter is attached as Exhibit 14.

357. As part of PGE's March Letter, PGE rejected Zena Solar's demand to conduct an independent system impact study.

358. As part of PGE's March Letter, PGE stated that it was too late in the interconnection process for an independent system impact study.

359. As part of PGE's March Letter, PGE reiterated that Zena Solar's deadline to execute and return the interconnection agreement was March 27, 2020.

360. On March 25, 2020, Zena Solar sent PGE a third demand letter ("Zena Solar's Second March Letter") A copy of Zena Solar's Second March Letter is attached as Exhibit 15.

361. On March 26, 2020, PGE send Zena Solar a letter responding to Zena Solar's Second March Letter ("PGE's Second March Letter"). A copy of PGE's Second March Letter is attached as Exhibit 16.

362. As part of PGE's March 25, 2020, response letter, PGE reiterated that Zena Solar's deadline to execute the interconnection agreement was March 27, 2020.

363. Zena Solar has not executed and returned to PGE the executable standard interconnection agreement PGE provided to Zena Solar on February 26, 2020.

364. Zena Solar has not executed and returned to PGE any version of an interconnection agreement.

V. AFFIRMATIVE DEFENSES

365. Without assuming the burden of proof on any issue for which Complainant has the burden, PGE alleges the following defenses and affirmative defenses.

A. Failure to State a Claim
(Mootness – Complainant's Application is Withdrawn)

366. PGE re-alleges all of the preceding paragraphs.

367. Complainant's Claims for Relief and Prayers for Relief asserted in the Complaint depend on Complainant having an interconnection application pending before PGE.

368. Complainant's Claims for Relief and Prayers for Relief contained in the Complaint are moot because Complainant's interconnection application is deemed withdrawn by operation of OAR 860-082-0025(7)(e).

369. Complainant's Claims for Relief and Prayers for Relief contained in the Complaint are moot because Complainant does not have an interconnection application pending before PGE.

370. Pursuant to OAR 860-082-0025(7)(e), an applicant must return an executed interconnection agreement to the public utility, or request negotiation of a non-standard interconnection agreement, within 15 business days of receiving an executable interconnection agreement from the public utility, otherwise the applicant's interconnection application is deemed withdrawn.

371. Pursuant to OAR 860-082-0010(2), a public utility and an applicant may agree to reasonable extensions to the required timelines in the Commission's small generator interconnection rules without requesting a waiver from the Commission.

372. PGE sent a letter to Complainant on February 26, 2020 ("PGE's February Letter").

373. PGE sent an executable standard interconnection agreement to Complainant as an enclosure to PGE's February Letter (the "February 26, 2020 Executable Interconnection Agreement").

374. On February 26, 2020, Complainant received PGE's February Letter.

375. On February 26, 2020, Complainant received the February 26, 2020 Executable Interconnection Agreement.

376. March 18, 2020, is 15 business days after February 26, 2020.

377. PGE's February Letter stated Complainant had until March 20, 2020, to execute and return to PGE the February 26, 2020, Executable Interconnection Agreement enclosed with PGE's February Letter or Complainant's interconnection application would be deemed withdrawn by operation of OAR 860-082-0025(7)(e).

378. PGE's February Letter effectively agreed to extend the 15 business day deadline under OAR 860-082-0025(7)(e) from March 18, 2020, to March 20, 2020, as permitted by OAR 860-082-0010(2).

379. By email dated March 18, 2020, PGE agreed to extend Complainant's deadline to execute and return the February 26, 2020 Executable Interconnection Agreement from an original deadline of March 20, 2020, to a new deadline of March 27, 2020. This was effectively an agreement to extend an interconnection rule deadline as permitted by OAR 860-082-0010(2).

380. Complainant has not executed and returned to PGE the February 26, 2020, Executable Interconnection Agreement.

381. Complainant has not responded to the February 26, 2020, Executable Interconnection Agreement by requesting to negotiate a nonstandard interconnection agreement.

382. Complainant has not executed and returned to PGE any executable interconnection agreement provided to Complainant by PGE.

383. Complainant has not executed any interconnection agreement with PGE.

384. Complainant's interconnection application, first submitted on February 7, 2018, and subsequently assigned to queue position SPQ0163, is deemed withdrawn by operation of OAR 860-082-0025(7)(e).

385. Complainant's claims related to Complainant's interconnection application are moot because Complainant's interconnection application is deemed withdrawn.

B. Waiver
(Complainant rejected PGE's offer to conduct a new Zena Solar SIS)

386. PGE re-alleges all of the preceding paragraphs.

387. Complainant's First through Seventh Claims for Relief are barred by the doctrine of waiver by Complainant's rejection of PGE's offer to conduct a new (third) system impact study of the Zena Solar Application.

388. PGE provided the Second Zena Solar SIS to Complainant on June 27, 2019.

389. Complainant and PGE entered into a facilities study agreement effective July 17, 2019.

390. On or about July 26, 2019, the higher-queued SPQ0140 project withdrew from the queue for the Wallace-13 feeder.

391. On October 15, 2019, PGE provide the Zena Solar Facility Study to Complainant.

392. The Zena Solar Facility Study identifies the interconnection facilities and system upgrades necessary to safely interconnect the Zena Solar Project to the Wallace-13 feeder with the Zena Solar Project in the first queue position and with one existing project, SPQ0024, interconnected to the feeder.

393. When completing the Zena Solar Facility Study after SPQ0140 withdrew from the queue and the Zena Solar Project moved from the second queue position to the first queue position, PGE relied on the November 6, 2018, SIS originally conducted for SPQ0129 (the "SPQ0129 SIS") to identify and detail the adverse system impacts that would result from interconnection of the Zena Solar Project to the Wallace-13 feeder with the Zena Solar Project in the first queue position and with one project, SQ0024, already interconnected to the feeder.

394. It was reasonable and prudent for PGE to rely on the SPQ0129 SIS to identify the adverse system impacts expected from the Zena Solar Project in the first queue position

395. In November 2019, Complainant objected to PGE's reliance on the SPQ0129 SIS to provide the adverse system impact analysis on which the Zena Solar Facility Study is based.

396. In November 2019, although there is no legal or contractual right for such, Complainant demanded that PGE conduct a new SIS for the Zena Solar Project with the Project in the first queue position.

397. A new SIS for the Zena Solar Project in the first queue position is not necessary nor legally required because the SPQ0129 SIS provided PGE with appropriate information on which to base the Zena Solar Facility Study.

398. Although not required to do so, on December 4, 2020, PGE sent Zena Solar an executable system impact study agreement and offered to enter into the agreement and to conduct a new system impact study of the Zena Solar Project.

399. On December 4, 2019, Zena Solar rejected PGE's offer to enter into a new system impact study agreement and to conduct a new system impact study on the Zena Solar Project.

400. Complainant cannot both reject PGE's reasonable and prudent reliance on the results of the SIS originally conducted for SPQ0129 as the impact analysis for the Zena Solar Facilities Study and reject PGE's offer to conduct a new system impact study for the Zena Solar Project

401. Because Complainant rejected PGE's offer to conduct a new system impact study for the Zena Solar Project, Complainant is barred by the doctrine of waiver from taking the position that PGE's Zena Solar Facility Study is inadequate because PGE relied on the results of the SPQ0129 SIS.

402. Because Complainant rejected PGE's offer to conduct a new system impact study for the Zena Solar Project, Complainant is barred by the doctrine of waiver from demanding that PGE conduct a new system impact study for the Zena Solar Project.

403. Because Complainant rejected PGE's offer to conduct a new system impact study for the Zena Solar Project, the doctrine of waiver bars Complainant's claims for relief and prayers for relief asserted in the Complaint.

C. Mootness
(Complainant rejected PGE's offer to conduct a new Zena Solar SIS)

404. PGE re-alleges all of the preceding paragraphs.

405. Complainant's First through Seventh Claims for Relief became moot when Complainant rejected PGE's offer to conduct a new (third) system impact study of the Zena Solar Application after PGE provided the Zena Solar Facility Study to Complainant.

406. PGE denies that Complainant had a legal right to demand a new system impact study. Even if it did, that dispute became moot when PGE offered to conduct a new (third) system impact study on December 4, 2019. Whatever dispute there may have been became moot with that offer.

D. Waiver
(Complainant Selected a COD that was Eighteen Months After Contract Execution)

407. PGE re-alleges all of the preceding paragraphs.

408. Complainant's Eighth Claim for Relief is barred by the doctrine of waiver because Complainant selected a scheduled Commercial Operation Date ("COD") under Section 2.2.2 of Complainant's PPA that was only eighteen months after the PPA effective date when Complainant could have selected a scheduled COD up to 36 months after the PPA effective date.

409. When Complainant selected a scheduled COD that was only eighteen months after the effective date of the PPA and Complainant applied to interconnect to a feeder with multiple pending higher-queued interconnection requests, Complainant assumed the risk that Complainant's interconnect request would not be completed in time for Complainant to achieved its selected COD or that the construction of required interconnection facilities and system upgrades would not be completed in time to allow Complainant to achieve its selected COD.

410. Complainant could have selected a scheduled COD under its PPA that was 36 months after the PPA effective date (i.e., June 4, 2021). Complainant had a legal right to select a scheduled COD up to 36 months after the effective date under the Commission order approving PGE's form PPA.

411. Because Complainant selected an aggressive scheduled COD (December 1, 2019) that was eighteen months earlier than the latest scheduled COD it was entitled to select (June 4, 2021), Complainant is barred by the doctrine of waiver from taking the position that PGE must agree to amend the PPA and extend the scheduled COD because the interconnection process was not completed by December 1, 2019, and is not expected to be completed by December 1, 2020.

412. Because Complainant selected a scheduled COD that was only eighteen months after PPA execution when Complainant could have selected a COD that was up to 36 months after PPA execution, the doctrine of waiver bars Complainant's claims for relief and prayers for relief demanding an extension of the scheduled COD.

E. Lack of Subject Matter Jurisdiction over Professional Engineering law

413. PGE re-alleges all of the preceding paragraphs.

414. The Commission lacks the authority or jurisdiction to interpret or enforce Oregon's professional engineering statutes, ORS 672.002 to ORS 672.325, or the administrative rules promulgated pursuant to those statutes, OAR Chapter 820.

415. To the extent Zena Solar is asking the Commission to order PGE to have its licensed, professional engineers stamp and sign or otherwise endorse PGE's interconnection studies, the Commission must deny such a request because the Commission lacks the subject matter jurisdiction or statutory authority to make such a determination and issue such an order.

F. Failure to State Ultimate Facts Sufficient to Constitute a Claim (Commission does not require interconnection studies be endorsed by an engineer)

416. PGE re-alleges all of the preceding paragraphs.

417. Complainant's allegations that PGE has failed to provide interconnection study results endorsed by a PGE licensed professional engineer fail to state ultimate facts sufficient to constitute a claim for relief because there is no Commission rule or order and no statute administered by the Commission that requires PGE to provide an engineer's endorsement of PGE's interconnection study results.

VI. COUNTERCLAIM

For PGE's Counterclaim, PGE alleges as follows:

A. Identity of the Parties

418. Zena Solar is a limited liability company formed under the laws of the state of Oregon. Zena Solar's address registered with the Oregon Secretary of State is: 4034 SE Tolman Street, Portland, OR 97202. Zena Solar's representative who signed the PPA between PGE and Zena Solar is Jonathan Nelson. Mr. Nelson is senior principal and co-founder of Conifer Energy Partners, LLC ("Conifer Energy"). Conifer Energy and Zena Solar register the same address with

the Oregon Secretary of State. The Registered Agent for Zena Solar is Jonathan Nelson, 4034 SE Tolman Street, Portland, OR 97202.

419. PGE is an investor-owned public utility regulated by the Public Utility Commission of Oregon ("Commission") under ORS Chapter 757. PGE is headquartered at 121 SW Salmon Street, Portland, Oregon 97204.

B. Jurisdiction and Applicable Law

420. The Commission has jurisdiction to adjudicate PGE's counterclaim under ORS 756.500.

421. This case involves the interpretation of the Commission's rules and orders implementing the Public Utility Regulatory Policies Act ("PURPA") (16 U.S.C. 824a-3) and associated state law (ORS 758.505 to ORS 758.555).

422. Pursuant to ORS 756.500, the Commission has authority to resolve disputes between parties whose business or activities are regulated by statutes under the Commission's jurisdiction. The Commission is vested with authority to implement PURPA and the Federal Energy Regulation Commission's ("FERC") implementing regulations (*see* 16 U.S.C. 824a-3(f)), and, under state law, to establish "the terms and conditions for the purchase of energy or energy and capacity from a qualifying facility . . . ." ORS 758.535(2)(a).

423. The Commission has promulgated small generator interconnection rules and codified those rules at OAR 860-082-0010 to OA 860-082-0085. Those rules govern Complainant's application to interconnect a proposed small generator to PGE's electric system. The Commission has the jurisdiction and authority to resolves disputes regarding the Commission's small generator interconnection rules.

424. Given the authority vested in the Commission, the Commission has jurisdiction to resolve disputes between PGE and Zena Solar relating to interconnection of a qualifying facility under PURPA.

425. The Oregon statutes relevant to this case include ORS 756.500 to ORS 756.610 and ORS 758.505 to ORS 758.555. The Oregon rules relevant to this case include those within Divisions 1 and 82 of Chapter 860 of the Oregon Administrative Rules.

C. PGE's Factual Allegations

426. PGE re-alleges all of the preceding paragraphs.

427. Complainant filed its Application with PGE on or about February 7, 2018.

428. PGE completed the interconnection study process and provided the Zena Solar Facility Study to Complainant on October 15, 2019.

429. PGE provided an executable standard interconnection agreement to Complainant on February 26, 2020 (the "February IA").

430. The February IA included the interconnection facilities and system upgrades identified in the Zena Solar Facility Study and included the estimate of costs stated in the Zena Solar Facility Study.

431. On February 26, 2020, PGE informed Complainant it had until March 20, 2020, to execute and return to PGE the February IA or Complainant's Application would be deemed withdrawn by operation of OAR 860-082-0025(7)(e).

432. On March 18, 2020, PGE agreed to extend the deadline for Complainant to execute and return the February IA from March 20, 2020, to March 27, 2020.

433. After PGE provided Complainant the February IA on February 26, 2020, Complainant never requested to negotiate a nonstandard interconnection agreement.

434. Compliant did not execute and return to PGE the February IA on or before March 27, 2020.

435. Complainant has not executed and return to PGE the February IA.

436. Complainant has not executed and returned to PGE any interconnection agreement for the Zena Solar Project.

D. PGE's Claim for Relief – Zena Solar's Application is Withdrawn.

437. PGE re-alleges all of the preceding paragraphs.

438. There is a dispute between PGE and Complainant as to whether Complainant's Application remains in the queue or whether Complainant's Application was withdrawn from the queue by operation of law and as a consequence of Complainant's failure to execute the interconnection agreement timely.

439. The Commission has the jurisdiction and authority to interpret the Commission's small generator interconnection rules and to hold that Complainant's Application is deemed withdrawn from PGE's interconnection queue effective March 28, 2020, or such later date as the Commission determines is consistent with its rules and orders and the rulings of its Administrative Law Judge.

440. Complainant's application to interconnect to PGE's Wallace-13 feeder assigned queue position SPQ0163 was withdrawn by operation of OAR 860-082-0025(7)(e) effective March 28, 2020.

441. Complainant is free to submit a new interconnection application which will be assigned a new queue position.

VII. PGE'S PRAYERS OF RELIEF

PGE respectfully requests that the Commission:

442. Deny Zena Solar's Claims for Relief and dismiss the Complaint with prejudice.

443. Grant PGE's Counterclaim and issue an order holding that Zena Solar's application to interconnect to PGE's Wallace-13 feeder is withdrawn by operation of law.

444. Grant any other relief as the Commission deems necessary and appropriate.

Dated: May 11, 2020.

Respectfully submitted,

MARKOWITZ HERBOLD PC

s/ Jeffrey S. Lovinger
Jeffrey S. Lovinger, OSB #960147
Dallas S. DeLuca, OSB #072992
Markowitz Herbold PC
1455 SW Broadway, Suite 1900
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PORTLAND GENERAL ELECTRIC COMPANY

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(503) 464-8315
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Attorneys for Portland General Electric Company

EXHIBIT 1

FEBRUARY 22, 2019 EMAIL FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Small Power Production <Small.PowerProduction@pgn.com>
Sent: Friday, February 22, 2019 12:29 PM
To: 'jonathan@coniferenergypartners.com'
Cc: Small Power Production
Subject: SPQ0140

Jonathan,
The system Impact Study for SPQ0140, Zena Solar, is due to you on March 1, 2019. Shortly after the engineering report was completed, SPQ0129 withdrew from the queue. SPQ0129 had been the highest queued project on the Wallace-13 feeder. As a result, we will now need to re-study SPQ0140.

We will need to begin the study process again, therefore we must extend the System Impact Study due date for SPQ0140 by 45 business days, to April 26th2019. We will provide you with the study report on or before that date.

Thank you,

Nikee Weber
QF Interconnection Specialist • 503-464-2264• 503-464-8300
PortlandGeneral.com • Follow us on social @PortlandGeneral

EXHIBIT 2

APRIL 26, 2019 EMAIL FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric

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Welcome, Jason Zappe | Log Out

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Sent by Jason Zappe on 4/26/2019 at 5:00 PM

From:	DoNotReply@PowerClerk.com
To: *	jonathan@coniferenergypartners.com
Cc:	
Bcc:	
Subject: *	Zena Solar - System Impact Study Results Delayed
Attachments:	None

Jonathan,

During a recent interconnection study PGE discovered an error in the CYME model being used to simulate the impacts a generator could have on PGE's distribution system. The error occurred on our Wallace feeder and was due to the voltage regulator having incorrect settings. The incorrect settings showed a need for a large reconductor to resolve a high voltage issue. With the correct voltage regulator settings in the model the large reconductor has now been determined as not needed.

The cost of the large reconductor may have caused the developer for SPQ0129 to prematurely withdraw from the interconnection queue. To correct the mistake, PGE has offered to reinstate SPQ0129 in the queue at their previous location and resume the study process.

PGE is not able to complete the System Impact Study for Zena Solar until SPQ0129 has notified PGE on how they would like to proceed. PGE has requested a response from SPQ0129 by May 3, 2019 at which point we will know how to complete the Zena Solar study.

PGE would be happy to answer any questions you may have.

Thank you,

Jason Zappe

Print

EXHIBIT 3

JUNE 7, 2019 EMAIL FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Small Power Production
Sent: Friday, June 7, 2019 4:21 PM
To: Jonathan Nelson
Cc: Small Power Production
Subject: RE: Zena Solar - System Impact Study Results Delayed

Categories: Jason

Jonathan,

The system impact study results for Zena will be sent over early next week. Unfortunately when projects with lower queue positions continue to withdraw our only option is to restudy to ensure the interconnection requirements are properly assigned.

The error in the Cyme model was due to the software and Cyme is working on a software update to correct it. The error was not do to how PGE setup the model.

Based on the requirements it is unlikely we will be able to expedite the remainder of the study process or construction. We can revisit the any differences with the in-service date and the COD once a construction schedule has been developed during the facility study.

Thank you,

Jason Zappe • Customer Generation Specialist • 503-464-7264

From: Jonathan Nelson <jonathan@coniferenergypartners.com>
Sent: Friday, May 31, 2019 12:40 PM
To: Small Power Production <Small.PowerProduction@pgn.com>
Subject: Re: Zena Solar - System Impact Study Results Delayed

Hello,

I wanted to inquire again regarding the questions in my previous email. Can you please provide a response?

I am surprised where this leaves us with this project. To recall, we had originally executed a facility study for the Zena project last year on 9/24/2018. I was originally due the facility study on December 19, 2018. PGE then pushed the project back to the system impact study phase on December 4, claiming the restudy was necessary due to a higher queued project dropping out. The revised system impact study was due on March 1, 2019, however on February 22, 2019 PGE again notified that it would need to delay the results and do another system impact study for Zena Solar. **This would have been the third iteration of the system impact study for Zena Solar** and was due on April 26, the date of your most recent email.

It has now been 15 months since PGE executed the feasibility study agreement for Zena Solar. Meanwhile the project's COD date in the PPA is December 1 of this year, yet the interconnection study process is still incomplete as a result of errors on the part of PGE and circumstances that are completely out of my control.

EXHIBIT 4

NOVEMBER 5, 2019 EMAIL FROM JONATHAN NELSON (ZENA SOLAR) TO PGE

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Jonathan Nelson <jonathan@coniferenergypartners.com>
Sent: Tuesday, November 5, 2019 10:11 PM
To: Small Power Production
Subject: Re: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!

Jason, see below. Meant to send it to your group mail box but inadvertently sent it to the PowerClerk address.

On Tue, Nov 5, 2019 at 10:10 PM Jonathan Nelson <jonathan@coniferenergypartners.com> wrote:

> Hello,
>
> Can you please respond to my earlier inquiry? Also can you explain how PGE's protection requirements are necessary in light of what Power Engineers outlined on page 6 of the System Impact Study for configuration 3? In the system impact study Power Engineers states that no new violations would exist under configuration 3. Why is configuration 3 not presented as an option for this interconnection?
>
> -- Jonathan Nelson
> Conifer Energy Partners LLC
> 303-709-9600

On Mon, Oct 28, 2019 at 8:56 AM Jonathan Nelson <jonathan@coniferenergypartners.com> wrote:

> Hello,
>
> I would like to request that PGE use an electronic recloser to protect against and isolate PGE's system from any potential overvoltage conditions in lieu of transfer trip over fiber. Can you please run this by your engineer at Power Engineers and let me know what they say?
>
> Thank you,
>
> -- Jonathan Nelson
> Conifer Energy Partners LLC
> 303-709-9600

On Tue, Oct 15, 2019 at 9:44 AM PowerClerk Notifications <DoNotReply@powerclerk.com> wrote:

> Dear Jonathan,
>
> The completed Facility Study Report for the above referenced project is attached to this email.
>
> If you plan to continue with the project:
>
> - Please click here [pgeqf.powerclerk.com] to log into PowerClerk and fill in the form Interconnection Legal Contacts

EXHIBIT 5

NOVEMBER 20, 2019 EMAIL FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Jason Zappe <Jason.Zappe@pgn.com>
Sent: Wednesday, November 20, 2019 11:23 AM
To: Jonathan Nelson
Cc: Small Power Production
Subject: RE: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!

Jonathan,

PGE provided you with a System Impact Study report on June 27, 2019 and you executed the Facility Study Agreement on July 17, 2019. A higher queued project (SQQ0140) withdrew from the queue on July 26, 2019. The Facility Study report provided on October 14, 2019 contained newly identified interconnection requirements (not previously identified in the System Impact Study) due to the withdrawal of the higher queued interconnection request.

When a higher queued project withdraws, depending on the circumstances of the withdrawal, the particular interconnection requests, and where applicants may be in the study process, PGE determines (in PGE's sole discretion) what additional studies (or restudies) need to occur on a particular application. When SPQ0140 withdrew, PGE engineers determined they could rely on the System Impact Study report from SPQ0129 and not restudy or create a revised System Impact Study for Zena Solar because SPQ0129 had the same capacity as Zena Solar and was located adjacent to Zena Solar. The interconnection requirements outlined in the System Impact Study report for SPQ0129 were used by PGE in order for PGE to generate the Facility Study report for your project. By being able to rely on the System Impact Study report for SPQ0129, PGE saved time and cost for Zena Solar. For your reference, I have included a link to our OASIS site where you can find a copy of the System Impact Study for SPQ0129.

https://www.oasis.oati.com/PGE/
Path: Generation Interconnection/Oregon Small Generator Interconnection/Study Reports/SPQ0129SIS

Please keep in mind that the interconnection study process is iterative, and the studies are not final documents. Facilities hoping to interconnect to a utility's system enter a queue, and facilities interconnect sequentially based on their place in the queue. The studies are necessarily preliminary predictions of future work, because they assume the interconnection of higher-queued projects and construction of interconnection facilities or system upgrades associated with those higher-queued projects. The interconnection studies are also preliminary in the sense that neither the utility nor the qualifying facility are committing that the utility will construct any specific improvements on its system or that the qualifying facility will pay the cost of any such improvements until the utility and the qualifying facility enter into an interconnection agreement. Further, the studies are not actionable engineering documents, but merely summarize work to be performed and estimate time and costs for performing that work.

PGE looks forward to your response on the Interconnection Agreement for Zena Solar which is due on December 5, 2019.

Jason Zappe • Customer Generation Specialist • 503-464-7264

From: Jonathan Nelson <jonathan@coniferenergypartners.com>
Sent: Monday, November 18, 2019 10:03 PM
To: Small Power Production <Small.PowerProduction@pgn.com>
Subject: Re: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!

EXHIBIT 6

NOVEMBER 27, 2019 EMAIL FROM ZENA SOLAR TO PGE

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Jonathan Nelson <jonathan@coniferenergypartners.com>
Sent: Wednesday, November 27, 2019 3:41 PM
To: Small Power Production
Subject: Re: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!

Hello,

I have reviewed your most recent email. How is it that PGE can claim that the conclusions and associated upgrades in the facility study report are accurate? If the facility study for Zena Solar relies on a system impact study from an entirely separate and different project, rather than a revised system impact study completed specifically for Zena Solar, then the facility study you have provided me for Zena Solar contains potentially erroneous information and conclusions. This is an astonishing fact and admission given the chain of events related to the interconnection process for this project.

Furthermore, the statement that the interconnection studies are not final and preliminary up until the moment of executing an interconnection agreement is incoherent and contradicts PGE's prior statements that the studies are final and complete documents. Therefore I will not be doing anything with the interconnection agreement you have provided until PGE either has Power Engineers revise the system impact study to include transmission level impacts, or provide me with an endorsed statement from PGE's engineer that the transmission level upgrades are necessary and reasonable.

PGE has the implicit obligation to provide me with information showing that the stated system upgrades and associated costs are reasonable. The information I have received so far, however, is incoherent and PGE is unwilling to provide affirmation from a professional that it is true and accurate. This is unacceptable.

-- Jonathan Nelson
Conifer Energy Partners LLC
303-709-9600

On Wed, Nov 20, 2019 at 11:22 AM Small Power Production <Small.PowerProduction@pgn.com> wrote:

> Jonathan,
>
> PGE provided you with a System Impact Study report on June 27, 2019 and you executed the Facility Study Agreement on July 17, 2019. A higher queued project (SQQ0140) withdrew from the queue on July 26, 2019. The Facility Study report provided on October 14, 2019 contained newly identified interconnection requirements (not previously identified in the System Impact Study) due to the withdrawal of the higher queued interconnection request.
>
> When a higher queued project withdraws, depending on the circumstances of the withdrawal, the particular interconnection requests, and where applicants may be in the study process, PGE determines (in PGE's sole discretion) what additional studies (or restudies) need to occur on a particular application. When SPQ0140 withdrew, PGE engineers determined they could rely on the System Impact Study report from SPQ0129 and not restudy or create a

EXHIBIT 7

DECEMBER 4, 2019 EMAIL FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From:	Small Power Production
To:	Jonathan Nelson
Cc:	Small Power Production
Subject:	RE: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!
Date:	Wednesday, December 4, 2019 4:31:57 PM
Attachments:	SPQ0163 Zena Solar - System Impact Study Agreement.pdf

Jonathan,

PGE is in receipt of your below e-mail.

PGE disagrees with your position that the Facilities Study provided to Zena Solar contains erroneous information and conclusions. PGE has followed prudent utility practices in preparing the Facilities Study that meets the requirements of OAR 860-082-0060(8) and, per OAR 860-082-0035, PGE believes its has presented Zena Solar with a good faith, non-binding cost estimate. That being said, if Zena Solar decides, at Zena Solar's sole election and cost, that it wants PGE to perform another System Impact Study for this interconnection, PGE is willing to perform that study. The study will be done in accordance with PGE's standard System Impact Study process. To make that election, please sign and return the attached System Impact Study Agreement along with a deposit within fifteen (15) days of receipt of this Agreement. Zena Solar can also elect to proceed with signing the Interconnection Agreement which is due to be signed and returned to PGE on December 5, 2019.

Thank you,

Jason Zappe • Customer Generation Specialist • 503-464-7264

From: Jonathan Nelson <jonathan@coniferenergypartners.com>
Sent: Wednesday, December 4, 2019 10:34 AM
To: Small Power Production <Small.PowerProduction@pgn.com>
Subject: Re: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!

Hello,

Will PGE be providing me with a revised system impact study from Power Engineers that includes the transmission level impact and is actually for Zena Solar, or an endorsed statement from PGE's engineer that the transmission level upgrades are necessary and reasonable?

-- Jonathan Nelson
Conifer Energy Partners LLC
303-709-9600

EXHIBIT 8

DECEMBER 4, 2019 EMAIL FROM JONATHAN NELSON (ZENA SOLAR) TO PGE

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Jonathan Nelson
To: Small Power Production
Subject: Re: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!
Date: Wednesday, December 4, 2019 5:05:42 PM

Jason,

So you are telling me that the facility study report for Zena Solar is accurate and that you have followed prudent utility practices in preparing it, yet it is based on a system impact study for an entirely separate project, of which PGE has admitted that this system impact study contained wrong conclusions from a software modeling error?

I will not pay PGE anything for a new system impact study and demand that PGE does what I have asked for.

Regards,

-Jonathan Nelson

On Wed, Dec 4, 2019 at 4:31 PM Small Power Production <Small.PowerProduction@pgn.com> wrote:

> Jonathan,
>
> PGE is in receipt of your below e-mail.
>
> PGE disagrees with your position that the Facilities Study provided to Zena Solar contains erroneous information and conclusions. PGE has followed prudent utility practices in preparing the Facilities Study that meets the requirements of OAR 860-082-0060(8) and, per OAR 860-082-0035, PGE believes its has presented Zena Solar with a good faith, non-binding cost estimate. That being said, if Zena Solar decides, at Zena Solar's sole election and cost, that it wants PGE to perform another System Impact Study for this interconnection, PGE is willing to perform that study. The study will be done in accordance with PGE's standard System Impact Study process. To make that election, please sign and return the attached System Impact Study Agreement along with a deposit within fifteen (15) days of receipt of this Agreement. Zena Solar can also elect to proceed with signing the Interconnection Agreement which is due to be signed and returned to PGE on December 5, 2019.
>
> Thank you,

EXHIBIT 9

ZENA SOLAR'S PROPOSED TERMS TO INTERCONNECTION AGREEMENT, DATED JANUARY 10, 2020

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

From: Jonathan Nelson
To: Small Power Production
Subject: Re: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!
Date: Friday, January 10, 2020 4:27:20 PM

I would like to have the following terms incorporated into an interconnection agreement for Zena Solar and presented to the PUC for approval. Some of the terms incorporate specific important information PGE has provided that is relevant to this interconnection.

Article 1

- 1.4.1 - Add reference to ORS Chapter 671 and OAR Chapter 820 and Section 111(d)(15) of PURPA
- 1.4.2 - Update reference of IEEE 1547 Standard to 2018 edition
- Add provisions that within 10 days of the effective date that PGE delivers me a stamped and endorsed letter from its professional engineers (either Janette Sandberg, Joe Wilson, Adam Ross, or Brad Hennessey of Power Engineers) that states the requirements and findings in the Facility Study are based off of a system impact study for a separate project that PGE has previously admitted contains inaccurate and wrong analysis as a result of a software modelling error.
- 1.7 - Add affirmation from PGE that the assumptions and results contained in prior interconnection studies for the facility are within the facility's normal operating conditions.

Article 4

- 4.2 - Add a statement noting that the interconnection facilities listed in the interconnection agreement are based off of a system impact study from a separate project that PGE has previously admitted contains inaccurate and wrong analysis as a result of a software modelling error. Also add a statement for PGE to affirm that it is highly likely the interconnection facilities are inaccurate since they are based on a system impact study from a separate project containing erroneous assumptions and conclusions.
- 4.3 - Add a statement that the interconnection facilities have been determined not in conformance with prudent utility practices or good faith and therefore are being prescribed without regard to OAR 860-082-0060(8) and OAR 860-082-0035.
- 4.4 - Add a statement that the system upgrades are likely inaccurate since they are based on a system impact study from a separate project containing erroneous assumptions and conclusions and are being prescribed without regard to OAR 860-082-0060(8) and OAR 860-082-0035.
- 4.5 - Add a statement that the scope of the system impact study did not include identification of adverse system impacts to the transmission system and therefore the system impact study prepared for Zena Solar is incomplete and does not fulfill the requirements for system impact studies given by OAR 860-082-0060(7).

Article 5

- 5.2 - Add a statement that acts, omissions, and negligence associated with incomplete performance and adherence to the Small Generator Interconnection Rules during the study process is also grounds for liability.
- 5.3.2 - Add a statement that the indemnification responsibility also applies negligent action

and failure to meet full obligations of the Small Generator Interconnection Rules during the study process

Thank you,

-- Jonathan Nelson
Conifer Energy Partners LLC
303-709-9600

On Mon, Jan 6, 2020 at 10:12 AM Small Power Production <Small.PowerProduction@pgn.com> wrote:

> Jonathan,
>
> PGE requests your negotiated terms for the Zena Solar interconnection agreement. Please provide those terms by January 10, 2020 otherwise PGE will withdraw Zena Solar from the interconnection queue.
>
> Thank you,
>
> **Jason Zappe** • Customer Generation Specialist • 503-464-7264
>
> ---
>
> **From:** Small Power Production
> **Sent:** Wednesday, December 11, 2019 4:46 PM
> **To:** 'Jonathan Nelson' <jonathan@coniferenergypartners.com>
> **Cc:** Small Power Production <Small.PowerProduction@pgn.com>
> **Subject:** RE: Your Facility Report for SPQ0163 (Zena Solar, LLC) - PGEQF-00167 is complete. Action Required!
>
> Jonathan,
>
> Please provide us with the terms you wish to negotiate a non-standard interconnection agreement. PGE will review those terms and provide feedback. I have attached a word document to make it easier for you to provide changes.
>
> Please bare in mind that a non-standard interconnection agreement will need to be approved by

EXHIBIT 10

JANUARY 31, 2020 LETTER FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric Company
Legal Department
121 SW Salmon Street • 1WTC1301 • Portland, Oregon 97204
Phone 503-464-7370 • Fax 503-464-2200
portlandgeneral.com

Kristin M. Ingram
Assistant General Counsel
kristin.ingram@pgn.com

January 31, 2020

Via Email and U.S. Mail

Jonathan Nelson
Conifer Energy Partners, LLC
4635 SE 30th Avenue
Portland, OR 97202
jonathan@coniferenergypartners.com

Re: Zena Solar, LLC Interconnection Application

Dear Mr. Nelson:

Portland General Electric Company (PGE) is in receipt of Zena Solar, LLC's (Zena Solar) request for a negotiated interconnection agreement for its proposed 2.5-megawatt solar qualifying facility (the Project).

I. Background

Zena Solar has applied to interconnect its proposed 2.5-megawatt Project to PGE's 12.47-kilovolt Wallace-13 kV distribution feeder, located near Keizer, Oregon. Zena Solar has applied to interconnect under the small generator interconnection rules (OAR 860-082-0005 to OAR 860-082-0085) of the Public Utility Commission of Oregon (Commission). Zena Solar proposes to sell all of its net output to PGE as a qualifying facility. On February 8, 2018, Zena Solar submitted a Tier 4 application form and the associated application fee. On February 13, 2018, PGE sent Zena Solar notice that the application was complete and had been assigned queue position SPQ0163.

On February 19, 2018, Zena Solar and PGE held a scoping meeting regarding the proposed interconnection. On February 21, 2018, PGE sent Zena Solar a feasibility study agreement. Zena Solar and PGE entered into the feasibility study agreement effective March 6, 2018, and PGE provided the feasibility study results on May 24, 2018. On June 22, 2018, Zena Solar and PGE entered into a system impact study agreement and PGE provided the system impact study results on September 7, 2018. On September 26, 2018, Zena Solar and PGE entered into a facilities study agreement. Before PGE could complete the facilities study, two higher queued projects (SPQ0122 and SPQ0129) withdrew from the interconnection queue. On November 9, 2018, PGE notified Zena Solar a restudy was necessary due to the withdrawal of the higher queued projects and requested a new system impact study agreement be signed. Zena Solar signed the new system impact study agreement on December 3, 2018.

In late November 2018, while performing studies for SPQ0140 and Zena Solar, PGE noted that the requirements that it had provided to SPQ0129 in a November 6, 2018 system impact study appeared to contain an error and PGE alerted SPQ0129 that a reconductor should have been an included requirement due to overvoltage. SPQ0129 dropped from the queue, prompting restudies of SPQ0140 and Zena Solar. However, when the restudies were being performed, PGE learned of a software error in the CYME model used in preparing system impact studies, which caused the settings of voltage regulators to be incorrect and could potentially impact PGE requirements. PGE was able to address the issue by utilizing a manual process when simulating co-generation. With this information, PGE reviewed the November 6, 2018 system impact study for SPQ0129 and determined that there were no voltage issues and no reconductor was required and that the results of the November 6, 2018 system impact study could be reasonably relied on, were in conformance with prudent utility practices, and were an appropriate estimation of the system requirements. PGE alerted SPQ0129 of the findings and provided SPQ0129 time to assess whether it wanted to re-enter the queue. SPQ0129 opted to not be reinstated to the queue.

On June 27, 2019, PGE provided Zena Solar with a system impact study report. On June 27, 2019, Zena Solar executed a facility study agreement. On July 26, 2019, another higher queued project (SPQ0140) withdrew from the queue. PGE provided the facilities study results to Zena Solar on October 15, 2019.

When a higher queued project withdraws (depending on the circumstances of the withdrawal, the particular interconnection requests, and where applicants may be in the study process) PGE determines, in its sole discretion, what additional studies (or restudies) need to occur on a particular application. When SPQ0140 withdrew, PGE engineers determined that they could reasonably rely on the November 6, 2018 system impact study report from SPQ0129 and not restudy or create a revised system impact study for Zena Solar because SPQ0129 had the same capacity as Zena Solar, was located adjacent to Zena Solar and had the same operating conditions. The system impacts identified in the November 6, 2018 system impact study for SPQ0129 were used by PGE as a basis to establish the interconnection requirements in the October 15, 2019 facility study report for Zena Solar. By being able to rely on the November 6, 2018 system impact study report for SPQ0129, PGE saved time and cost for Zena Solar.

The October 15, 2019 facilities study report asked Zena Solar to provide confirmation to proceed to an interconnection agreement within 15 business days (by November 5, 2019) and stated that, in any case, PGE would send an interconnection agreement within 20 business days (by November 13, 2019). On November 12, 2019, PGE sent Zena Solar an interconnection agreement. On December 5, 2019, Zena Solar sent PGE an email requesting to negotiate the terms and conditions of an interconnection agreement rather than use the standard agreement form. On December 11, 2019, PGE sent Zena Solar an email asking it to propose the negotiated or non-standard terms and conditions that it seeks in a negotiated interconnection agreement. On January 10, 2020, Zena Solar sent PGE a copy of the proposed negotiated interconnection agreement, with Zena Solar's proposed terms and conditions indicated, as redline changes to the standard interconnection agreement.

II. PGE's Response

This letter provides PGE's response to Zena Solar's proposed negotiated interconnection agreement. PGE's response has three parts. First, PGE notes that under the Commission's small generator interconnection rules, PGE has no obligation to accept any of Zena Solar's proposed non-standard terms and conditions and PGE may insist on the standard form interconnection agreement approved by the Commission. Second, PGE briefly reviews the negotiated or non-standard terms and conditions proposed by Zena Solar and concludes that none of the proposed revisions to the standard agreement form are acceptable to PGE. Third and finally, PGE reiterates its offer to enter into the standard form interconnection agreement and PGE provides notice pursuant to OAR 860-082-0025(7)(e) that Zena Solar has 15 business days (until February 22, 2020) to execute and return to PGE the enclosed executable interconnection agreement or Zena Solar's interconnection application will be deemed withdrawn.

A. PGE may insist on use of the standard form interconnection agreement.

The Commission has approved a PGE standard interconnection agreement form for use under the Commission's small generator interconnection rules.[1] Pursuant to OAR 860-082-0025(7)(e)(A), either the interconnection applicant (in this case Zena Solar) or the public utility (in this case PGE) may insist on using the standard interconnection agreement form approved by the Commission. Specifically, with regard to the interconnection agreement, the rule states:

> *An applicant or **a public utility is entitled to the terms in the standard form agreement** but may choose to negotiate for different terms.*[2]

The record of the development of this rule in rulemaking Docket No. AR 521 demonstrates that it was intended to give both the applicant and the public utility the right to insist on using the standard interconnection agreement form. In Docket No. AR 521, the originally proposed version of OAR 860-082-0025(7)(e)(A) stated:

> *An applicant is entitled to the terms in the standard form agreement but may choose to negotiate with an interconnecting public utility for variations to the standard agreement terms.*[3]

---

[1] *In the Matter of Rulemaking to Adopt Rules Related to Small Generator Interconnection*, Docket No. AR 521, Order No. 09-350 at 1 (Sep. 8, 2009) (order memorializing that the Commission at its August 25, 2009 public meeting adopted Staff's recommendation and approved PGE's, PacifiCorp's, and Idaho Power's standard forms and agreements, including PGE's standard interconnection agreement form).

[2] OAR 860-082-0025(7)(e)(A) (emphasis added).

[3] Docket No. AR 521, ALJ Notice of Proposed Rulemaking Hearing, attached Draft Small Generator Interconnection Rules v4/8/08 at 8-9 (Apr. 15, 2008) (proposed small generator interconnection rules with quoted language appearing as proposed OAR 860-082-0025(8)(e)(A)); Docket No. AR 521, ALJ Memorandum and Notice of Workshop, attached Draft Small Generator Interconnection Rules v6/4/08 at 9 (Jun. 4, 2008) (providing stakeholders with latest set of revised draft small generator interconnection rules with quoted language appearing as proposed OAR 860- 082-0025(7)(e)(A)).

In response to this proposed rule, PacifiCorp filed the following comment:

> *PacifiCorp believes that both the applicant and the public utility should have the right to insist on the standard form interconnection agreement. As presently drafted, Proposed Rule 860-082-0025(7)(e)(A) gives that right to the applicant alone.*[4]

PacifiCorp then proposed revised language for 860-082-0025(7)(e)(A) that was intended "to modify[] the Proposed Rule to state that either the applicant or the public utility may insist on the form agreement[.]"[5] Specifically, PacifiCorp proposed the following language (underlined language is additional language proposed by PacifiCorp):

> *An applicant or a public utility is entitled to the terms in the standard form agreement but may choose to negotiate with an interconnecting public utility or applicant respectively for variations to the standard agreement terms.*[6]

No other party to Docket No. AR. 521 commented on OAR 860-082-0025(7)(e)(A). The Commission then issued Order No. 09-196 adopting permanent rules and, in doing so, adopted and simplified the language proposed by PacifiCorp. The Commission's final version of OAR 860-082-0025(7)(e)(A) states:

> *An applicant or a public utility is entitled to the terms in the standard form agreement but may choose to negotiate different terms.*[7]

This history of the development of OAR 860-082-0025(7)(e)(A) makes it clear that the Commission intended to allow either the applicant or the public utility to insist on the standard interconnection agreement terms and conditions. The history of the rule also demonstrates that the parties are free to negotiate non-standard terms and conditions but neither party can be compelled to accept non-standard terms and conditions.

B. PGE's response to the non-standard terms proposed by Zena Solar.

Zena Solar has proposed ten types of changes to the standard agreement form.

1. Section 1.4.1: Add reference to ORS Chapter 671 and OAR Chapter 820 and Section

---

[4] Docket No. AR 521, PacifiCorp's Third Set of Comments at 8 (Aug. 8, 2008).
[5] *Id.*
[6] *Id.*
[7] Docket No. AR 521, Order No. 09-196 at 6, Appendix A at 9 (June 8, 2009) (Commission adopts final rules governing small generator interconnection rules and modifies OAR 860-082- 0025(7)(e)(A) as proposed by PacifiCorp to make it clear that either the interconnection applicant or the public utility may insist on using the standard interconnection agreement form approved by the Commission instead of negotiating interconnection agreement terms and conditions).

111(d)(15) of PURPA.

PGE does not agree to these proposed changes because PGE does not agree that ORS Chapter 671 and OAR Chapter 820 are applicable and PGE does not agree that Section 111(d)(15) of PURPA applies to the parties' performance of their obligations under the interconnection agreement or the Commission's small generator interconnection rules.

ORS Chapter 671 deals with architects and landscape professionals and is not applicable to small generator interconnection. OAR Chapter 820 govern acts that constitute the practice of engineering. PGE understands Zena Solar's proposed edit to be made in reference to its position that PGE should be required to affix a registered engineers' seal and signature to all interconnection study results. PGE disagrees that there is any such requirement with regard to PGE's interconnection studies which determine what interconnection facilities and system upgrades are required on PGE's system to accommodate a third-party small generator interconnection. PGE's planning, studies, and engineering with regard to its own system does not constitute the provision of engineering services or the commercial practice of engineering and, as a result, PGE does not agree that it is required to stamp its interconnection studies with a professional engineer's seal and signature. PGE's planning, studies, and engineering is also exempt from the requirement to affix a registered engineer's seal and signature because the work is related to PGE's operations and is not offered directly to the public. In addition, there is no requirement for a professional engineering seal or signature in the Commission's small generator interconnection rules.

Section 111(d)(15) of PURPA is codified as 16 U.S.C § 2621(d)(15). It was adopted by Congress as part of the Energy Policy Act of 2005. Its purpose was to require states to consider the adoption of standards or rules governing interconnection. The State of Oregon, through its Public Utility Commission, complied with the requirements of this federal statute by adopting interconnection rules, including the small generator interconnection rules found at OAR Chapter 860, Division 082. Section 111(d)(15) does not impose additional requirements on utilities such as PGE and it would be inappropriate to incorporate the statute as a standard applicable to the Oregon small generator interconnection agreement.

2. *Section 1.4.2: Update reference of IEEE 1547 Standard to 2018 edition*.

PGE does not object to Zena Solar's proposal to modify the IEEE Standard 1547 from the 2003 edition to the most recently published edition as of the Effective Date of the interconnection agreement (see Section 1.4.2, the first sentence of Section 1.7, and Section 2.1 of the proposed negotiated interconnection agreement enclosed as Attachment A). Zena Solar has also proposed modifying the Section 1.4.2 reference to the National Electric Code from a reference to the 2005 edition of the code to a reference to the 2017 edition of the code. PGE does not object to this change either. However, PGE

notes that if the parties agree to these changes to the interconnection agreement, then it will be necessary to obtain Commission approval of the change before the interconnection agreement can become effective per OAR 860-082-0025(7)(e)(B). The small generator interconnection rules provide for the application of the 2003 version of IEEE Standard 1547 and the proposed change to the interconnection agreement is arguably materially inconsistent with this aspect of the rules. PGE does not believe that the benefit provided by modifying the applicable version of the IEEE Standard 1547 (from 2003 to 2018) or the applicable version of the National Electric Code (from 2005 to 2017) is significant enough to justify the process and delay required to seek Commission approval of the change. As a result, PGE does not agree to the proposed changes to the standard interconnection agreement form.

3. *Add provisions that within 10 days of the effective date that PGE delivers me a stamped and endorsed letter from its professional engineers (either Janette Sandberg, Joe Wilson, Adam Ross, or Brad Hennessey of Power Engineers) that states the requirements and findings in the Facility Study are based off of a system impact study for a separate project that PGE has previously admitted contains inaccurate and wrong analysis as a result of a software modelling error.*

Zena Solar has proposed an addition that would require PGE to deliver final studies bearing the seal and signature of a professional engineer and a letter from a professional engineer, bearing seal and signature, and attesting that all required interconnection facility requirements mitigate adverse system impacts consistent with referenced standards. PGE does not agree to this proposed revision to the standard interconnection agreement. For the reasons stated above, PGE does not agree that applicable Oregon law or regulations require that PGE's interconnection study results bear the seal and signature of a registered professional engineer.

Zena Solar has also proposed language that the requirements and findings in the Facility Study are based off a system impact study for a separate project that PGE has previously admitted contains inaccurate and wrong analysis as a result of a software modelling error. As indicated in Section I (Background), PGE confirmed that the system impacts identified in the November 6, 2018 system impact study for SPQ0129 could be reasonably relied on, are in conformance with prudent utility practices, and are an appropriate estimation of the requirements. As a result, PGE does not agree to the proposed changes to the standard interconnection agreement form.

4. *Section 1.7: Add affirmation from PGE that the assumptions and results contained in prior interconnection studies for the facility are within the facility's normal operating conditions.*

PGE does not believe the affirmation proposed by Zena Solar is necessary. While PGE believes that assumptions and results contained in SPQ0129 for the facility are within the Zena Solar's normal operating conditions, this statement does not warrant a

change to the standard interconnection agreement.

5. *Section 4.2: Add a statement noting that the interconnection facilities listed in the interconnection agreement are based off of a system impact study from a separate project that PGE has previously admitted contains inaccurate and wrong analysis as a result of a software modelling error. Also add a statement for PGE to affirm that it is highly likely the interconnection facilities are inaccurate since they are based on a system impact study from a separate project containing erroneous assumptions and conclusions.*

   As indicated in Section I (Background), PGE confirmed that the system impacts identified in the November 6, 2018 system impact study for SPQ0129 could be reasonably relied on, are in conformance with prudent utility practices, and provide an appropriate basis for establishing the system requirements for Zena Solar. PGE disagrees with Zena Solar's contention that the interconnection facilities are inaccurate. As a result, PGE does not believe the statement proposed by Zena Solar is necessary or appropriate and PGE does not agree to it as negotiated terms.

6. *Section 4.3: Add a statement that the interconnection facilities have been determined not in conformance with prudent utility practices or good faith and therefore are being prescribed without regard to OAR 860-082-0060(8) and OAR 860-082-0035.*

   The facilities study provided to Zena Solar does meet the requirements of OAR 860-082-0060(8), OAR 860-082-0035 and prudent utility practices. As a result, PGE does not believe the statement proposed by Zena Solar is necessary or appropriate and PGE does not agree to it as negotiated terms.

7. *Section 4.4: Add a statement that the system upgrades are likely inaccurate since they are based on a system impact study from a separate project containing erroneous assumptions and conclusions and are being prescribed without regard to OAR 860-082-0060(8) and OAR 860-082-0035.*

   PGE does not believe the statement proposed by Zena Solar is necessary or appropriate and PGE does not agree to them as negotiated terms. PGE disagrees with Zena Solar's contention that the facilities study provided to Zena Solar contains erroneous information and conclusions. PGE has followed prudent utility practices in preparing the facilities study that meets the requirements of OAR 860-082-0060(8) and, per OAR 860-082-0035, PGE believes it has presented Zena Solar with a good faith, non-binding cost estimate.

8. *Section 4.5: Add a statement that the scope of the system impact study did not include identification of adverse system impacts to the transmission system and therefore the system impact study prepared for Zena Solar is incomplete and does not fulfill the requirements for system impact studies given by OAR 860-082-0060(7).*

Assuming that Zena Solar is referring to system impact studies provided to Zena Solar on September 7, 2018 and on June 27, 2019, PGE disagrees that the studies are incomplete and do not fulfill the requirements for system impact studies given under OAR 860-082-0060(7). There were no transmission impacts associated with Zena Solar's project due to the amount of backfeed. Likewise, if Zena Solar is referring to the November 6, 2018 system impact study for SPQ0129, PGE disagrees that the study is incomplete and does not fulfill the requirements for system impact studies given under OAR 860-082-0060(7) as there were no transmission impacts associated with SPQ0129's project. As a result, PGE does not believe the statement proposed by Zena Solar is necessary or appropriate and PGE does not agree to it as negotiated terms.

9. *Section 5.2: Add a statement that acts, omissions, and negligence associated with incomplete performance and adherence to the Small Generator Interconnection Rules during the study process is also grounds for liability.*

PGE does not believe the statement proposed by Zena Solar is necessary or appropriate and PGE does not agree to them as negotiated terms.

The interconnection study process is iterative, and the studies are not final documents. Facilities hoping to interconnect to a utility's system enter a queue, and facilities interconnect sequentially based on their place in the queue. The studies are necessarily preliminary predictions of future work, because they assume the interconnection of higher-queued projects and construction of interconnection facilities or system upgrades associated with those higher-queued projects. The interconnection studies are also preliminary in the sense that neither the utility nor the qualifying facility are committing that the utility will construct any specific improvements on its system or that the qualifying facility will pay the cost of any such improvements until the utility and the qualifying facility enter into an interconnection agreement. Further, the studies are not actionable engineering documents, but merely summarize work to be performed and estimate time and costs for performing that work. As a result, PGE does not agree to the proposed changes to the standard interconnection agreement form.

10. *Section 5.3.2: Add a statement that the indemnification responsibility also applies negligent action and failure to meet full obligations of the Small Generator Interconnection Rules during the study process.*

PGE does not believe the statement proposed by Zena Solar are necessary or appropriate and PGE does not agree to them as negotiated terms. The standard interconnection agreement properly addresses the indemnification requirements of the parties.

C. PGE is willing to enter into the enclosed standard interconnection agreement but will consider the Zena Solar application withdrawn if Zena Solar does not sign an interconnection agreement within 15 business days.

PGE is willing to enter into the enclosed standard interconnection agreement. If Zena Solar has not signed and returned the enclosed interconnection agreement to PGE within 15 business days (i.e., by February 22, 2020), then PGE will deem the Zena Solar interconnection application to have been withdrawn by operation of OAR 860-082-0025(7)(e).

Please contact me directly if you have any questions.

Sincerely,

Kristin M. Ingram
Assistant General Counsel

KMI:bb

Interconnection Agreement for Small Generator Facility
Tier 1, Tier 2, Tier 3 or Tier 4 Interconnection

(Small Generator Facilities with Electric Nameplate Capacities of 10 MW or Less)

This Interconnection Agreement (sometimes also referred to as "Agreement") is made and entered into this _____ by and between __Zena Solar, LLC__ , ___ an individual _X_ a company, (''Applicant'') and Portland General Electric Company, a corporation existing under the laws of the State of Oregon, ("PGE"). Applicant and PGE each may be referred to as a ''Party,'' or collectively as the ''Parties.''

Recitals:

Whereas, the Applicant is proposing to develop a 2.5 MW Small Generator Facility, or to add generating capacity to an existing Small Generator Facility, consistent with the Application completed on February 8, 2018;

Whereas, the Applicant desires to interconnect the Small Generator Facility with PGE's Transmission and Distribution System (T&D System); and

Whereas, the Agreement shall be used for all approved Tier 1, Tier 2, Tier 3 and Tier 4 Interconnection Applications according to the procedures set forth in OPUC Rule OAR 860, Division 082 (Rule). Terms with initial capitalization, when used in this Agreement, shall have the meanings given in the Rule and, to the extent this Agreement conflicts with the Rule, the Rule shall take precedence.

Now, therefore, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 Scope

The Agreement establishes standard terms and conditions approved by the Commission under which the Small Generator Facility with a Nameplate Capacity of 10 MW or less will interconnect to, and operate in parallel with PGE's T&D System. Additions, deletions or changes to the standard terms and conditions of an Interconnection Agreement will not be permitted unless they are mutually agreed to by the Parties or approved by the Commission if required by the Rule.

1.2 Power Purchase

The Agreement does not constitute an agreement to purchase, transmit, or deliver the Applicant's power nor does it constitute an electric service agreement.

1.3 Other Agreements

Nothing in the Interconnection Agreement is intended to affect any other agreement between PGE and the Applicant or another Interconnection Customer. However, in the

event that the provisions of the Agreement are in conflict with the provisions of other PGE tariffs, PGE tariff shall control.

1.4 Responsibilities of the Parties

1.4.1 The Parties shall perform all obligations of this Agreement in accordance with all applicable laws.

1.4.2 The Applicant will construct, own, operate, and maintain its Small Generator Facility in accordance with the Agreement, IEEE Standard 1547, the National Electrical Code and applicable standards required by the Commission.

1.4.3 Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Interconnection. Each Party shall provide Interconnection Facilities that adequately protect the other Parties' facilities, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities is prescribed in the Rule.

1.5 Parallel Operation and Maintenance Obligations

Once the Small Generator Facility has been authorized to commence Parallel Operation by execution of the Interconnection Agreement, the Applicant will abide by all written provisions for operating and maintenance as required by the Rule and detailed by PGE in Form 7, title "**Interconnection Equipment As Built Specifications, Initial Settings and Operating Requirements**" a copy of which is provided on PGE's website.

1.6 Metering and Monitoring

The Applicant will be responsible for metering and monitoring as required by OAR 860-082-0070.

1.7 Power Quality

The Applicant will design its Small Generator Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection that meets the requirements set forth in IEEE 1547. PGE may, in some circumstances, also require the Applicant to follow voltage or VAR schedules used by similarly situated, comparable generators in the control area. Any special operating requirements will be detailed in Form 7 provided on the Commission website and completed by PGE as required by the Rule. Under no circumstances shall these additional requirements for voltage or reactive power support exceed the normal operating capabilities of the Small Generator Facility. For purposes of this Agreement, "control area" shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other control areas and contributing to frequency regulation of the interconnection.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

The Applicant will test and inspect its Small Generator Facility Facilities prior to interconnection in accordance with IEEE 1547 Standards as provided for in the Rule. The Interconnection will not be final until the Witness Test and Certificate of Completion provisions in the Rule have been satisfied. Operation of the Small Generator Facility requires an Interconnection Agreement; electricity sales require a Power Purchase Agreement. To the extent that the Applicant decides to conduct interim testing of the Small Generator Facility prior to the Witness Test, it may request that PGE observe these tests and that these tests be deleted from the final Witness Test. If PGE agrees to send qualified personnel to the Small Generator Facility to observe such interim testing, it will be doing so at its own expense unless the Parties agree otherwise

2.2 Right of Access

As provided in OAR 860-082-0020, PGE will have access to the Applicant's premises for any reasonable purpose in connection with the Interconnection Application and any Interconnection Agreement that is entered in to pursuant to this Rule or if necessary to meet the legal obligation to provide service to its customers. Access will be requested at reasonable hours and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

The Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement

The Agreement will be effective on the Effective Date and will remain in effect for a period of twenty (20) years or the life of the Power Purchase Agreement, whichever is shorter or a period mutually agreed to by Parties, unless terminated earlier by the default or voluntary termination by the Applicant or by action of the Commission.

3.3 Termination

No termination will become effective until the Parties have complied with all applicable laws and any clauses of the Rule or this Agreement applicable to such termination.

3.3.1 The Applicant may terminate this Agreement at any time by giving PGE twenty (20) business days written notice.

3.3.2 Either Party may terminate this Agreement after default pursuant to Article 5.6 of this Agreement.

3.3.3 The Commission may order termination of this Agreement.

3.3.4 Upon termination of this Agreement, the Small Generator Facility will be disconnected from PGE's T&D System at the Applicant's expense. The termination of this Agreement will not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.4 The provisions of this Article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection

PGE or the Applicant may temporarily disconnect the Small Generator Facility from its T&D System for so long as reasonably necessary, as provided in OAR 860-082-0075 of the Rule, in the event one or more of the following conditions or events occurs:

3.4.1 Under emergency conditions, PGE or the Applicant may immediately suspend interconnection service and temporarily disconnect the Small Generator Facility. PGE shall notify the Applicant promptly when it becomes aware of an emergency condition that may reasonably be expected to affect the Small Generator Facility operation. The Applicant will notify PGE promptly when it becomes aware of an emergency condition that may reasonably be expected to affect PGE's T&D System. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 For routine Maintenance, Parties will make reasonable efforts to provide five (5) business days notice prior to interruption caused by routine maintenance or construction and repair to the Small Generator Facility or PGE's T&D system and shall use reasonable efforts to coordinate such interruption.

3.4.3 For Forced outages of the T&D System, PGE shall use reasonable efforts to provide the Applicant with prior notice of forced outages to effect immediate repairs to the T&D System. If prior notice is not given, PGE shall, upon request, provide the Applicant written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 For disruption or deterioration of service, where PGE determines that operation of the Small Generator Facility will likely cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generator Facility could cause damage to PGE's T&D System, PGE may disconnect the Small Generator Facility. PGE will provide the Applicant upon request all supporting documentation used to reach the decision to disconnect. PGE may disconnect the Small Generator Facility if, after receipt of the notice, the Applicant fails to remedy the adverse operating effect within a reasonable time which shall be at least five (5) business days from the date the Applicant receives PGE's written notice supporting the decision to disconnect, unless emergency conditions exist, in which case the provisions of 3.4.1 of the Agreement apply.

3.4.5 If the Applicant makes any change other than Minor Equipment Modifications without prior written authorization of PGE, PGE will have the right to temporarily disconnect the Small Generator Facility.

3.5 Restoration of Interconnection

The Parties shall cooperate with each other to restore the Small Generator Facility, Interconnection Facilities, and PGE's T&D System to their normal operating state as soon as reasonably practicable following any disconnection pursuant to section 3.4.

Article 4. Cost Responsibility and Billing

The Applicant is responsible for the application fee and for such facilities, equipment, modifications and upgrades as required in 860-082-0035.

4.1 Minor T&D System Modifications

Modifications to the existing T&D System identified by PGE and set forth in Attachment A, such as changing meters, fuses or relay settings, are deemed Minor Modifications. It is PGE's sole discretion to decide what constitutes a Minor Modification. The Applicant will bear the costs of making such Minor Modifications as may be necessary to gain approval of an Application.

4.2 Interconnection Facilities

PGE will identify, under the study procedures of an Application review, the Interconnection Facilities necessary to safely interconnect the Small Generator Facility with PGE. Attachment A itemizes the Interconnection Facilities for the Applicant, including the cost of the facilities and the time required to build and install those facilities. The Applicant is responsible for the cost of the Interconnection Facilities.

4.3 Interconnection Equipment

The Applicant is responsible for all reasonable expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its Interconnection Equipment.

4.4 System Upgrades

PGE will design, procure, construct, install, and own any System Upgrades. The actual cost of the System Upgrades, including overheads, is set forth in Attachment A and will be directly assigned to the Applicant. An Applicant may be entitled to financial compensation from other PGE Interconnection Customers who, in the future, benefit from the System Upgrades paid for by the Applicant. Such compensation will be governed by separate rules promulgated by the Commission or by terms of a tariff filed and approved by the Commission. Such compensation will only be available to the extent provided for in the separate rules or tariff.

4.5 Adverse System Impact

PGE is responsible for identifying Adverse System Impacts on any Affected Systems and for determining what mitigation activities or upgrades may be required to accommodate a Small Generator Facility. The actual cost of any actions taken to address the Adverse System Impacts, including overheads, shall be directly assigned to the Applicant. The Applicant may be entitled to financial compensation from other public utilities or other Interconnection Customers who, in the future, utilize the upgrades paid for by the Applicant, to the extent as allowed by the Commission. Adverse System Impacts are set forth in Attachment A.

4.6 Billings

PGE may require a deposit of not more than 50% of the cost estimate, not to exceed $1,000, to be paid up front by the Applicant for studies necessary to complete an Application and to interconnect the Small Generator Facility to the T&D System. PGE may require a deposit of no more than 25% of the estimated costs, not to exceed $10,000, for Interconnection Facilities necessary to complete an Application and to interconnect the Small Generator Facility to the T&D System. Progress billing, final billing and payment schedules must be agreed to by Parties prior to commencing work.

Article 5. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

5.1 Assignment

The Interconnection Agreement may be assigned by either Party upon fifteen (15) business days prior written notice. Except as provided in Articles 5.1.1 and 5.1.2, said assignment shall only be valid upon the prior written consent of the non-assigning Party, which consent shall not be unreasonably withheld.

5.1.1 Either Party may assign the Agreement without the consent of the other Party to any affiliate (which shall include a merger of the Party with another entity), of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;

5.1.2 The Applicant shall have the right to assign the Agreement, without the consent of PGE, for collateral security purposes to aid in providing financing for the Small Generator Facility. For Small Generator systems that are integrated into a building facility, the sale of the building or property will result in an automatic transfer of the Agreement to the new owner who shall be responsible for complying with the terms and conditions of this Agreement.

5.1.3 Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same obligations as the Applicant.

5.2 Limitation of Liability and Consequential Damages

A Party is liable for any loss, cost claim, injury, or expense including reasonable attorney's fees related to or arising from any act or omission in its performance of the provisions of an Interconnection Agreement entered into pursuant to the Rule except as provided for in ORS 757.300(4)(c). Neither Party will seek redress from the other Party in an amount greater than the amount of direct damage actually incurred.

5.3 Indemnity

5.3.1 This provision protects each Party from liability incurred to third parties as a result

of carrying out the provisions of the Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 5.2.

5.3.2 Each Party shall, to the extent allowed by law, and subject to the limitations imposed by ORS 30.260 to ORS 30.300, if applicable, at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees at trial and on appeal, and all other obligations by or to third parties (hereinafter "Harm"), arising out of or resulting from its negligent action or failure to meet its obligations under this Agreement. Such indemnity obligation shall be limited to the proportional extent the Harm is caused by the negligence of the indemnified Party.

5.3.3 If an indemnified person is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such a claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

5.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this Article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

5.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

5.3.6 The indemnifying Party shall have the right to assume the defense thereof with counsel designated by such indemnifying Party and reasonably satisfactory to the indemnified person. If the defendants in any such action include one or more indemnified persons and the indemnifying Party and if the indemnified person reasonably concludes that there may be legal defenses available to it and/or other indemnified persons which are different from or additional to those available to the indemnifying Party, the indemnified person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an indemnified person or indemnified persons having such differing or additional legal defenses.

5.3.7 The indemnified person shall be entitled, at its expense, to participate in any such

action, suit or proceeding, the defense of which has been assumed by the indemnifying Party. Notwithstanding the foregoing, the indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the indemnified person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the indemnified person, or there exists a conflict or adversity of interest between the indemnified person and the indemnifying Party, in such event the indemnifying Party shall pay the reasonable expenses of the indemnified person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the indemnified person, which shall not be reasonably withheld, conditioned or delayed.

5.4 Consequential Damages

Neither Party shall be liable to the other Party, under any provision of the Agreement, for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

5.5 Force Majeure

5.5.1 As used in this Agreement, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

5.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance, and if the initial notification was verbal, it should be promptly followed up with a written notification. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends the Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be reasonably mitigated. The Affected Party will use reasonable efforts to resume its performance as soon as possible. The Parties shall immediately report to the Commission should a Force Majeure Event prevent performance of an action required by Rule that the Rule does not

permit the Parties to mutually waive.

5.6 Default

5.6.1 No default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement, or the result of an act or omission of the other Party. Upon a default, the non-defaulting Party shall give written notice of such default to the defaulting Party. Except as provided in Article 5.6.2, the defaulting Party shall have sixty (60) calendar days from receipt of the default notice within which to cure such default; provided however, if such default is not capable of cure within sixty 60 calendar days, the defaulting Party shall commence such cure within twenty (20) calendar days after notice and continuously and diligently complete such cure within six (6) months from receipt of the default notice; and, if cured within such time, the default specified in such notice shall cease to exist.

5.6.2 If a default is not cured as provided for in this Article, or if a default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate the Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates the Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. Alternately, the non-defaulting Party shall have the right to seek dispute resolution pursuant to Article 7 with the Commission in lieu of default. The provisions of this Article will survive termination of the Agreement.

Article 6. Insurance

A Party is liable for any loss, cost claim, injury, or expense including reasonable attorney's fees related to or arising from any act or omission in its performance of the provisions of this Rule or the Interconnection Agreement entered into pursuant to this Rule.

6.1 Pursuant to the Rule adopted by the Commission, PGE may not require the Applicant to maintain general liability insurance in relation to the interconnection of a Small Generator Facility with an Electric Nameplate Capacity of 200 kW or less. With regard to the interconnection of a Small Generator Facility with an Electric Nameplate Capacity equal to or less than 10 MW but in excess of 200 kW, the Applicant shall, at its own expense, maintain in force throughout the period of this Agreement general liability insurance sufficient to protect any person (including PGE) who may be affected by the Applicant's Small Generator Facility and its operation and such insurance shall be sufficient to satisfy the Applicant's indemnification responsibilities under Article 5.3 of this Agreement.

6.2 Within ten (10) business days following execution of this Agreement, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) calendar days there after, the Applicant shall provide PGE with certification of all insurance required in this Agreement, executed by each insurer or by an authorized representative of each insurer.

6.3 All insurance required by this Article 6 shall name PGE, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation against the Other Party Group and provide thirty (30) calendar days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition. The Applicant's insurance shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. The insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this Agreement, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

6.4 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Agreement.

6.5 The requirements contained herein as to insurance are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Parties under this Agreement.

Article 7. Dispute Resolution

Parties will adhere to the dispute resolution provisions in OAR 860-082-0080.

Article 8. Miscellaneous

8.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of the Agreement and each of its provisions shall be governed by the laws of the State of Oregon, without regard to its conflicts of law principles. The Agreement is subject to all applicable laws. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a governmental authority.

8.2 Amendment

The Parties may mutually agree to amend the Agreement by a written instrument duly executed by both Parties in accordance with provisions of the Rule and applicable Commission Orders and provisions of the laws if the State of Oregon.

8.3 No Third-Party Beneficiaries

The Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

8.4 Waiver

8.4.1 The failure of a Party to the Agreement to insist, on any occasion, upon strict performance of any provision of the Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

8.4.2 The Parties may agree to mutually waive a section of this Agreement so long as prior Commission approval of the waiver is not required by the Rule.

8.4.3 Any waiver at any time by either Party of its rights with respect to the Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of the Agreement. Any waiver of the Agreement shall, if requested, be provided in writing.

8.5 Entire Agreement

The Interconnection Agreement, including any supplementary Form attachments that may be necessary, constitutes the entire Agreement between the Parties with reference to the subject matter hereof and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of the Agreement. There are no other agreements, representations, warranties, or covenants that constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under the Agreement.

8.6 Multiple Counterparts

The Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

8.7 No Partnership

The Agreement will not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

8.8 Severability

If any provision or portion of the Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority; (1) such portion or provision shall be deemed separate and independent; (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling; and (3) the remainder of the Agreement shall remain in full force and effect.

8.9 Subcontractors

Nothing in the Agreement shall prevent a Party from utilizing the services of any subcontractor, or designating a third party agent as one responsible for a specific obligation or act required in the Agreement (collectively subcontractors), as it deems appropriate to

perform its obligations under the Agreement; provided, however, that each Party will require its subcontractors to comply with all applicable terms and conditions of the Agreement in providing such services and each Party will remain primarily liable to the other Party for the performance of such subcontractor.

8.9.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under the Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made. Any applicable obligation imposed by the Agreement upon the hiring Party shall be equally binding upon, and will be construed as having application to, any subcontractor of such Party.

8.9.2 The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

8.10 Reservation of Rights

Either Party will have the right to make a unilateral filing with the Commission to modify the Interconnection Agreement. This reservation of rights provision will include but is not limited to modifications with respect to any rates terms and conditions, charges, classification of service, rule or regulation under tariff rates or any applicable State or Federal law or regulation. Each Party shall have the right to protest any such filing and to participate fully in any proceeding before the Commission in which such modifications may be considered.

Article 9. Notices and Records

9.1 General

Unless otherwise provided in the Agreement, any written notice, demand, or request required or authorized in connection with the Agreement shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Applicant:

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

If to PGE:

Attention: Small Power Production

Address: 121 SW Salmon St, 3WTC0402

City: Portland State: OR Zip: 97204

Phone: (503) 464-8300

Fax: (503) 464-2115

E-mail: small.powerproduction@pgn.com

9.2 Records

PGE will maintain a record of all Interconnection Agreements and related Form attachments for as long as the interconnection is in place as required by OAR 860-082-065. PGE will provide a copy of these records to the Applicant within fifteen (15) business days if a request is made in writing.

9.3 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to the Applicant (*complete if different than Article 9.1*):

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

If to PGE (*complete if different than Article 9.1*):

Attention: Small Power Production

Address: 121 SW Salmon St. , 3WTC0402

City: Portland State: OR Zip: 97204

9.4 Designated Operating Representative

The Parties will designate operating representatives to conduct the communications which may be necessary or convenient for the administration of the operations provisions of the Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities:

Applicant's Operating Representative (*complete if different than Article 9.1*):

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

PGE's Operating Representative (*complete if different than Article 9.1*):

Attention: Small Power Production

Address: 121 SW Salmon St. , 3WTC0402

City: Portland State: OR Zip: 97204

Phone: (503) 464-8300

Fax: (503) 464-2115

E-mail: small.powerproduction@pgn.com

9.5 Changes to the Notice Information

Either Party may change this notice information by giving five (5) business days written notice prior to the effective date of the change.

Article 10. Signatures

IN WITNESS WHEREOF, the Parties have caused the Agreement to be executed by their respective duly authorized representatives.

For the Applicant:

Signature: _____

Printed Name: _____

Title (*if applicable*): _____

Date: _____

For PGE:

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Attachment A

Description and Costs of Minor Modifications, Interconnection Facilities, System Upgrades, and Adverse System Impacts

The following System Upgrades are required to interconnect the generation facility:

- To properly service the generation facility, the installation of a new primary service and metering package will be needed.
- Replace hydraulic recloser with an electronic recloser bank.
- Replace the in-line fuse with an electronic recloser bank.
- Upgrade the substation transformer relays with dual SEL-487E relay panels.
- Install a set 57kV voltage transformers.
- Install transfer trip via Mirror Bits Protocol over fiber optic cable. The fiber optic cable will run from the Wallace substation to the point of interconnection which is approximately 2.30 miles.

PGE's Responsibilities

PGE will design, procure, install and maintain the new service conductor and metering equipment. However, the conduit and trench from the Point of Interconnection to the riser pole will be installed by the Interconnection Customer.

On the distribution system PGE will install and maintain the two electronic reclosers.

In the Wallace substation PGE will engineer, install and maintain the SEL-487E transformer relay's and 57 kV VT's. A mobile substation will be needed to shift the load off the transformer so the relay work can be completed.

A transfer trip protection scheme will be engineered, installed and maintained by PGE. A fiber optic cable will run from the Wallace Substation to the point of interconnection along the existing distribution route. PGE's preferred method for transfer trip is SEL Mirror Bits Protocol. PGE will provide the settings for the Interconnection Customers relays prior to construction.

Interconnection Customers Responsibilities

For the new service the Interconnection Customer will need to trench and install 4" conduit from the Point of Interconnection to the riser pole in accordance with PGE's standards. Additionally, a pull rope will need to be placed in the conduit to allow PGE to pull in the new service conductors.

The Interconnection Customer will need to purchase and install a small vault along the same path as the conduit. The vault needs to be located between the outside fence of the generation facility and the riser pole. The vault will contain laterals, provided by PGE, that can be used as an isolation point for PGE crews. Vault specifications will be provided during the engineering of the new primary service.

The Interconnection Customer will also be responsible for the installation of the CT's. The CT's will be provided by PGE and wired by PGE after they have been installed.

The Interconnection Customer will also need to provide a non-energized communications cabinet to which the fiber optic cable and transfer trip devices can reside. The Interconnection Customer will be responsible for purchasing and installing the relays for transfer trip. Prior to testing, a copy of the setting must be provided to PGE for review.

The Interconnection Customer will be required to use dynamic reactive current support to mitigate voltage flicker on the feeder. The cost associated with dynamic reactive current support will be borne by the Interconnection Customer and is not included in PGE's cost Estimate.

Below is PGE's non-binding good faith estimate for the work outlined above.

New Primary Service and Metering Package	$30,000.00
Distribution Requirements	$120,000.00
(Two Electronic Recloser Banks)	
Protection Requirements	$459,600.00
(Dual SEL-487E Relays, 57kV VT)	
Communication Requirements	$195,326.00
(Transfer Trip via Mirror Bits Protocol over Fiber Optic Line)	
Total	$804,926.00

Attachment B

Description of Interconnection Facilities and Metering Equipment Operated or Maintained by PGE

PGE will only own the following interconnection equipment at the site:

- Primary voltage service conductors from PGE's area feeder circuit to the termination point in PV plant's switchgear, and
- Metering equipment (Meter, potential transformers, current transformers and associated wiring) that will be installed in the applicant-supplied switchgear.

Periodic maintenance of PGE owned equipment will be needed to ensure accuracy and function. The maintenance will occur on a regular cycle and be set forth by PGE. If at any time the equipment is damaged, the Applicant, or any subsequent assignees of this Agreement, may be held responsible for all associated costs. If at any point, the Applicant wishes to make any changes to the Interconnection Facilities that require PGE personnel or equipment, the Applicant is responsible for all associated costs.

The Applicant shall pay for the cost of the Interconnection Facilities itemized in this Agreement as well as engineering, procurement, construction, and commissioning costs of PGE provided interconnection facilities and distribution upgrades contemplated by this Agreement. The cost set forth herein is only for the scopes of work that will be performed by PGE. Costs for any work being performed by the Applicant or for any Applicant-owned, supplied and installed equipment and associated design and engineering are not included.

PGE will not perform services under this Agreement until payments are received by PGE as set forth under this Agreement. Applicant will be in default per Section 5.6 of the Agreement if PGE does not receive payment of any sum due to PGE as outlined in Attachment D.

The Applicant will acquire all necessary property rights and permits for the construction of the required facilities as well as distribution line easements (meeting PGE requirements), including easements for PGE's owned underground cable route for the new service**.**

Attachment C

One-Line Diagram

One-line diagram depicting the Generator Facility, Interconnection Facilities, metering equipment, and upgrades including safety lockout features and any special accessibility requirements.

To be filled in with as-built drawings upon project completion.

Attachment D

Scope of Work/Milestones

In-Service Date: _October 29, 2021_

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	Executed Interconnection Agreement / 12-4-2019	Zena Solar
(2)	$10,000 of Estimated Cost / 12-4-2019	Zena Solar
(3)	Certification of Insurance / 12-18-2019	Zena Solar
(4)	Scaled Site Plan Drawings / 2-3-2020	Zena Solar
(5)	Engineering Starts / 2-7-2020	PGE
(6)	Payment of $268,308 / 3-27-2020	Zena Solar
(7)	Easement Documentation / 8-28-2020	Zena Solar
(8)	Payment of $268,309 / 9-25-2020	Zena Solar
(9)	PGE Orders Long Lead Time Items / 9-25-2020	PGE
(10)	*Engineering Complete / 12-31-2020	PGE
(11)	Payment of $258,309 / 2-19-2021	Zena Solar
(12)	PGE Starts Construction / 2-26-2021	PGE
(13)	Final Electric Inspection Provided / 8-27-2021	Zena Solar
(14)	Interconnection Facilities Complete / 9-30-2021	PGE
(15)	Testing and Commissioning / 10-15-2021	Zena Solar
(16)	In-Service Date / 10-29-2021	PGE

* During the design of the communication scheme additional costs or time may be incurred should the existing utility poles need to be replaced or modified to accommodate the fiber optic line.

PGE does not guarantee completion of any project on a targeted date as the schedule is dependent on a

number of variables, including but not limited to, construction of other potential interconnection projects.

Notwithstanding any other language in the Agreement, payment is due on the date specified above. Payments are due without prior notice or demand.

Attachment E

Additional Operating Requirements

No additional operating requirements have been placed on Buckner Zena Solar, LLC.

EXHIBIT 11

FEBRUARY 10, 2020 EMAIL FROM ZENA SOLAR TO PGE

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Sanger Law PC
1041 SE 58th Place, Portland, OR 97215 tel (503) 756-7533 fax (503) 334-2235 irion@sanger-law.com

February 10, 2020

Via Email

Kristin M. Ingram
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

RE: Zena Solar Project

Dear Ms. Ingram:

I am sending this letter regarding Zena Solar, LLC ("Zena Solar") with which Portland General Electric Company ("PGE") has executed a power purchase agreement ("PPA") under Schedule 201 pursuant to the Public Utility Regulatory Policies Act of 1978. Zena Solar has requested the necessary interconnection with PGE. However, Zena Solar and PGE have not yet executed an interconnection agreement, because PGE has failed to provide adequate interconnection studies. Under OAR 860-082-0035(2), (4), and (5), Zena Solar must pay for the reasonable costs of any interconnection facilities or system upgrades necessary to interconnect to its system, and PGE must provide a "good-faith, non-binding cost estimate." PGE has not done so. Zena Solar raised multiple concerns about errors and flaws in the interconnection studies which suggest the cost estimate based on those studies is also erroneous and flawed. PGE refused to acknowledge Zena Solar's concerns or provide any professionally reasonable assurances. By failing to provide a reasonable cost estimate, PGE is preventing Zena Solar from making informed business decisions. Now, PGE threatens to deem Zena Solar to have withdrawn its interconnection application if Zena Solar refuses to accept PGE's inaccurate cost estimate. This is unacceptable.

In its letter dated January 31, 2020, PGE demanded that Zena Solar execute a standard interconnection agreement by February 22, 2020, in which Zena Solar would agree to pay PGE to complete the interconnection work shown in its studies. If Zena Solar refuses, PGE stated that it would consider Zena Solar's application withdrawn from the interconnection queue pursuant to OAR 860-082-0025(7)(e). OAR 860-082-0025(7)(e) states in relevant part, "[t]he applicant must return an executed interconnection agreement to the public utility *or request negotiation of a non-standard interconnection agreement* within 15 business days of receipt or the application is deemed withdrawn" (emphasis added). Zena Solar had previously requested negotiation of a non-standard interconnection agreement. In its January 31 letter, PGE refused Zena

Solar's proffered terms and unilaterally decided that there would be no further negotiations. PGE's refusal to negotiate does not negate Zena Solar's request under the rules, therefore it would be inappropriate and not in good faith for PGE to deem the application withdrawn.

Zena Solar does not wish to withdraw its interconnection application but to receive the interconnection to which it is entitled. To that end, Zena Solar requests that: 1) PGE admit that the System Impact Study ("SIS") dated June 27, 2019 is incomplete since the analysis conducted by POWER Engineers did not include identification of adverse system impacts to the transmission system and therefore does not fulfill the requirements for SISs in the Small Generator Interconnection Rules; 2) PGE either have its own PE engineers certify and endorse all the interconnection studies performed for Zena Solar or refund Zena Solar for the cost of the studies; 3) PGE correct its interconnection standards to provide the appropriate attribution to its engineers; 4) PGE agree to allow Zena Solar to perform its own SIS and further agree to reimburse Zena Solar for the costs of the replacement SIS; 5) PGE agree to allow Zena Solar to hire a third-party consultant to complete the interconnection facilities and system upgrades (if any); and 6) PGE agree to amend the PPA in light of the interconnection dispute; and 7) PGE agree to not kick Zena Solar out of the interconnection queue until these disputes can be resolved.

First, PGE should admit that the SIS dated June 27, 2019 is incomplete. OAR 860-082-0060(7)(e) states that an SIS must identify and detail impacts on the PGE's transmission or distribution system, and that an SIS must evaluate any adverse system impacts. PGE stated that the SIS for Zena Solar was performed by POWER Engineers and that the scope of the work performed by POWER Engineers excluded any consideration of impacts on the transmission system, including any adverse system impacts. Although the SIS does not evaluate any transmission system impacts, in emails from Jason Zappe, PGE asserts that there are transmission system impacts necessitating additional interconnection equipment that Zena Solar must pay for. However, in your own letter from January 31, 2020, PGE states there are no transmission impacts associated with Zena Solar's project due to the amount of backfeed. PGE's analysis is contradictory. As a result, PGE's cost estimates vary widely. The most recent interconnection agreement provided to Zena Solar contains costs that are $643,926 more than the costs cited by POWER Engineers in the June 27, 2019 SIS, and $654,926 more than the costs cited by Frederick Harris of PGE in the revised October 22, 2018 SIS for SPQ0129. Additionally, in this revised SIS for SPQ0129 Mr. Harris writes that there will be no backfeed on the distribution transformer during light loading conditions. Zena Solar is now in a higher priority queue position than SPQ0129 was at the time Mr. Harris made the aforementioned revisions to the SIS for SPQ0129. This again contradicts with PGE's position that the project requires system upgrades to mitigate backflow and thus is

another example of PGE applying incoherent and incongruent criteria when studying future interconnections. Finally, even more alarming and unacceptable, PGE has acknowledged that the revised October 22, 2018 SIS was for a separate project and had errors in the modeling for that project. Zena Solar is entitled to a SIS that provides a complete analysis and a good-faith cost estimate for its own project. Zena Solar cannot blindly accept PGE's incomplete SIS as proof that the quoted costs for unstudied impacts are reasonable.

Second, PGE should either have its own engineers stamp and sign the interconnection studies or refund Zena Solar for all study fees. The SIS performed by POWER Engineers was endorsed by Brad Hennessey, PE, but as noted above, PGE claims that SIS only studied impacts on the distribution system. PGE asserts that its engineers examined the Zena Solar facility and identified impacts necessitating interconnection equipment beyond that specified by POWER Engineers. However, PGE's engineers have not endorsed any document sent to Zena Solar or shown any hard evidence of a legitimate analysis to support PGE's assertion that additional equipment is required. Zena Solar notes that this endorsement is required for the documents to be considered final under OAR 820-025-0015(1). If PGE refuses to provide final studies to Zena Solar that include the required engineer endorsement, PGE should refund Zena Solar for the fees Zena Solar paid for the studies.

Third, PGE should provide attribution to its engineers for the interconnection standards document found on PGE's Open Access Same Time Information System ("OASIS"). PGE cited this standards document in response to Zena Solar's concerns about the SIS, yet the document does not indicate it was prepared by qualified individuals. Further, the document contains a disclaimer that states the document is for informational purposes only and may be incorrect, incomplete, out of date, and erroneous. PGE's peer utility, PacifiCorp, also has an interconnection standards document on its OASIS, but PacifiCorp's document attributes authorship to its professional engineers and does not disclaim the document as unreliable. PGE should attribute authorship to its professional engineers and replace its current disclaimer with a statement such as the following, which was adapted from PacifiCorp's document:

> This standard is based on applicable rules and tariffs created by the Federal Energy Regulatory Commission and the Oregon State Public Utility Commission and the Oregon State Board of Examiners for Engineering and Land Surveying. This policy is consistent with safety requirements for PGE employees and the general public. This policy addresses technical requirements for establishing and maintaining interconnections as well as certain aspects of cost responsibility. This policy does not cover load service from PGE. Tariffs and rules filed with FERC and jurisdictional state

> regulatory agencies address the rates, terms, conditions, and manner under which PGE provides these services. This policy covers interconnection of inverter and non-inverter based systems to distribution level assets. If there are any inconsistencies between this policy and the tariffs and rules, the tariffs and rules shall prevail.

Fourth, PGE should agree to allow Zena Solar to perform its own SIS and receive full reimbursement. OAR 860-082-0060(9) provides that an applicant may hire a third-party consultant to complete a study, including an SIS, with the agreement of the utility. Given that the current SIS for Zena Solar is inadequate, and that the Facilities Study resulted in a cost estimate over $643,926 more than the estimate in the endorsed SIS from POWER Engineers, Zena Solar believes a restudy is necessary. Because Zena Solar is concerned that a second SIS performed by PGE would likely contain similar errors or flaws and would likely be delivered without any meaningful assurances from PGE that it is accurate and that it prescribes costs that are legitimately reasonable, Zena Solar seeks to have an SIS performed by a third-party consultant. For these same reasons, it would be unreasonable for PGE to refuse this request. Further, considering that the second SIS would not be necessary but for the errors and mistakes of PGE in completing the initial SIS, Zena Solar should not be forced to pay twice for the same work. PGE should therefore agree to reimburse Zena Solar for all costs for the second SIS.

Fifth, PGE should agree to allow Zena Solar to hire a third-party consultant to complete the interconnection facilities and system upgrades. OAR 860-082-0060(8)(f) provides that an applicant may hire a third-party consultant to complete the work identified in the facilities study, with the agreement of the utility. Given that PGE has established a practice of hiring third-party consultants to complete interconnection facilities and system upgrades, it would be unreasonable and discriminatory for PGE to refuse Zena Solar's request.

The aforementioned fourth and fifth demands are together de facto requirements per OAR 860-082-0035 and 860-082-0060 since PGE has been unable to produce complete studies that provide accurate cost information.

Finally, PGE should agree to amend the PPA in light of the interconnection dispute. Zena Solar requests that PGE agree to extend the scheduled Commercial Operation Date until January 31, 2021. In the alternative, Zena Solar requests that PGE agree that Zena Solar may expediently terminate the PPA without incurring any damages in the event that Zena Solar is pre-certified for the Oregon Community Solar Program.

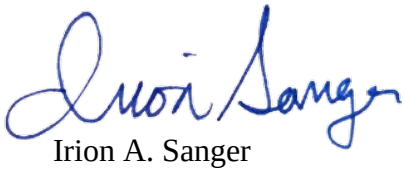
We want to be clear that the project looks forward to energization and hopes that it can reach a resolution of these concerns with PGE on a timely basis, as set out in this

letter. However, we also want to be clear that the project is ready to file a complaint with the appropriate tribunal related to PGE's actions and inaction if a resolution is not able to be reached. Please do not consider the issues raised in this letter as necessarily including all issues that we may raise in such a complaint, as Zena Solar reserves its rights to raise all issues.

We ask that you respond to this letter prior to February 14, 2020, to let us know if PGE agrees not to deem Zena Solar's interconnection application withdrawn. On all other items, we ask that you respond by February 21, 2020. Please confirm these dates immediately, or we may proceed with filing a complaint.

Please feel free to reach out with any questions.

Sincerely,



Irion A. Sanger

cc: Jonathan Nelson, Conifer Energy Partners LLC

EXHIBIT 12

FEBRUARY 26, 2020 LETTER FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric Company
Legal Department
121 SW Salmon Street • 1WTC1301 • Portland, Oregon 97204
Phone 503-464-7370 • Fax 503-464-2200
portlandgeneral.com

Kristin M. Ingram
Assistant General Counsel
kristin.ingram@pgn.com

February 26, 2020

Via Email
Irion Sanger
Sanger Law PC
1041 SE 58th Place
Portland, OR 97215

Re: Zena Solar Project

Dear Mr. Sanger:

I am in receipt of your February 10, 2020 letter regarding Zena Solar, LLC, which has applied to interconnect its proposed 2.5-megawatt Project to PGE's 12.47-kilovolt Wallace-13 kV distribution feeder, located near Keizer, Oregon. Zena Solar has applied to interconnect under the small generator interconnection rules (OAR 860-082-0005 to OAR 860-082-0085) of the Public Utility Commission of Oregon (Commission). Zena Solar proposes to sell all of its net output to PGE as a qualifying facility.

I. Introduction

PGE has provided Zena Solar with interconnection studies that meet all requirements under the Commission's rules. On October 15, 2019, PGE provided Zena Solar with a facilities study containing a good faith, non-binding estimate of the cost of interconnection facilities and system upgrades ($804,926.00). On November 12, 2019, PGE provided Zena Solar an executable interconnection agreement based on this good faith cost estimate.

Zena Solar has no legitimate reason for refusing to move forward with the interconnection process. PGE has provided complete interconnection studies and a reasonable cost estimate. PGE is not preventing Zena Solar from making informed business decisions. The terms proposed by Zena Solar for a negotiated interconnection agreement were unreasonable and were rejected by PGE in my letter of January 31, 2020. Zena Solar is now further delaying interconnection by asserting baseless demands. PGE encourages Zena Solar to proceed with the interconnection process and to execute the enclosed interconnection agreement by March 20, 2020.

II. Summary of Zena Solar's demands and PGEs responses

A. PGE's interconnection studies are complete. Zena Solar argues that PGE's interconnection studies are incomplete because PGE consultant POWER Engineers

(POWER) did not consider impacts to the transmission system. PGE's transmission planning engineer, not POWER, is responsible for considering impacts to the transmission system. There were no transmission system impacts in any of the system impact studies performed or used for Zena Solar. I reiterated this to Zena Solar in my January 31, 2020 letter.

B. PGE's increased cost estimates are caused by the withdrawal of higher queued projects and by improving information through the course of the study process. Zena Solar argues that PGE's cost estimates varied significantly and that this is somehow evidence of contradictory studies. The cost estimates increased at each stage of the study process because the scope of mitigation that must occur as part of the Zena Solar interconnection increased as higher-queued projects that were originally responsible for the mitigation withdrew. Estimated costs also change as the study process moves forward because PGE's understanding of expected impacts and required mitigation increases at each stage of the process, because PGE's experience with actual interconnection costs on other projects increased as Zena Solar moved through the study process, and because of inflation.

C. PGE's use of the November 6, 2018 SIS for Zena Solar is reasonable. When higher-queued SPQ0140 withdrew, it was necessary to reevaluate the impacts caused by Zena Solar. PGE could have required Zena Solar to sign a new system impact study agreement and to fund a re-study. But PGE realized that the existing November 6, 2018 SIS for SPQ0129 (which withdrew from the queue on February 4, 2019) already provided the necessary evaluation. SPQ0129 and Zena Solar are functionally identical. They involve the same key project characteristics and Zena Solar is currently in the same queue position SPQ0129 was in when the November 6, 2018 SIS was completed. There is no technical reason not to use the November 6, 2018 SIS to determine the system impacts of the Zena Solar interconnection. Nevertheless, when Zena Solar complained about this approach, PGE offered to re-study the Zena Solar interconnection, but Zena Solar refused to pay for a re-study. Zena Solar cannot have it both ways, it cannot reject a perfectly acceptable existing study *and* refuse to pay for a re-study made necessary by the withdrawal of a higher queued project.

D. PGE's engineers are not required to stamp or sign interconnection studies. Zena Solar demands that PGE's professional engineers stamp and sign the Zena Solar interconnection studies or that PGE refund to Zena Solar the cost of the studies. There is no requirement in statute, rule, Commission order, or the study agreements that requires PGE's engineers to stamp or sign the interconnection studies. None of the Oregon jurisdiction utilities (PGE, PacifiCorp, or Idaho Power) require their engineers to stamp or sign Oregon small generator interconnection studies because there is no requirement in statute, rule, order, or agreement to do so. PGE will not refund the cost of the studies. Zena Solar initiated the interconnection process and agreed to pay for the studies without any requirement in the study agreements that PGE's engineers stamp or sign the study results. Zena Solar's desire to have stamped and signed studies, when there is no such requirement under the

Commission's rules, is not a legitimate basis for refusing to move forward with the interconnection process.

E. PGE is not required to modify its posted interconnection standards. Zena Solar demands that PGE modify its posted small generator interconnection standards to state the author of the standards and to include certain language regarding the applicability of the standards. PGE is not required to post interconnection standards, is not required to state the author of posted standards, and is not required to include the applicability language demanded by Zena Solar. Zena Solar's desire to have PGE change posted standards that PGE is not required to post is not a legitimate reason to refuse to move forward with the interconnection process.

F. PGE has already conducted the required interconnection studies. Zena Solar demands that PGE agree to allow Zena Solar to hire a third-party consultant to complete the interconnection studies as authorized by OAR 860-082-0060(9). PGE does not agree. PGE has already completed all studies and provided Zena Solar with an interconnection agreement. There are no remaining studies to complete under OAR 860-082-0060(9). Even if there were remaining studies, PGE has the right to refuse to allow the applicant to complete those studies and PGE has the right to finish the studies itself. OAR 860-082-0060(9) does not provide Zena Solar with any legitimate basis to refuse to move forward with the interconnection process.

G. PGE does not agree that Zena Solar can construct the required interconnection facilities and system upgrades on PGE's system. Zena Solar demands that PGE agree to allow Zena Solar to hire a third-party consultant to construct the required interconnection facilities and system upgrades on PGE's system as permitted by OAR 860-082-0060(8)(f). PGE has the right to refuse such a request and the right to construct the required facilities and upgrades itself, or to use PGE's own third-party consultants to do so. The Commission decided this question in Order No. 19-218. OAR 860-082-0060(8)(f) does not provide Zena Solar with a legitimate basis to refuse to move forward with the interconnection process.

H. PGE does not agree to amend the PPA to extend the scheduled COD. Zena Solar has demanded that PGE agree to amend the PPA to extend the scheduled Commercial Operation Date to January 31, 2021. PGE does not agree to do so. PGE has agreed to modify scheduled COD when PGE has missed interconnection deadlines. In this case, PGE has met applicable deadlines and worked in good faith to address the withdrawal of higher-queued projects and the resulting need to reevaluate the Zena Solar interconnection. Zena Solar's desire to amend the PPA does not provide a legitimate basis for Zena Solar to refuse to move forward with the interconnection process.

III. Detailed response to Zena Solar's demands

Your February 10, 2020 letter raises a number of issues which PGE addresses below. Your statements are quoted in bold, italicized text and followed by PGE's response in plain text.

- ***First, PGE should admit that the SIS dated June 27, 2019 is incomplete.***

PGE disagrees with the statement. The SIS dated June 27, 2019 is complete and satisfies the requirements of OAR 860-082-0060(7)(e).

- ***OAR 860-082-0060(7)(e) states that an SIS must identify and detail impacts on the PGE's transmission or distribution system, and that an SIS must evaluate any adverse system impacts.***

OAR 860-082-0060(7)(e) states an SIS "must identify and detail the impacts on the public utility's transmission or distribution system or on an affected system" and "must include evaluation of the adverse system impacts identified in the feasibility study and in the scoping meeting." PGE's SIS meets these requirements.

PGE's distribution planning engineer and distribution operations engineer identify and detail any impacts to PGE's distribution system in the *Distribution System Modifications* section of the SIS. If PGE's distribution planning engineer concludes there will be backfeed on the transmission system, he or she alerts PGE's transmission planning engineer of the amount of backfeed, and the transmission planning engineer determines if this amount of backfeed will cause any adverse impacts to PGE's transmission system or to other utilities' systems. If there are any adverse impacts to PGE's transmission system or to other utilities' systems, these are identified and detailed by PGE's transmission planning engineer in a section of the SIS entitled *Transmission System Modifications*. PGE's protection engineer identifies and details any impacts to PGE's substation in the *Protection Requirements* section of the SIS.

- ***PGE stated that the SIS for Zena Solar was performed by POWER Engineers and that the scope of the work performed by POWER Engineers excluded any consideration of impacts on the transmission system, including any adverse system impacts.***

This comment is incorrect. PGE did not state that POWER performed the entire SIS for Zena Solar.

PGE contracts with POWER to analyze impacts to the distribution system. POWER produces a document entitled *System Impact Study for Distribution Lines and Equipment*. That document is attached to the SIS as Attachment A (previously designated Appendix A in older system impact studies). POWER's analysis is reviewed by, and may be revised by, PGE's distribution planning engineer and distribution operations engineer. PGE's engineers then use POWER's analysis as an aid to their own analysis. PGE's distribution engineers identify, detail, and evaluate any adverse system impacts to PGE's distribution system in a section of the SIS entitled *Distribution System Modifications*.

The scope of work performed by POWER does not include consideration of impacts to PGE's substation or the transmission system. Impacts to PGE's substation are considered by PGE's protection engineer. If PGE's protection engineer determines that an interconnection will adversely impact the substation then he or she will identify, detail, and evaluate such adverse system impacts in a section of the SIS entitled *Protection Requirements*. Impacts to PGE's transmission system and to other utilities' systems are considered by PGE's transmission planning engineer. If PGE's transmission planning engineer determines that an interconnection will adversely impact the transmission system or another utility's system, then he or she will identify, detail, and evaluate such adverse system impacts in a section of the SIS entitled *Transmission System Modifications*. As there were no transmission impacts due to Zena Solar, there are no Transmission System Modifications sections within the system impact studies provided to Zena Solar.

- ***Although the SIS does not evaluate any transmission system impacts, in emails from Jason Zappe, PGE asserts that there are transmission system impacts necessitating additional interconnection equipment that Zena Solar must pay for. However, in your own letter from January 31, 2020, PGE states there are no transmission impacts associated with Zena Solar's project due to the amount of backfeed. PGE's analysis is contradictory.***

  These statements contain several errors.

First, the SIS *does* evaluate transmission system impacts. POWER does not evaluate transmission system impacts but PGE's transmission planning engineer does. If the transmission planning engineer determines that there will be any transmission system impacts, the engineer will identify and detail those impacts in the *Transmission System Modifications* section of the SIS. There were no adverse impacts to the transmission system in any of the system impact studies performed or used for Zena Solar. As a result, a *Transmission System Modifications* section is not included in any of the study reports for Zena Solar.

Second, we are not aware of any email from Mr. Zappe stating the Zena Solar project will cause transmission system impacts. Please provide me with a copy of the emails in question and identify the specific statements you reference. I suspect Zena Solar has misconstrued the SIS and Mr. Zappe's emails. In the *Protection Requirements* section of the SIS, PGE's protection engineer has concluded that addition of the Zena Solar Project to the feeder could result in backflow onto the transmission system and that such backflow could cause adverse impacts to PGE's *substation*. As a result, PGE's protection engineer has required modifications to the substation to mitigate these adverse *substation* impacts. Specifically, protection requires 57kV Voltage Transformers (VT's) be installed in the high-side of the substation, transfer trip to the DER via Mirror Bits, and an upgrade to the transformer protection using SEL-487E relay panels. These are all considered

protection requirements (or substation impacts), not transmission system impacts. PGE's protection engineer does not evaluate adverse impacts to PGE's transmission system.

Finally, the statement in my January 31, 2020 letter that there are no transmission impacts associated with Zena Solar's project due to the amount of backfeed is correct. There are no adverse impacts to PGE's transmission system, but there are adverse impacts to PGE's substation. PGE's analysis is consistent.

- ***[PGE's analysis is contradictory.] As a result, PGE's cost estimates vary widely. The most recent interconnection agreement provided to Zena Solar contains costs that are $643,926 more than the costs cited by POWER Engineers in the June 27, 2019 SIS, and $654,926 more than the costs cited by Frederick Harris of PGE in the revised October 22, 2018 SIS for SPQ0129***.

  This statement is incorrect.

First, the estimated cost in the most recent interconnection agreement are not $643,926 more than the estimated costs in the June 27, 2019 SIS or $654,926 more than the estimated costs in the November 6, 2018 SIS for SPQ0129. The total estimated cost in the most recent interconnection agreement ($804,926) is $480,614 more than the total estimated cost in the June 27, 2019 SIS ($324,312) and $265,326 more than the total estimated cost in the November 6, 2018 SIS for SPQ0129 ($539,600).

Second, PGE's cost estimates do not vary because of contradictory analysis. PGE's cost estimates have increased because higher-queued projects have withdrawn and work that would have been the responsibility of those higher-queued interconnections is now part of the scope of work for the Zena Solar interconnection. Costs also vary from study to study because PGE's understanding of the required modifications becomes more refined as the process moves from feasibility, to system impact, to facilities studies, and because PGE is gaining experience with actual interconnection costs from projects that are under construction while the Zena Solar project proceeds through the study process and that experience may alter PGE's estimate of particular costs as the study process progresses. Finally, estimated costs typically increase over time because of inflation. In sum, the change in estimated costs from $324,312, to $539,600, to $804,926 does not illustrate any contradictory analysis, it illustrates the increased scope of mitigation assigned to the Zena Solar interconnection as higher-queued project withdraw and it illustrates PGE's improving information about estimated costs.

- ***Additionally, in this revised SIS for SPQ0129 Mr. Harris writes that there will be no backfeed on the distribution transformer during light loading conditions. Zena Solar is now in a higher priority queue position than SPQ0129 was at the time Mr. Harris made the aforementioned revisions to the SIS for SPQ0129. This again contradicts with PGE's position that the project requires system***

upgrades to mitigate backflow and thus is another example of PGE applying incoherent and incongruent criteria when studying future interconnections.

The comment is incorrect.

First, Zena Solar is not in a higher priority queue position than SPQ0129 was when PGE completed its revised SIS for SPQ0129 on November 6, 2018. At the time of the SPQ0129 re-study, that project was the highest queued unconstructed project (there was one existing source of generation that was already interconnected – SPQ0024). This is demonstrated by two elements of the POWER report attached as Attachment A (previously designated Appendix A in older system impact studies) to the November 6, 2018 re-study. The table on page 6 of the POWER report states that the highest-queued project was SPQ0024 (which was already constructed), the second highest-queued projects was SPQ0122, and the third-highest queued project was SPQ0129. Mr. Harris' red font comments on page 4 of the POWER report then make it clear that SPQ122 had withdrawn by the time of the November 6, 2018 re-study. Mr. Harris' comment states: "[w]ith the withdrawal of SPQ0122, the following will be required for SPQ0129[.]" As a result, at the time of the November 6, 2018 re-study, SPQ0129 was the highest pending interconnection in the queue (and there was one existing source of generation already interconnected – SPQ0024). The same is true today for the Zena Solar Project. With the withdrawal of SPQ0129, SPQ0140, and SPQ0159, the Zena Solar Project (SPQ0163) is now the highest pending interconnection in the queue (and there is one existing source of generation already interconnected – SPQ0024). The Zena Solar Project today inhabits the exact same queue position that the SPQ0129 project inhabited when PGE conducted its November 6, 2018 re-study.

Second, PGE did not apply incoherent and incongruent criteria in the November 6, 2018 SIS for SPQ0129. It is true that PGE distribution planning engineer, Mr. Harris, found there to be no backfeed on the distribution transformer (about 600kW of load), whereas PGE's protection engineer found there to be backfeed on the distribution transformer (about -880kW of backfeed, if one subtracts Zena Solar's 2.5MW of generation from the 1.62MW substation minimum load, which assumes the substation minimum load value included 100% nameplate generation from SPQ0024) in the November 6, 2018 SIS for SPQ0129. PGE's engineers reached these differing conclusions because Mr. Harris used minimum load data from May 8, 2017 (the minimum load data from the original SIS for SPQ0129), whereas PGE's protection engineer used updated minimum load data from May 12, 2018. As the minimum load values were from different years and annual minimum load values can vary, different conclusions were drawn about backfeed on the transmission system. Additionally, the minimum load values differed because SPQ0024 had begun generating by the end of 2017, so its effect on the minimum load season was evident in the data that PGE's protection engineer used from May 2018. Using May 2017's minimum load, SPQ0024's impact on the minimum load could only be estimated by subtracting its nameplate generation from the May 2017 minimum load.

However, PGE's protection engineer came to the correct conclusion that there would be backfeed on the transmission system due to Zena Solar, as the data used was newer and the outcome aligns with protection's reassessment in the October 15, 2019 facility study for Zena Solar. Despite these differing minimum load values, the older minimum load value which

Mr. Harris used did not affect the outcome of PGE's analysis of impacts on the distribution or transmission systems. The difference in minimum load data sets has no substantive effect on the distribution system analysis. Further, as prior studies for Zena Solar demonstrated that amounts of backfeed larger than -880kW on the transmission system did not have any adverse transmission system impacts, it follows that -880kW of backfeed would not result in any adverse transmission system impacts.

- ***Finally, even more alarming and unacceptable, PGE has acknowledged that the revised October 22, 2018 SIS was for a separate project and had errors in the modeling for that project. Zena Solar is entitled to a SIS that provides a complete analysis and a good-faith cost estimate for its own project. Zena Solar cannot blindly accept PGE's incomplete SIS as proof that the quoted costs for unstudied impacts are reasonable***.

There are several problems with this statement.

First, PGE did not conduct a revised SIS dated October 22, 2018. PGE conducted a revised SIS for SPQ0129 dated November 6, 2018. The revised SIS included as Attachment A (previously designated Appendix A in older system impact studies) the POWER analysis entitled *System Impact Study for Distribution Lines and Equipment*. This POWER analysis is not PGE's SIS, it is a component to PGE's SIS. PGE's distribution planning engineer, Mr. Harris, revised the POWER analysis on October 22, 2018, so that the POWER analysis could be retained as a component of, and attachment to, PGE's November 6, 2018 re-study of the SIS for SPQ0129.

Second, it was reasonable and consistent with prudent utility practice for PGE to use the November 6, 2018 SIS for SPQ0129. The June 27, 2019 SIS for Zena Solar assumed the completion of higher queued project SPQ140 (which was the only higher queued pending interconnection request on the feeder at the time of the June 27, 2019 re-study). When SPQ0140 withdrew from the queue on July 26, 2019, it became necessary to reevaluate the impacts caused by Zena Solar because of the loss of mitigation to PGE's system that was previously assigned to SPQ0140. PGE could have required that Zena Solar enter into another system impact study agreement and agree to pay for a re-study of the June 27, 2019 system impact study for Zena Solar. But PGE realized that it already had a study – the November 6, 2018 SIS for SPQ0129 – which demonstrated the impacts that PGE could expect from the Zena Solar project in its new queue position.

This is because SPQ0129 (which was withdrawn on February 4, 2019) and Zena Solar are functionally identical interconnection requests. Both projects have the same key interconnection characteristics. Specifically: (i) both are solar qualifying facilities; (ii) both have nameplate capacity of 2.5 megawatts; (iii) both have nominal voltage of 13 kilovolts; (iv) both have the same number and type of inverters (20 CPS SCH125KTL-DO/US-600 inverters with reactive power capabilities); and (v) the point of interconnection for both projects is functionally identical (the

points of interconnection are one span apart on the same distribution feeder and this difference has no substantive impact on the interconnection analysis for the two projects). In addition, Zena Solar's queue position today (highest queued pending request with one existing generator on the feeder – SPQ0024) is the same as SPQ0129's queue position at the time of the November 6, 2018 SIS for SPQ0129 (highest queued pending request with one existing generator on the feeder – SPQ0024). There is no technical reason not to use the November 6, 2018 SIS to determine the system impacts of the Zena Solar interconnection, and doing so saved both PGE and Zena Solar time and expense.

Nevertheless, when Zena Solar complained about use of the November 6, 2018 SIS, PGE offered (by email dated December 4, 2019) to conduct a re-study of the Zena Solar interconnection if Zena Solar executed a new system impact study agreement and agreed to pay the costs of the re-study. The same day Zena Solar refused to agree to pay for a re-study. Zena Solar cannot have it both ways. It cannot reject PGE's reasonable and prudent use of the November 6, 2018 SIS for SPQ0129 to determine the system impacts that will result from the Zena Solar interconnection now that it is the highest pending interconnection request *and* refuse to agree to fund a re-study of the Zena Solar interconnection to address the change in circumstances caused by the withdrawal of SPQ0140.

Third, the November 6, 2018 SIS for SPQ0129 did not contain any CYME software modeling error. As I explained in my January 31, 2020 letter, it was during the subsequent studies for SPQ0140 and Zena Solar that PGE briefly believed SPQ0129 would cause voltage violations and therefore would be responsible for a reconductor. However, after further review, these voltage violations were found to be the fault of a CYME software modeling error in voltage regulator cogeneration mode. PGE then established a manual process to correctly simulate a voltage regulator in cogeneration mode and determined that there were no voltage issues attributable to SPQ0129 and that no reconductor or other mitigation beyond that identified in the November 6, 2018 SIS was required for SPQ0129. The CYME software modeling error has been corrected in a newer version of CYME.

- ***Second, PGE should either have its own engineers stamp and sign the interconnection studies or refund Zena Solar for all study fees. The SIS performed by POWER Engineers was endorsed by Brad Hennessey, PE, but as noted above, PGE claims that SIS only studied impacts on the distribution system. PGE asserts that its engineers examined the Zena Solar facility and identified impacts necessitating interconnection equipment beyond that specified by POWER Engineers. However, PGE's engineers have not endorsed any document sent to Zena Solar or shown any hard evidence of a legitimate analysis to support PGE's assertion that additional equipment is required. Zena Solar notes that this endorsement is required for the documents to be considered final under OAR 820-025-0015(1). If PGE refuses to provide final studies to Zena Solar that***

include the required engineer endorsement, PGE should refund Zena Solar for the fees Zena Solar paid for the studies.

The POWER analysis entitled *System Impact Study for Distribution Lines and Equipment* is not PGE's SIS, it is an attachment to and component of PGE's SIS. PGE's engineers do not stamp or sign any of PGE's Oregon small generator interconnection studies. Neither do PacifiCorp's engineers or Idaho Power Company's engineers. There is no requirement under the Commission's small generator interconnection rules that the public utility must have its professional engineers stamp and sign its interconnection studies. Likewise, there is no requirement under Oregon law or administrative rules that requires PGE's engineers to stamp or sign the interconnection studies.

The interconnection studies are iterative or preliminary documents and are not intended for construction. Under the Oregon engineering statutes (ORS 672.002 to 672.325) and related administrative rules (OAR Chapter 820) preliminary documents do not require an engineer's stamp or signature. *See* ORS 672.020 ("Every *final* document … issued by a registrant shall be stamped with the seal and signed by the registrant.") (emphasis added); OAR 820-025-0025(2) ("Documents that are not final documents must be marked as 'preliminary', 'not for construction', review copy", "draft copy, subject to change", or with some similar wording to indicate that the documents are not intended to represent the final wok product of the registrant.").

In addition, the work by PGE's engineers is exempt from Oregon's engineering statutes and regulations. ORS 672.060(6) establishes what is referred to as the industrial exemption. It states that Oregon's engineering statutes do not apply to the performance of engineering work by a full-time employee of a person, provided the work is in connection with or incidental to the operations of the person and the engineering work is not offered directly to the public. The interconnection studies conducted by PGE's engineers are work conducted by full-time employees of PGE, in connection with PGE's operations, and the engineering work is not offered directly to the general public. As a result, PGE's engineers are exempt from any requirement to stamp and sign the interconnection studies which might otherwise apply under the Oregon engineering statutes and regulations.

Under the Commission's rules and Zena Solar's interconnection agreements with PGE. Zena Solar must pay the cost of interconnection studies. Neither the rules nor the agreements require that the studies be stamped or signed by an engineer. There is no basis for PGE to refund the cost of the studies simply because the studies are not stamped or signed by an engineer. Likewise, under the Commission's small generator interconnection rules, there is no requirement that the public utility's engineers stamp or sign the interconnection studies; as a result, there is no basis for Zena Solar to refuse to move forward with the interconnection process.

- ***Third, PGE should provide attribution to its engineers for the interconnection standards document found on PGE's Open Access Same Time Information System ("OASIS"). PGE cited this standards document in response to Zena Solar's concerns about the SIS, yet the document does not indicate it was***

prepared by qualified individuals. Further, the document contains a disclaimer that states the document is for informational purposes only and may be incorrect, incomplete, out of date, and erroneous. PGE's peer utility, PacifiCorp, also has an interconnection standards document on its OASIS, but PacifiCorp's document attributes authorship to its professional engineers and does not disclaim the document as unreliable. PGE should attribute authorship to its professional engineers and replace its current disclaimer with a statement such as the following, which was adapted from PacifiCorp's document:

> ***This standard is based on applicable rules and tariffs created by the Federal Energy Regulatory Commission and the Oregon State Public Utility Commission and the Oregon State Board of Examiners for Engineering and Land Surveying. This policy is consistent with safety requirements for PGE employees and the general public. This policy addresses technical requirements for establishing and maintaining interconnections as well as certain aspects of cost responsibility. This policy does not cover load service from PGE. Tariffs and rules filed with FERC and jurisdictional state regulatory agencies address the rates, terms, conditions, and manner under which PGE provides these services. This policy covers interconnection of inverter and non-inverter based systems to distribution level assets. If there are any inconsistencies between this policy and the tariffs and rules, the tariffs and rules shall prevail.***

PGE does not agree to revise its posted interconnection standards as requested by Zena Solar. There is no statute, rule, or Commission order that requires PGE to post small generator interconnection standards, that requires that such standards be attributed to a specific author or authors, or that requires PGE to provide any specific statement regarding the applicability of its posted interconnection standards. What Zena Solar demands is not a requirement under OAR Chapter 860, Division 082. There is no legitimate basis for Zena Solar to delay the interconnection process because it wants PGE to revise its posted standards document. If Zena Solar does not execute and return the enclosed interconnection agreement by March 20, 2020, Zena Solar's interconnection application will be deemed withdrawn by operation of rule and PGE will modify its queue accordingly.

- ***Fourth, PGE should agree to allow Zena Solar to perform its own SIS and receive full reimbursement. OAR 860-082-0060(9) provides that an applicant may hire a third-party consultant to complete a study, including an SIS, with the agreement of the utility. Given that the current SIS for Zena Solar is inadequate, and that the Facilities Study resulted in a cost estimate over $643,926 more than the estimate in the endorsed SIS from POWER Engineers, Zena Solar believes a restudy is necessary. Because Zena Solar is concerned that a second SIS performed by PGE would likely contain similar***

errors or flaws and would likely be delivered without any meaningful assurances from PGE that it is accurate and that it prescribes costs that are legitimately reasonable, Zena Solar seeks to have an SIS performed by a third-party consultant. For these same reasons, it would be unreasonable for PGE to refuse this request. Further, considering that the second SIS would not be necessary but for the errors and mistakes of PGE in completing the initial SIS, Zena Solar should not be forced to pay twice for the same work. PGE should therefore agree to reimburse Zena Solar for all costs for the second SIS.

As discussed above, the system impact studies performed or used for Zena Solar are not inadequate and the facilities study does not reflect a $643,926 increase in total estimated cost. PGE offered to conduct a new re-study SIS for Zena Solar on December 4, 2019, and Zena Solar refused that offer. It was reasonable and prudent for PGE to rely on the November 6, 2018 SIS for SPQ0129 to understand the system impacts that will occur from the Zena Solar interconnection in its current queue position.

PGE does not agree to allow Zena Solar to conduct interconnection studies pursuant to OAR 860-082-0060(9). First, that regulation states that the "public utility and applicant may agree in writing to allow the applicant to hire a third-party consultant *to complete* a feasibility study, system impact study, or facilities study, subject to public utility oversight and approval." (emphasis added). There are no interconnection studies left to complete because PGE has already completed them all. Second, even if there were still studies to complete, OAR 860-082-0060(9) does not impose any obligation on the utility to agree to allow the applicant to complete remaining studies. Under OAR 860-082-0060(9) the utility has the discretion to say no and to complete all required interconnection studies itself. There is no reasonable basis for Zena Solar to refuse to move forward with the interconnection process or to further delay the process based on an OAR 860-082-0060(9) request; there are no remaining interconnection studies to complete and, if there were, PGE has the right to refuse to agree to allow the applicant to complete remaining studies and to complete them itself. If Zena Solar refuses to execute and return to PGE the enclosed interconnection agreement by March 20, 2020, Zena Solar's interconnection application will be deemed withdrawn by operation of rule and PGE will modify its queue to reflect that fact.

- ***Fifth, PGE should agree to allow Zena Solar to hire a third-party consultant to complete the interconnection facilities and system upgrades. OAR 860-082-0060(8)(f) provides that an applicant may hire a third-party consultant to complete the work identified in the facilities study, with the agreement of the utility. Given that PGE has established a practice of hiring third-party consultants to complete interconnection facilities and system upgrades, it would be unreasonable and discriminatory for PGE to refuse Zena Solar's request***.

PGE does not agree to allow Zena Solar to hire a third-party consultant to construct the interconnection facilities and system upgrades required on PGE's system. OAR 860-082-0060(8)(f) does not empower Zena Solar to construct interconnection facilities or system upgrades over PGE's objection. PGE has the right to refuse to agree and to construct the interconnection

facilities and system upgrades itself. PGE's practice of hiring its own third-party consultant to complete interconnection facilities or system upgrades does not make it unreasonable or discriminatory for PGE to refuse to allow an interconnection applicant to construct PGE's interconnection facilities and system upgrades. The Commission has made it clear that a utility has the right to refuse to agree to allow the interconnection applicant to construct the utility's interconnection facilities and system upgrades and that there is no "reasonableness test" that applies to the utility's decision. *See Sandy River Solar, LLC. v. Portland General Electric Company,* OPUC Docket No. UM1967, Order No. 19-218 at 1, 23, 25 (Jun. 24, 2019) ("we do not interpret OAR 860-082-0060(8)(f) as either requiring that PGE reasonably exercise its discretion to agree to, or indicating that we have the authority to direct PGE to, hire a third-party consultant to complete [the] … interconnection facilities or system upgrades."; "'may' as used in the rule, connotes permission and is best interpreted as giving PGE discretion to decide whether to hire a third-party contractor to facilitate the interconnection of a small generator, either on its own or in conjunction with a small generator.").

PGE has completed its interconnection studies and provided Zena Solar with a good faith, non-binding cost estimate in the facilities study and the interconnection agreement. There is no legitimate basis for Zena Solar to delay the interconnection process because of its OAR 860-082-0060(8)(f) request, which PGE has the right to refuse and has refused. If Zena Solar refuses to execute and return to PGE the enclosed interconnection agreement by March 20, 2020, Zena Solar's interconnection application will be deemed withdrawn by operation of rule and PGE will modify its queue to reflect that fact.

- ***Finally, PGE should agree to amend the PPA in light of the interconnection dispute. Zena Solar requests that PGE agree to extend the scheduled Commercial Operation Date until January 31, 2021. In the alternative, Zena Solar requests that PGE agree that Zena Solar may expediently terminate the PPA without incurring any damages in the event that Zena Solar is pre-certified for the Oregon Community Solar Program.***

PGE does not agree to amend the PPA to extend the Commercial Operation Date (COD) until January 31, 2021. There is no basis for doing so. PGE has agreed in the past to extend scheduled COD if PGE has missed a deadline under the Commission's small generator interconnection rules and is therefore responsible for a material delay in the interconnection process. In this case, PGE has not been responsible for delays in the interconnection process. PGE has met the timing requirements of the rules and worked diligently and reasonably to address and minimize the needs for re-studies when higher-queued projects have withdrawn. PGE is also not willing to agree that Zena Solar may terminate the PPA without incurring damages in the event Zena Solar is pre-certified for the Oregon Community Solar Program. Zena Solar entered a standard PPA. PGE has timely and reasonably processed Zena Solar's interconnection application and provided Zena Solar with an executable interconnection agreement with a good faith, non-binding estimate of interconnection costs. There is no basis for PGE to agree to extend the

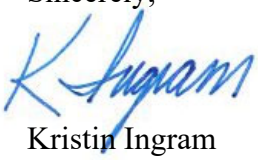
scheduled COD date under the PPA or to agree to waive damages if Zena Solar defaults under the PPA.

IV. Conclusion

PGE is willing to enter into the enclosed standard interconnection agreement. If Zena Solar has not signed and returned the enclosed interconnection agreement to PGE by March 20, 2020, then PGE will deem the Zena Solar interconnection application to have been withdrawn by operation of OAR 860-082-0025(7)(e). PGE has updated the milestones in Exhibit D to the interconnection agreement.

Please let me know if you have any questions on this.

Sincerely,



Kristin Ingram
Associate General Counsel

Enclosure: Executable Interconnection Agreement

Interconnection Agreement for Small Generator Facility
Tier 1, Tier 2, Tier 3 or Tier 4 Interconnection

(Small Generator Facilities with Electric Nameplate Capacities of 10 MW or Less)

This Interconnection Agreement (sometimes also referred to as "Agreement") is made and entered into this _____ by and between __Zena Solar, LLC__ , ___ an individual _X_ a company, (''Applicant'') and Portland General Electric Company, a corporation existing under the laws of the State of Oregon, ("PGE"). Applicant and PGE each may be referred to as a ''Party,'' or collectively as the ''Parties.''

Recitals:

Whereas, the Applicant is proposing to develop a 2.5 MW Small Generator Facility, or to add generating capacity to an existing Small Generator Facility, consistent with the Application completed on February 8, 2018;

Whereas, the Applicant desires to interconnect the Small Generator Facility with PGE's Transmission and Distribution System (T&D System); and

Whereas, the Agreement shall be used for all approved Tier 1, Tier 2, Tier 3 and Tier 4 Interconnection Applications according to the procedures set forth in OPUC Rule OAR 860, Division 082 (Rule). Terms with initial capitalization, when used in this Agreement, shall have the meanings given in the Rule and, to the extent this Agreement conflicts with the Rule, the Rule shall take precedence.

Now, therefore, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 Scope

The Agreement establishes standard terms and conditions approved by the Commission under which the Small Generator Facility with a Nameplate Capacity of 10 MW or less will interconnect to, and operate in parallel with PGE's T&D System. Additions, deletions or changes to the standard terms and conditions of an Interconnection Agreement will not be permitted unless they are mutually agreed to by the Parties or approved by the Commission if required by the Rule.

1.2 Power Purchase

The Agreement does not constitute an agreement to purchase, transmit, or deliver the Applicant's power nor does it constitute an electric service agreement.

1.3 Other Agreements

Nothing in the Interconnection Agreement is intended to affect any other agreement between PGE and the Applicant or another Interconnection Customer. However, in the

event that the provisions of the Agreement are in conflict with the provisions of other PGE tariffs, PGE tariff shall control.

1.4 Responsibilities of the Parties

1.4.1 The Parties shall perform all obligations of this Agreement in accordance with all applicable laws.

1.4.2 The Applicant will construct, own, operate, and maintain its Small Generator Facility in accordance with the Agreement, IEEE Standard 1547, the National Electrical Code and applicable standards required by the Commission.

1.4.3 Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Interconnection. Each Party shall provide Interconnection Facilities that adequately protect the other Parties' facilities, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities is prescribed in the Rule.

1.5 Parallel Operation and Maintenance Obligations

Once the Small Generator Facility has been authorized to commence Parallel Operation by execution of the Interconnection Agreement, the Applicant will abide by all written provisions for operating and maintenance as required by the Rule and detailed by PGE in Form 7, title "**Interconnection Equipment As Built Specifications, Initial Settings and Operating Requirements**" a copy of which is provided on PGE's website.

1.6 Metering and Monitoring

The Applicant will be responsible for metering and monitoring as required by OAR 860-082-0070.

1.7 Power Quality

The Applicant will design its Small Generator Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection that meets the requirements set forth in IEEE 1547. PGE may, in some circumstances, also require the Applicant to follow voltage or VAR schedules used by similarly situated, comparable generators in the control area. Any special operating requirements will be detailed in Form 7 provided on the Commission website and completed by PGE as required by the Rule. Under no circumstances shall these additional requirements for voltage or reactive power support exceed the normal operating capabilities of the Small Generator Facility. For purposes of this Agreement, "control area" shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other control areas and contributing to frequency regulation of the interconnection.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

The Applicant will test and inspect its Small Generator Facility Facilities prior to interconnection in accordance with IEEE 1547 Standards as provided for in the Rule. The Interconnection will not be final until the Witness Test and Certificate of Completion provisions in the Rule have been satisfied. Operation of the Small Generator Facility requires an Interconnection Agreement; electricity sales require a Power Purchase Agreement.–To the extent that the Applicant decides to conduct interim testing of the Small Generator Facility prior to the Witness Test, it may request that PGE observe these tests and that these tests be deleted from the final Witness Test. If PGE agrees to send qualified personnel to the Small Generator Facility to observe such interim testing, it will be doing so at its own expense unless the Parties agree otherwise

2.2 Right of Access

As provided in OAR 860-082-0020, PGE will have access to the Applicant's premises for any reasonable purpose in connection with the Interconnection Application and any Interconnection Agreement that is entered in to pursuant to this Rule or if necessary to meet the legal obligation to provide service to its customers. Access will be requested at reasonable hours and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

The Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement

The Agreement will be effective on the Effective Date and will remain in effect for a period of twenty (20) years or the life of the Power Purchase Agreement, whichever is shorter or a period mutually agreed to by Parties, unless terminated earlier by the default or voluntary termination by the Applicant or by action of the Commission.

3.3 Termination

No termination will become effective until the Parties have complied with all applicable laws and any clauses of the Rule or this Agreement applicable to such termination.

3.3.1 The Applicant may terminate this Agreement at any time by giving PGE twenty (20) business days written notice.

3.3.2 Either Party may terminate this Agreement after default pursuant to Article 5.6 of this Agreement.

3.3.3 The Commission may order termination of this Agreement.

3.3.4 Upon termination of this Agreement, the Small Generator Facility will be disconnected from PGE's T&D System at the Applicant's expense. The termination of this Agreement will not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.4 The provisions of this Article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection

PGE or the Applicant may temporarily disconnect the Small Generator Facility from its T&D System for so long as reasonably necessary, as provided in OAR 860-082-0075 of the Rule, in the event one or more of the following conditions or events occurs:

3.4.1 Under emergency conditions, PGE or the Applicant may immediately suspend interconnection service and temporarily disconnect the Small Generator Facility. PGE shall notify the Applicant promptly when it becomes aware of an emergency condition that may reasonably be expected to affect the Small Generator Facility operation. The Applicant will notify PGE promptly when it becomes aware of an emergency condition that may reasonably be expected to affect PGE's T&D System. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 For routine Maintenance, Parties will make reasonable efforts to provide five (5) business days notice prior to interruption caused by routine maintenance or construction and repair to the Small Generator Facility or PGE's T&D system and shall use reasonable efforts to coordinate such interruption.

3.4.3 For Forced outages of the T&D System, PGE shall use reasonable efforts to provide the Applicant with prior notice of forced outages to effect immediate repairs to the T&D System. If prior notice is not given, PGE shall, upon request, provide the Applicant written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 For disruption or deterioration of service, where PGE determines that operation of the Small Generator Facility will likely cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generator Facility could cause damage to PGE's T&D System, PGE may disconnect the Small Generator Facility. PGE will provide the Applicant upon request all supporting documentation used to reach the decision to disconnect. PGE may disconnect the Small Generator Facility if, after receipt of the notice, the Applicant fails to remedy the adverse operating effect within a reasonable time which shall be at least five (5) business days from the date the Applicant receives PGE's written notice supporting the decision to disconnect, unless emergency conditions exist, in which case the provisions of 3.4.1 of the Agreement apply.

3.4.5 If the Applicant makes any change other than Minor Equipment Modifications without prior written authorization of PGE, PGE will have the right to temporarily disconnect the Small Generator Facility.

3.5 Restoration of Interconnection

The Parties shall cooperate with each other to restore the Small Generator Facility, Interconnection Facilities, and PGE's T&D System to their normal operating state as soon as reasonably practicable following any disconnection pursuant to section 3.4.

Article 4. Cost Responsibility and Billing

The Applicant is responsible for the application fee and for such facilities, equipment, modifications and upgrades as required in 860-082-0035.

4.1 Minor T&D System Modifications

Modifications to the existing T&D System identified by PGE and set forth in Attachment A, such as changing meters, fuses or relay settings, are deemed Minor Modifications. It is PGE's sole discretion to decide what constitutes a Minor Modification. The Applicant will bear the costs of making such Minor Modifications as may be necessary to gain approval of an Application.

4.2 Interconnection Facilities

PGE will identify, under the study procedures of an Application review, the Interconnection Facilities necessary to safely interconnect the Small Generator Facility with PGE. Attachment A itemizes the Interconnection Facilities for the Applicant, including the cost of the facilities and the time required to build and install those facilities. The Applicant is responsible for the cost of the Interconnection Facilities.

4.3 Interconnection Equipment

The Applicant is responsible for all reasonable expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its Interconnection Equipment.

4.4 System Upgrades

PGE will design, procure, construct, install, and own any System Upgrades. The actual cost of the System Upgrades, including overheads, is set forth in Attachment A and will be directly assigned to the Applicant. An Applicant may be entitled to financial compensation from other PGE Interconnection Customers who, in the future, benefit from the System Upgrades paid for by the Applicant. Such compensation will be governed by separate rules promulgated by the Commission or by terms of a tariff filed and approved by the Commission. Such compensation will only be available to the extent provided for in the separate rules or tariff.

4.5 Adverse System Impact

PGE is responsible for identifying Adverse System Impacts on any Affected Systems and for determining what mitigation activities or upgrades may be required to accommodate a Small Generator Facility. The actual cost of any actions taken to address the Adverse System Impacts, including overheads, shall be directly assigned to the Applicant. The Applicant may be entitled to financial compensation from other public utilities or other Interconnection Customers who, in the future, utilize the upgrades paid for by the Applicant, to the extent as allowed by the Commission. Adverse System Impacts are set forth in Attachment A.

4.6 Billings

PGE may require a deposit of not more than 50% of the cost estimate, not to exceed $1,000, to be paid up front by the Applicant for studies necessary to complete an Application and to interconnect the Small Generator Facility to the T&D System. PGE may require a deposit of no more than 25% of the estimated costs, not to exceed $10,000, for Interconnection Facilities necessary to complete an Application and to interconnect the Small Generator Facility to the T&D System. Progress billing, final billing and payment schedules must be agreed to by Parties prior to commencing work.

Article 5. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

5.1 Assignment

The Interconnection Agreement may be assigned by either Party upon fifteen (15) business days prior written notice. Except as provided in Articles 5.1.1 and 5.1.2, said assignment shall only be valid upon the prior written consent of the non-assigning Party, which consent shall not be unreasonably withheld.

5.1.1 Either Party may assign the Agreement without the consent of the other Party to any affiliate (which shall include a merger of the Party with another entity), of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;

5.1.2 The Applicant shall have the right to assign the Agreement, without the consent of PGE, for collateral security purposes to aid in providing financing for the Small Generator Facility. For Small Generator systems that are integrated into a building facility, the sale of the building or property will result in an automatic transfer of the Agreement to the new owner who shall be responsible for complying with the terms and conditions of this Agreement.

5.1.3 Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same obligations as the Applicant.

5.2 Limitation of Liability and Consequential Damages

A Party is liable for any loss, cost claim, injury, or expense including reasonable attorney's fees related to or arising from any act or omission in its performance of the provisions of an Interconnection Agreement entered into pursuant to the Rule except as provided for in ORS 757.300(4)(c). Neither Party will seek redress from the other Party in an amount greater than the amount of direct damage actually incurred.

5.3 Indemnity

5.3.1 This provision protects each Party from liability incurred to third parties as a result

of carrying out the provisions of the Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 5.2.

5.3.2 Each Party shall, to the extent allowed by law, and subject to the limitations imposed by ORS 30.260 to ORS 30.300, if applicable, at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees at trial and on appeal, and all other obligations by or to third parties (hereinafter "Harm"), arising out of or resulting from its negligent action or failure to meet its obligations under this Agreement. Such indemnity obligation shall be limited to the proportional extent the Harm is caused by the negligence of the indemnified Party.

5.3.3 If an indemnified person is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such a claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

5.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this Article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

5.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

5.3.6 The indemnifying Party shall have the right to assume the defense thereof with counsel designated by such indemnifying Party and reasonably satisfactory to the indemnified person. If the defendants in any such action include one or more indemnified persons and the indemnifying Party and if the indemnified person reasonably concludes that there may be legal defenses available to it and/or other indemnified persons which are different from or additional to those available to the indemnifying Party, the indemnified person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an indemnified person or indemnified persons having such differing or additional legal defenses.

5.3.7 The indemnified person shall be entitled, at its expense, to participate in any such

action, suit or proceeding, the defense of which has been assumed by the indemnifying Party. Notwithstanding the foregoing, the indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the indemnified person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the indemnified person, or there exists a conflict or adversity of interest between the indemnified person and the indemnifying Party, in such event the indemnifying Party shall pay the reasonable expenses of the indemnified person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the indemnified person, which shall not be reasonably withheld, conditioned or delayed.

5.4 Consequential Damages

Neither Party shall be liable to the other Party, under any provision of the Agreement, for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

5.5 Force Majeure

5.5.1 As used in this Agreement, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

5.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance, and if the initial notification was verbal, it should be promptly followed up with a written notification. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends the Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be reasonably mitigated. The Affected Party will use reasonable efforts to resume its performance as soon as possible. The Parties shall immediately report to the Commission should a Force Majeure Event prevent performance of an action required by Rule that the Rule does not

permit the Parties to mutually waive.

5.6 Default

5.6.1 No default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement, or the result of an act or omission of the other Party. Upon a default, the non-defaulting Party shall give written notice of such default to the defaulting Party. Except as provided in Article 5.6.2, the defaulting Party shall have sixty (60) calendar days from receipt of the default notice within which to cure such default; provided however, if such default is not capable of cure within sixty 60 calendar days, the defaulting Party shall commence such cure within twenty (20) calendar days after notice and continuously and diligently complete such cure within six (6) months from receipt of the default notice; and, if cured within such time, the default specified in such notice shall cease to exist.

5.6.2 If a default is not cured as provided for in this Article, or if a default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate the Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates the Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. Alternately, the non-defaulting Party shall have the right to seek dispute resolution pursuant to Article 7 with the Commission in lieu of default. The provisions of this Article will survive termination of the Agreement.

Article 6. Insurance

A Party is liable for any loss, cost claim, injury, or expense including reasonable attorney's fees related to or arising from any act or omission in its performance of the provisions of this Rule or the Interconnection Agreement entered into pursuant to this Rule.

6.1 Pursuant to the Rule adopted by the Commission, PGE may not require the Applicant to maintain general liability insurance in relation to the interconnection of a Small Generator Facility with an Electric Nameplate Capacity of 200 kW or less. With regard to the interconnection of a Small Generator Facility with an Electric Nameplate Capacity equal to or less than 10 MW but in excess of 200 kW, the Applicant shall, at its own expense, maintain in force throughout the period of this Agreement general liability insurance sufficient to protect any person (including PGE) who may be affected by the Applicant's Small Generator Facility and its operation and such insurance shall be sufficient to satisfy the Applicant's indemnification responsibilities under Article 5.3 of this Agreement.

6.2 Within ten (10) business days following execution of this Agreement, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) calendar days there after, the Applicant shall provide PGE with certification of all insurance required in this Agreement, executed by each insurer or by an authorized representative of each insurer.

6.3 All insurance required by this Article 6 shall name PGE, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation against the Other Party Group and provide thirty (30) calendar days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition. The Applicant's insurance shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. The insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this Agreement, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

6.4 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Agreement.

6.5 The requirements contained herein as to insurance are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Parties under this Agreement.

Article 7. Dispute Resolution

Parties will adhere to the dispute resolution provisions in OAR 860-082-0080.

Article 8. Miscellaneous

8.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of the Agreement and each of its provisions shall be governed by the laws of the State of Oregon, without regard to its conflicts of law principles. The Agreement is subject to all applicable laws. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a governmental authority.

8.2 Amendment

The Parties may mutually agree to amend the Agreement by a written instrument duly executed by both Parties in accordance with provisions of the Rule and applicable Commission Orders and provisions of the laws if the State of Oregon.

8.3 No Third-Party Beneficiaries

The Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

8.4 Waiver

8.4.1 The failure of a Party to the Agreement to insist, on any occasion, upon strict performance of any provision of the Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

8.4.2 The Parties may agree to mutually waive a section of this Agreement so long as prior Commission approval of the waiver is not required by the Rule.

8.4.3 Any waiver at any time by either Party of its rights with respect to the Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of the Agreement. Any waiver of the Agreement shall, if requested, be provided in writing.

8.5 Entire Agreement

The Interconnection Agreement, including any supplementary Form attachments that may be necessary, constitutes the entire Agreement between the Parties with reference to the subject matter hereof and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of the Agreement. There are no other agreements, representations, warranties, or covenants that constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under the Agreement.

8.6 Multiple Counterparts

The Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

8.7 No Partnership

The Agreement will not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

8.8 Severability

If any provision or portion of the Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority; (1) such portion or provision shall be deemed separate and independent; (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling; and (3) the remainder of the Agreement shall remain in full force and effect.

8.9 Subcontractors

Nothing in the Agreement shall prevent a Party from utilizing the services of any subcontractor, or designating a third party agent as one responsible for a specific obligation or act required in the Agreement (collectively subcontractors), as it deems appropriate to

perform its obligations under the Agreement; provided, however, that each Party will require its subcontractors to comply with all applicable terms and conditions of the Agreement in providing such services and each Party will remain primarily liable to the other Party for the performance of such subcontractor.

8.9.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under the Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made. Any applicable obligation imposed by the Agreement upon the hiring Party shall be equally binding upon, and will be construed as having application to, any subcontractor of such Party.

8.9.2 The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

8.10 Reservation of Rights

Either Party will have the right to make a unilateral filing with the Commission to modify the Interconnection Agreement. This reservation of rights provision will include but is not limited to modifications with respect to any rates terms and conditions, charges, classification of service, rule or regulation under tariff rates or any applicable State or Federal law or regulation. Each Party shall have the right to protest any such filing and to participate fully in any proceeding before the Commission in which such modifications may be considered.

Article 9. Notices and Records

9.1 General

Unless otherwise provided in the Agreement, any written notice, demand, or request required or authorized in connection with the Agreement shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Applicant:

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

If to PGE:

Attention: Small Power Production

Address: 121 SW Salmon St, 3WTC0402

City: Portland State: OR Zip: 97204

Phone: (503) 464-8300

Fax: (503) 464-2115

E-mail: small.powerproduction@pgn.com

9.2 Records

PGE will maintain a record of all Interconnection Agreements and related Form attachments for as long as the interconnection is in place as required by OAR 860-082-065. PGE will provide a copy of these records to the Applicant within fifteen (15) business days if a request is made in writing.

9.3 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to the Applicant (*complete if different than Article 9.1*):

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

If to PGE (*complete if different than Article 9.1*):

Attention: Small Power Production

Address: 121 SW Salmon St. , 3WTC0402

City: Portland State: OR Zip: 97204

9.4 Designated Operating Representative

The Parties will designate operating representatives to conduct the communications which may be necessary or convenient for the administration of the operations provisions of the Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities:

Applicant's Operating Representative (*complete if different than Article 9.1*):

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

PGE's Operating Representative (*complete if different than Article 9.1*):

Attention: Small Power Production

Address: 121 SW Salmon St. , 3WTC0402

City: Portland State: OR Zip: 97204

Phone: (503) 464-8300

Fax: (503) 464-2115

E-mail: small.powerproduction@pgn.com

9.5 Changes to the Notice Information

Either Party may change this notice information by giving five (5) business days written notice prior to the effective date of the change.

Article 10. Signatures

IN WITNESS WHEREOF, the Parties have caused the Agreement to be executed by their respective duly authorized representatives.

For the Applicant:

Signature: _____

Printed Name: _____

Title (*if applicable*): _____

Date: _____

For PGE:

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Attachment A

Description and Costs of Minor Modifications, Interconnection Facilities, System Upgrades, and Adverse System Impacts

The following System Upgrades are required to interconnect the generation facility:

- To properly service the generation facility, the installation of a new primary service and metering package will be needed.
- Replace hydraulic recloser with an electronic recloser bank.
- Replace the in-line fuse with an electronic recloser bank.
- Upgrade the substation transformer relays with dual SEL-487E relay panels.
- Install a set 57kV voltage transformers.
- Install transfer trip via Mirror Bits Protocol over fiber optic cable. The fiber optic cable will run from the Wallace substation to the point of interconnection which is approximately 2.30 miles.

PGE's Responsibilities

PGE will design, procure, install and maintain the new service conductor and metering equipment. However, the conduit and trench from the Point of Interconnection to the riser pole will be installed by the Interconnection Customer.

On the distribution system PGE will install and maintain the two electronic reclosers.

In the Wallace substation PGE will engineer, install and maintain the SEL-487E transformer relay's and 57 kV VT's. A mobile substation will be needed to shift the load off the transformer so the relay work can be completed.

A transfer trip protection scheme will be engineered, installed and maintained by PGE. A fiber optic cable will run from the Wallace Substation to the point of interconnection along the existing distribution route. PGE's preferred method for transfer trip is SEL Mirror Bits Protocol. PGE will provide the settings for the Interconnection Customers relays prior to construction.

Interconnection Customers Responsibilities

For the new service the Interconnection Customer will need to trench and install 4" conduit from the Point of Interconnection to the riser pole in accordance with PGE's standards. Additionally, a pull rope will need to be placed in the conduit to allow PGE to pull in the new service conductors.

The Interconnection Customer will need to purchase and install a small vault along the same path as the conduit. The vault needs to be located between the outside fence of the generation facility and the riser pole. The vault will contain laterals, provided by PGE, that can be used as an isolation point for PGE crews. Vault specifications will be provided during the engineering of the new primary service.

The Interconnection Customer will also be responsible for the installation of the CT's. The CT's will be provided by PGE and wired by PGE after they have been installed.

The Interconnection Customer will also need to provide a non-energized communications cabinet to which the fiber optic cable and transfer trip devices can reside. The Interconnection Customer will be responsible for purchasing and installing the relays for transfer trip. Prior to testing, a copy of the setting must be provided to PGE for review.

The Interconnection Customer will be required to use dynamic reactive current support to mitigate voltage flicker on the feeder. The cost associated with dynamic reactive current support will be borne by the Interconnection Customer and is not included in PGE's cost Estimate.

Below is PGE's non-binding good faith estimate for the work outlined above.

New Primary Service and Metering Package	$30,000.00
Distribution Requirements	$120,000.00
(Two Electronic Recloser Banks)	
Protection Requirements	$459,600.00
(Dual SEL-487E Relays, 57kV VT)	
Communication Requirements	$195,326.00
(Transfer Trip via Mirror Bits Protocol over Fiber Optic Line)	
Total	$804,926.00

Attachment B

Description of Interconnection Facilities and Metering Equipment Operated or Maintained by PGE

PGE will only own the following interconnection equipment at the site:

- Primary voltage service conductors from PGE's area feeder circuit to the termination point in PV plant's switchgear, and
- Metering equipment (Meter, potential transformers, current transformers and associated wiring) that will be installed in the applicant-supplied switchgear.

Periodic maintenance of PGE owned equipment will be needed to ensure accuracy and function. The maintenance will occur on a regular cycle and be set forth by PGE. If at any time the equipment is damaged, the Applicant, or any subsequent assignees of this Agreement, may be held responsible for all associated costs. If at any point, the Applicant wishes to make any changes to the Interconnection Facilities that require PGE personnel or equipment, the Applicant is responsible for all associated costs.

The Applicant shall pay for the cost of the Interconnection Facilities itemized in this Agreement as well as engineering, procurement, construction, and commissioning costs of PGE provided interconnection facilities and distribution upgrades contemplated by this Agreement. The cost set forth herein is only for the scopes of work that will be performed by PGE. Costs for any work being performed by the Applicant or for any Applicant-owned, supplied and installed equipment and associated design and engineering are not included.

PGE will not perform services under this Agreement until payments are received by PGE as set forth under this Agreement. Applicant will be in default per Section 5.6 of the Agreement if PGE does not receive payment of any sum due to PGE as outlined in Attachment D.

The Applicant will acquire all necessary property rights and permits for the construction of the required facilities as well as distribution line easements (meeting PGE requirements), including easements for PGE's owned underground cable route for the new service**.**

Attachment C

One-Line Diagram

One-line diagram depicting the Generator Facility, Interconnection Facilities, metering equipment, and upgrades including safety lockout features and any special accessibility requirements.

To be filled in with as-built drawings upon project completion.

Attachment D

Scope of Work/Milestones

In-Service Date: February 25, 2022

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	Executed Interconnection Agreement / 3-20-2020	Zena Solar
(2)	$10,000 of Estimated Cost / 3-20-2020	Zena Solar
(3)	Certification of Insurance / 4-10-2020	Zena Solar
(4)	Scaled Site Plan Drawings / 6-15-2020	Zena Solar
(5)	Engineering Starts / 6-15-2020	PGE
(6)	Payment of $268,308 / 9-25-2020	Zena Solar
(7)	Easement Documentation / 12-28-2020	Zena Solar
(8)	Payment of $268,309 / 3-26-2021	Zena Solar
(9)	PGE Orders Long Lead Time Items / 3-26-2021	PGE
(10)	*Engineering Complete / 4-30-2021	PGE
(11)	Payment of $258,309 / 9-24-2021	Zena Solar
(12)	PGE Starts Construction / 9-24-2021	PGE
(13)	Final Electric Inspection Provided / 12-17-2021	Zena Solar
(14)	Interconnection Facilities Complete / 1-28-2022	PGE
(15)	Testing and Commissioning / 2-11-2022	Zena Solar
(16)	In-Service Date / 2-25-2022	PGE

* During the design of the communication scheme additional costs or time may be incurred should the existing utility poles need to be replaced or modified to accommodate the fiber optic line.

PGE does not guarantee completion of any project on a targeted date as the schedule is dependent on a

number of variables, including but not limited to, construction of other potential interconnection projects.

Notwithstanding any other language in the Agreement, payment is due on the date specified above. Payments are due without prior notice or demand.

Attachment E

Additional Operating Requirements

No additional operating requirements have been placed on Buckner Zena Solar, LLC.

EXHIBIT 13

MARCH 16, 2020 LETTER FROM ZENA SOLAR TO PGE

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Sanger Law PC
1041 SE 58th Place, Portland, OR 97215 tel (503) 756-7533 fax (503) 334-2235 irion@sanger-law.com

March 16, 2020

Via Email

Kristin M. Ingram
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

RE: Zena Solar Project

Dear Ms. Ingram:

I am sending this letter regarding Portland General Electric Company's ("PGE's") demand that Zena Solar, LLC ("Zena Solar") execute PGE's draft interconnection agreement ("IA") on or before March 20, 2020. Executing the draft IA would obligate Zena Solar to pay for all the reasonable costs of interconnection, yet PGE has failed to provide a reliable and coherent good-faith estimate of what those reasonable costs may be. As the interconnection customer, Zena Solar is only obligated to pay for the reasonable costs per OAR 860-082-0035(2) & (4). PGE's latest estimate of $804,926 has not been adequately supported, including PGE's claim that economic inflation accounts for the latest 49% upward revision in PGE's overall cost estimate and 230% increase in protection costs. Zena Solar requests that PGE allow Zena Solar to maintain its interconnection queue position while Zena Solar performs its own independent system impact study to validate the costs of interconnecting as is expressly allowed to Zena Solar pursuant to OAR 860-082-0060(7)(h).

Zena Solar continues to believe cost validation by an independent third-party consultant is necessary. PGE offered to provide a new cost estimate as part of a system impact re-study; Zena Solar refused because that would duplicate but not solve PGE's errors in the existing cost estimates. PGE's statements since then have not provided any reassurance. For instance, in PGE's letter dated February 26, 2020, PGE has admitted that it is not an expert on interconnection but is "gaining experience" and "PGE's understanding [is becoming] … more refined." If PGE's lack of expertise means project costs can vary by hundreds of thousands of dollars when all other factors remain constant, then it is reasonable and necessary for Zena Solar to hire an expert capable of providing a more accurate and coherent cost estimate. Additionally, in the same letter PGE admits that its own employee engineers have published contradicting and inaccurate conclusions regarding backfeeding in the revised study for SPQ0129, yet PGE claims the study is accurate (yet is prescribing costs for Zena Solar that are 49% higher than those

for SPQ0129). Information revealed in a recent screenshot of minimum daytime load data that shows PGE appears to be cherry picking data to justify unnecessary upgrades and discriminate against qualifying facility interconnections. This demonstrates that PGE is inappropriately administering the interconnection process for qualifying facilities and not acting in good faith. Based on Zena Solar's experience with PGE's work product and PGE's own admissions, it is necessary for Zena Solar to conduct its own independent system impact study for evaluation per OAR 860-082-0060(7)(h).

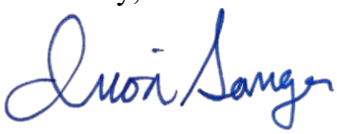
Zena Solar will cover the costs of performing its own independent system impact study. Via letter dated February 10, 2020, Zena Solar asked PGE to cover the costs, since the consultant will effectively be doing what PGE should have done. However, PGE has refused, so Zena Solar is now offering to pay twice for the same work. Zena Solar needs time, as well as data from PGE, to secure an independent system impact study, which Zena Solar will provide to PGE to evaluate and address, pursuant to OAR 860-082-0060(7)(h).

The project looks forward to energization and hopes that it can reach a resolution of these concerns with PGE on a timely basis. To that end, we request that PGE provide all necessary information for Zena Solar to conduct its own independent system impact study, including providing historical minimum daytime load data for the Wallace-13 feeder and Wallace BR1 substation transformer from May 1, 2018 to present.

We ask that you respond to this letter prior to March 20, 2020. At a minimum, please inform us by March 18, 2020 if PGE intends to require Zena Solar to execute the interconnection agreement by March 20, 2020. If PGE persists in threatening to remove Zena Solar from the interconnection queue, then Zena Solar will file a complaint with the appropriate tribunal on or before that date. Zena Solar may raise any and all the issues in our previous demand letter sent on February 20, 2020, and does not consider the issues raised in this letter as necessarily including all issues that we may raise in such a complaint. Zena Solar reserves its rights to raise all issues.

Please feel free to reach out with any questions.

Sincerely,



Irion A. Sanger

cc: Jonathan Nelson, Conifer Energy Partners LLC

EXHIBIT 14

MARCH 24, 2020 LETTER FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric Company
Legal Department
121 SW Salmon Street • 1WTC1301 • Portland, Oregon 97204
Phone 503-464-7370 • Fax 503-464-2200
portlandgeneral.com

Kristin M. Ingram
Assistant General Counsel
kristin.ingram@pgn.com

March 24, 2020

Via Email

Irion Sanger
Sanger Law PC
1041 SE 58th Place
Portland, OR 97215

Re: Zena Solar Project

Dear Mr. Sanger:

I am in receipt of your March 16, 2020 letter. On March 18, 2020, PGE agreed to extend the deadline for Zena Solar to execute an interconnection agreement from March 20, 2020, to March 27, 2020. This extension provided time for PGE to review and respond to your letter.

In your March 16, 2020 letter, Zena Solar states for the first time that it wishes to conduct an independent system impact study (independent SIS). It is too late in the interconnection process for an independent SIS. An independent SIS should be conducted before the public utility completes its own system impact study or, at the latest, before a public utility completes its facilities study. PGE completed the facilities study for Zena Solar and provided an executable interconnection agreement on October 15, 2019. An independent SIS at this late stage would unacceptably delay the interconnection process, unacceptably delay PGE's interconnection queue, and adversely impact other pending interconnection requests.

An applicant that intends to conduct an independent SIS should inform the public utility of that fact before the utility begins its system impact study, or at the latest, before the utility begins its facilities study. In such circumstances, PGE is prepared to work with the applicant to facilitate an independent SIS and to evaluate and address any alternative findings from the independent study as part of PGE's own system impact study or facilities study. Here PGE completed the facilities study and provided an executable interconnection agreement more than five months ago; it is now too late for Zena Solar to conduct an independent SIS.

PGE does not agree with your characterization of its positions in your March 16, 2020 letter. PGE has provided the information required by the Commission's small generator interconnection rules and addressed the specific issues identified in your letter of February 10, 2020. PGE has provided Zena Solar with a good faith, non-binding estimate of the cost of interconnection facilities and system upgrades required to interconnect the Zena Solar Project. Your statement that PGE has claimed inflation accounts for a 49% increase in PGE's overall cost estimate and a 230% increase

in protection costs is incorrect and unproductive. PGE has stated that increased cost estimates at each stage of the study process are appropriate and the result of multiple factors, including: (i) withdrawal of higher-queued interconnection requests and the resulting shift of interconnection requirements from those higher queued interconnections to the Zena Solar interconnection; (ii) increased experience with actual interconnection costs as other interconnections have been constructed during the study process for Zena Solar; and (iii) inflation.

PGE has not "admitted that it is not an expert on interconnection[.]" PGE has made the unremarkable observation that the process of estimating interconnection costs improves as interconnections are constructed and PGE has an increased store of actual interconnection costs to use as a point of reference for estimating costs of future interconnection work. PGE has explained its engineers' conclusions in the revised study for SPQ0129 and why those conclusions are appropriate. PGE has also explained how it derives the minimum daytime load data and how PGE's engineers use the minimum daytime load data available at the time they conduct a study. Notably, in the case of solar project interconnections, PGE uses historic daytime minimum loads associated with sunny days when the project seeking an interconnection would be expected to be generating at the higher end of its capacity. At every stage of the interconnection process PGE has acted in good faith and has worked to faithfully implement the Public Utility Commission's small generator interconnection process. Your assertion that "PGE appears to be cherry picking data to justify unnecessary upgrades and discriminate against qualifying facility interconnections" is baseless and incorrect.

For the reasons discussed above and in our other correspondence, it is now too late in the interconnection process for Zena Solar to conduct an independent SIS. Under OAR 860-082-0025(7)(e), when a public utility has completed the interconnection study process and provided the applicant with an interconnection agreement, the applicant has 15 business days to execute the agreement or the application is deemed withdrawn. The deadline for Zena Solar to execute an interconnection agreement is March 27, 2020. If Zena Solar wishes to continue with its interconnection application is must execute the enclosed interconnection agreement and return the partially executed agreement to PGE by March 27, 2020. If it does not, PGE will deem the Zena Solar interconnection application to be withdrawn by operation of rule.

Sincerely,

K Ingram

Kristin Ingram
Associate General Counsel

Enclosure: Executable Interconnection Agreement

Zena Solar, LLC
SPQ0163

Form 8
1-19-10 rev.

Interconnection Agreement for Small Generator Facility
Tier 1, Tier 2, Tier 3 or Tier 4 Interconnection

(Small Generator Facilities with Electric Nameplate Capacities of 10 MW or Less)

This Interconnection Agreement (sometimes also referred to as "Agreement") is made and entered into this _____ by and between __Zena Solar, LLC__ , ___ an individual _X_ a company, (''Applicant'') and Portland General Electric Company, a corporation existing under the laws of the State of Oregon, ("PGE"). Applicant and PGE each may be referred to as a ''Party,'' or collectively as the ''Parties.''

Recitals:

Whereas, the Applicant is proposing to develop a 2.5 MW Small Generator Facility, or to add generating capacity to an existing Small Generator Facility, consistent with the Application completed on February 8, 2018;

Whereas, the Applicant desires to interconnect the Small Generator Facility with PGE's Transmission and Distribution System (T&D System); and

Whereas, the Agreement shall be used for all approved Tier 1, Tier 2, Tier 3 and Tier 4 Interconnection Applications according to the procedures set forth in OPUC Rule OAR 860, Division 082 (Rule). Terms with initial capitalization, when used in this Agreement, shall have the meanings given in the Rule and, to the extent this Agreement conflicts with the Rule, the Rule shall take precedence.

Now, therefore, in consideration of and subject to the mutual covenants contained herein, the Parties agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 Scope

The Agreement establishes standard terms and conditions approved by the Commission under which the Small Generator Facility with a Nameplate Capacity of 10 MW or less will interconnect to, and operate in parallel with PGE's T&D System. Additions, deletions or changes to the standard terms and conditions of an Interconnection Agreement will not be permitted unless they are mutually agreed to by the Parties or approved by the Commission if required by the Rule.

1.2 Power Purchase

The Agreement does not constitute an agreement to purchase, transmit, or deliver the Applicant's power nor does it constitute an electric service agreement.

1.3 Other Agreements

Nothing in the Interconnection Agreement is intended to affect any other agreement between PGE and the Applicant or another Interconnection Customer. However, in the

event that the provisions of the Agreement are in conflict with the provisions of other PGE tariffs, PGE tariff shall control.

1.4 Responsibilities of the Parties

1.4.1 The Parties shall perform all obligations of this Agreement in accordance with all applicable laws.

1.4.2 The Applicant will construct, own, operate, and maintain its Small Generator Facility in accordance with the Agreement, IEEE Standard 1547, the National Electrical Code and applicable standards required by the Commission.

1.4.3 Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Interconnection. Each Party shall provide Interconnection Facilities that adequately protect the other Parties' facilities, personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities is prescribed in the Rule.

1.5 Parallel Operation and Maintenance Obligations

Once the Small Generator Facility has been authorized to commence Parallel Operation by execution of the Interconnection Agreement, the Applicant will abide by all written provisions for operating and maintenance as required by the Rule and detailed by PGE in Form 7, title "**Interconnection Equipment As Built Specifications, Initial Settings and Operating Requirements**" a copy of which is provided on PGE's website.

1.6 Metering and Monitoring

The Applicant will be responsible for metering and monitoring as required by OAR 860-082-0070.

1.7 Power Quality

The Applicant will design its Small Generator Facility to maintain a composite power delivery at continuous rated power output at the Point of Interconnection that meets the requirements set forth in IEEE 1547. PGE may, in some circumstances, also require the Applicant to follow voltage or VAR schedules used by similarly situated, comparable generators in the control area. Any special operating requirements will be detailed in Form 7 provided on the Commission website and completed by PGE as required by the Rule. Under no circumstances shall these additional requirements for voltage or reactive power support exceed the normal operating capabilities of the Small Generator Facility. For purposes of this Agreement, "control area" shall mean an electrical system or systems bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other control areas and contributing to frequency regulation of the interconnection.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

The Applicant will test and inspect its Small Generator Facility Facilities prior to interconnection in accordance with IEEE 1547 Standards as provided for in the Rule. The Interconnection will not be final until the Witness Test and Certificate of Completion provisions in the Rule have been satisfied. Operation of the Small Generator Facility requires an Interconnection Agreement; electricity sales require a Power Purchase Agreement.–To the extent that the Applicant decides to conduct interim testing of the Small Generator Facility prior to the Witness Test, it may request that PGE observe these tests and that these tests be deleted from the final Witness Test. If PGE agrees to send qualified personnel to the Small Generator Facility to observe such interim testing, it will be doing so at its own expense unless the Parties agree otherwise

2.2 Right of Access

As provided in OAR 860-082-0020, PGE will have access to the Applicant's premises for any reasonable purpose in connection with the Interconnection Application and any Interconnection Agreement that is entered in to pursuant to this Rule or if necessary to meet the legal obligation to provide service to its customers. Access will be requested at reasonable hours and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date

The Agreement shall become effective upon execution by the Parties.

3.2 Term of Agreement

The Agreement will be effective on the Effective Date and will remain in effect for a period of twenty (20) years or the life of the Power Purchase Agreement, whichever is shorter or a period mutually agreed to by Parties, unless terminated earlier by the default or voluntary termination by the Applicant or by action of the Commission.

3.3 Termination

No termination will become effective until the Parties have complied with all applicable laws and any clauses of the Rule or this Agreement applicable to such termination.

3.3.1 The Applicant may terminate this Agreement at any time by giving PGE twenty (20) business days written notice.

3.3.2 Either Party may terminate this Agreement after default pursuant to Article 5.6 of this Agreement.

3.3.3 The Commission may order termination of this Agreement.

3.3.4 Upon termination of this Agreement, the Small Generator Facility will be disconnected from PGE's T&D System at the Applicant's expense. The termination of this Agreement will not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

3.3.4 The provisions of this Article shall survive termination or expiration of this Agreement.

3.4 Temporary Disconnection

PGE or the Applicant may temporarily disconnect the Small Generator Facility from its T&D System for so long as reasonably necessary, as provided in OAR 860-082-0075 of the Rule, in the event one or more of the following conditions or events occurs:

3.4.1 Under emergency conditions, PGE or the Applicant may immediately suspend interconnection service and temporarily disconnect the Small Generator Facility. PGE shall notify the Applicant promptly when it becomes aware of an emergency condition that may reasonably be expected to affect the Small Generator Facility operation. The Applicant will notify PGE promptly when it becomes aware of an emergency condition that may reasonably be expected to affect PGE's T&D System. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 For routine Maintenance, Parties will make reasonable efforts to provide five (5) business days notice prior to interruption caused by routine maintenance or construction and repair to the Small Generator Facility or PGE's T&D system and shall use reasonable efforts to coordinate such interruption.

3.4.3 For Forced outages of the T&D System, PGE shall use reasonable efforts to provide the Applicant with prior notice of forced outages to effect immediate repairs to the T&D System. If prior notice is not given, PGE shall, upon request, provide the Applicant written documentation after the fact explaining the circumstances of the disconnection.

3.4.4 For disruption or deterioration of service, where PGE determines that operation of the Small Generator Facility will likely cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generator Facility could cause damage to PGE's T&D System, PGE may disconnect the Small Generator Facility. PGE will provide the Applicant upon request all supporting documentation used to reach the decision to disconnect. PGE may disconnect the Small Generator Facility if, after receipt of the notice, the Applicant fails to remedy the adverse operating effect within a reasonable time which shall be at least five (5) business days from the date the Applicant receives PGE's written notice supporting the decision to disconnect, unless emergency conditions exist, in which case the provisions of 3.4.1 of the Agreement apply.

3.4.5 If the Applicant makes any change other than Minor Equipment Modifications without prior written authorization of PGE, PGE will have the right to temporarily disconnect the Small Generator Facility.

3.5 Restoration of Interconnection

The Parties shall cooperate with each other to restore the Small Generator Facility, Interconnection Facilities, and PGE's T&D System to their normal operating state as soon as reasonably practicable following any disconnection pursuant to section 3.4.

Article 4. Cost Responsibility and Billing

The Applicant is responsible for the application fee and for such facilities, equipment, modifications and upgrades as required in 860-082-0035.

4.1 Minor T&D System Modifications

Modifications to the existing T&D System identified by PGE and set forth in Attachment A, such as changing meters, fuses or relay settings, are deemed Minor Modifications. It is PGE's sole discretion to decide what constitutes a Minor Modification. The Applicant will bear the costs of making such Minor Modifications as may be necessary to gain approval of an Application.

4.2 Interconnection Facilities

PGE will identify, under the study procedures of an Application review, the Interconnection Facilities necessary to safely interconnect the Small Generator Facility with PGE. Attachment A itemizes the Interconnection Facilities for the Applicant, including the cost of the facilities and the time required to build and install those facilities. The Applicant is responsible for the cost of the Interconnection Facilities.

4.3 Interconnection Equipment

The Applicant is responsible for all reasonable expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its Interconnection Equipment.

4.4 System Upgrades

PGE will design, procure, construct, install, and own any System Upgrades. The actual cost of the System Upgrades, including overheads, is set forth in Attachment A and will be directly assigned to the Applicant. An Applicant may be entitled to financial compensation from other PGE Interconnection Customers who, in the future, benefit from the System Upgrades paid for by the Applicant. Such compensation will be governed by separate rules promulgated by the Commission or by terms of a tariff filed and approved by the Commission. Such compensation will only be available to the extent provided for in the separate rules or tariff.

4.5 Adverse System Impact

PGE is responsible for identifying Adverse System Impacts on any Affected Systems and for determining what mitigation activities or upgrades may be required to accommodate a Small Generator Facility. The actual cost of any actions taken to address the Adverse System Impacts, including overheads, shall be directly assigned to the Applicant. The Applicant may be entitled to financial compensation from other public utilities or other Interconnection Customers who, in the future, utilize the upgrades paid for by the Applicant, to the extent as allowed by the Commission. Adverse System Impacts are set forth in Attachment A.

4.6 Billings

PGE may require a deposit of not more than 50% of the cost estimate, not to exceed $1,000, to be paid up front by the Applicant for studies necessary to complete an Application and to interconnect the Small Generator Facility to the T&D System. PGE may require a deposit of no more than 25% of the estimated costs, not to exceed $10,000, for Interconnection Facilities necessary to complete an Application and to interconnect the Small Generator Facility to the T&D System. Progress billing, final billing and payment schedules must be agreed to by Parties prior to commencing work.

Article 5. Assignment, Liability, Indemnity, Force Majeure, Consequential Damages, and Default

5.1 Assignment

The Interconnection Agreement may be assigned by either Party upon fifteen (15) business days prior written notice. Except as provided in Articles 5.1.1 and 5.1.2, said assignment shall only be valid upon the prior written consent of the non-assigning Party, which consent shall not be unreasonably withheld.

5.1.1 Either Party may assign the Agreement without the consent of the other Party to any affiliate (which shall include a merger of the Party with another entity), of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement;

5.1.2 The Applicant shall have the right to assign the Agreement, without the consent of PGE, for collateral security purposes to aid in providing financing for the Small Generator Facility. For Small Generator systems that are integrated into a building facility, the sale of the building or property will result in an automatic transfer of the Agreement to the new owner who shall be responsible for complying with the terms and conditions of this Agreement.

5.1.3 Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same obligations as the Applicant.

5.2 Limitation of Liability and Consequential Damages

A Party is liable for any loss, cost claim, injury, or expense including reasonable attorney's fees related to or arising from any act or omission in its performance of the provisions of an Interconnection Agreement entered into pursuant to the Rule except as provided for in ORS 757.300(4)(c). Neither Party will seek redress from the other Party in an amount greater than the amount of direct damage actually incurred.

5.3 Indemnity

5.3.1 This provision protects each Party from liability incurred to third parties as a result

of carrying out the provisions of the Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 5.2.

5.3.2 Each Party shall, to the extent allowed by law, and subject to the limitations imposed by ORS 30.260 to ORS 30.300, if applicable, at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees at trial and on appeal, and all other obligations by or to third parties (hereinafter "Harm"), arising out of or resulting from its negligent action or failure to meet its obligations under this Agreement. Such indemnity obligation shall be limited to the proportional extent the Harm is caused by the negligence of the indemnified Party.

5.3.3 If an indemnified person is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such a claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

5.3.4 If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this Article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

5.3.5 Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

5.3.6 The indemnifying Party shall have the right to assume the defense thereof with counsel designated by such indemnifying Party and reasonably satisfactory to the indemnified person. If the defendants in any such action include one or more indemnified persons and the indemnifying Party and if the indemnified person reasonably concludes that there may be legal defenses available to it and/or other indemnified persons which are different from or additional to those available to the indemnifying Party, the indemnified person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an indemnified person or indemnified persons having such differing or additional legal defenses.

5.3.7 The indemnified person shall be entitled, at its expense, to participate in any such

action, suit or proceeding, the defense of which has been assumed by the indemnifying Party. Notwithstanding the foregoing, the indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the indemnified person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the indemnified person, or there exists a conflict or adversity of interest between the indemnified person and the indemnifying Party, in such event the indemnifying Party shall pay the reasonable expenses of the indemnified person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the indemnified person, which shall not be reasonably withheld, conditioned or delayed.

5.4 Consequential Damages

Neither Party shall be liable to the other Party, under any provision of the Agreement, for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

5.5 Force Majeure

5.5.1 As used in this Agreement, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing."

5.5.2 If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance, and if the initial notification was verbal, it should be promptly followed up with a written notification. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the Force Majeure Event until the event ends the Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be reasonably mitigated. The Affected Party will use reasonable efforts to resume its performance as soon as possible. The Parties shall immediately report to the Commission should a Force Majeure Event prevent performance of an action required by Rule that the Rule does not

permit the Parties to mutually waive.

5.6 Default

5.6.1 No default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement, or the result of an act or omission of the other Party. Upon a default, the non-defaulting Party shall give written notice of such default to the defaulting Party. Except as provided in Article 5.6.2, the defaulting Party shall have sixty (60) calendar days from receipt of the default notice within which to cure such default; provided however, if such default is not capable of cure within sixty 60 calendar days, the defaulting Party shall commence such cure within twenty (20) calendar days after notice and continuously and diligently complete such cure within six (6) months from receipt of the default notice; and, if cured within such time, the default specified in such notice shall cease to exist.

5.6.2 If a default is not cured as provided for in this Article, or if a default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate the Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates the Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. Alternately, the non-defaulting Party shall have the right to seek dispute resolution pursuant to Article 7 with the Commission in lieu of default. The provisions of this Article will survive termination of the Agreement.

Article 6. Insurance

A Party is liable for any loss, cost claim, injury, or expense including reasonable attorney's fees related to or arising from any act or omission in its performance of the provisions of this Rule or the Interconnection Agreement entered into pursuant to this Rule.

6.1 Pursuant to the Rule adopted by the Commission, PGE may not require the Applicant to maintain general liability insurance in relation to the interconnection of a Small Generator Facility with an Electric Nameplate Capacity of 200 kW or less. With regard to the interconnection of a Small Generator Facility with an Electric Nameplate Capacity equal to or less than 10 MW but in excess of 200 kW, the Applicant shall, at its own expense, maintain in force throughout the period of this Agreement general liability insurance sufficient to protect any person (including PGE) who may be affected by the Applicant's Small Generator Facility and its operation and such insurance shall be sufficient to satisfy the Applicant's indemnification responsibilities under Article 5.3 of this Agreement.

6.2 Within ten (10) business days following execution of this Agreement, and as soon as practicable after the end of each fiscal year or at the renewal of the insurance policy and in any event within ninety (90) calendar days there after, the Applicant shall provide PGE with certification of all insurance required in this Agreement, executed by each insurer or by an authorized representative of each insurer.

6.3 All insurance required by this Article 6 shall name PGE, its parent, associated and Affiliate companies and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured. All policies shall contain provisions whereby the insurers waive all rights of subrogation against the Other Party Group and provide thirty (30) calendar days advance written notice to the Other Party Group prior to anniversary date of cancellation or any material change in coverage or condition. The Applicant's insurance shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. The insurance policies, if written on a Claims First Made Basis, shall be maintained in full force and effect for two (2) years after termination of this Agreement, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

6.4 The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Agreement.

6.5 The requirements contained herein as to insurance are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Parties under this Agreement.

Article 7. Dispute Resolution

Parties will adhere to the dispute resolution provisions in OAR 860-082-0080.

Article 8. Miscellaneous

8.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of the Agreement and each of its provisions shall be governed by the laws of the State of Oregon, without regard to its conflicts of law principles. The Agreement is subject to all applicable laws. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a governmental authority.

8.2 Amendment

The Parties may mutually agree to amend the Agreement by a written instrument duly executed by both Parties in accordance with provisions of the Rule and applicable Commission Orders and provisions of the laws if the State of Oregon.

8.3 No Third-Party Beneficiaries

The Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

8.4 Waiver

8.4.1 The failure of a Party to the Agreement to insist, on any occasion, upon strict performance of any provision of the Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.

8.4.2 The Parties may agree to mutually waive a section of this Agreement so long as prior Commission approval of the waiver is not required by the Rule.

8.4.3 Any waiver at any time by either Party of its rights with respect to the Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of the Agreement. Any waiver of the Agreement shall, if requested, be provided in writing.

8.5 Entire Agreement

The Interconnection Agreement, including any supplementary Form attachments that may be necessary, constitutes the entire Agreement between the Parties with reference to the subject matter hereof and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of the Agreement. There are no other agreements, representations, warranties, or covenants that constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under the Agreement.

8.6 Multiple Counterparts

The Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

8.7 No Partnership

The Agreement will not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

8.8 Severability

If any provision or portion of the Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority; (1) such portion or provision shall be deemed separate and independent; (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling; and (3) the remainder of the Agreement shall remain in full force and effect.

8.9 Subcontractors

Nothing in the Agreement shall prevent a Party from utilizing the services of any subcontractor, or designating a third party agent as one responsible for a specific obligation or act required in the Agreement (collectively subcontractors), as it deems appropriate to

perform its obligations under the Agreement; provided, however, that each Party will require its subcontractors to comply with all applicable terms and conditions of the Agreement in providing such services and each Party will remain primarily liable to the other Party for the performance of such subcontractor.

8.9.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under the Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made. Any applicable obligation imposed by the Agreement upon the hiring Party shall be equally binding upon, and will be construed as having application to, any subcontractor of such Party.

8.9.2 The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

8.10 Reservation of Rights

Either Party will have the right to make a unilateral filing with the Commission to modify the Interconnection Agreement. This reservation of rights provision will include but is not limited to modifications with respect to any rates terms and conditions, charges, classification of service, rule or regulation under tariff rates or any applicable State or Federal law or regulation. Each Party shall have the right to protest any such filing and to participate fully in any proceeding before the Commission in which such modifications may be considered.

Article 9. Notices and Records

9.1 General

Unless otherwise provided in the Agreement, any written notice, demand, or request required or authorized in connection with the Agreement shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to the Applicant:

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

If to PGE:

Attention: Small Power Production

Address: 121 SW Salmon St, 3WTC0402

City: Portland State: OR Zip: 97204

Phone: (503) 464-8300

Fax: (503) 464-2115

E-mail: small.powerproduction@pgn.com

9.2 Records

PGE will maintain a record of all Interconnection Agreements and related Form attachments for as long as the interconnection is in place as required by OAR 860-082-065. PGE will provide a copy of these records to the Applicant within fifteen (15) business days if a request is made in writing.

9.3 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to the Applicant (*complete if different than Article 9.1*):

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

If to PGE (*complete if different than Article 9.1*):

Attention: Small Power Production

Address: 121 SW Salmon St. , 3WTC0402

City: Portland State: OR Zip: 97204

9.4 Designated Operating Representative

The Parties will designate operating representatives to conduct the communications which may be necessary or convenient for the administration of the operations provisions of the Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities:

Applicant's Operating Representative (*complete if different than Article 9.1*):

Applicant: Conifer Energy Partners, LLC

Attention: Jonathan Nelson

Address: 4207 SE Woodstock #326

City: Portland State: OR Zip: 97206

Phone: (303)709-9600

Fax:

E-mail: jonathan@coniferenergypartners.com

PGE's Operating Representative (*complete if different than Article 9.1*):

Attention: Small Power Production

Address: 121 SW Salmon St. , 3WTC0402

City: Portland State: OR Zip: 97204

Phone: (503) 464-8300

Fax: (503) 464-2115

E-mail: small.powerproduction@pgn.com

9.5 Changes to the Notice Information

Either Party may change this notice information by giving five (5) business days written notice prior to the effective date of the change.

Article 10. Signatures

IN WITNESS WHEREOF, the Parties have caused the Agreement to be executed by their respective duly authorized representatives.

For the Applicant:

Signature: _____

Printed Name: _____

Title (*if applicable*): _____

Date: _____

For PGE:

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Attachment A

Description and Costs of Minor Modifications, Interconnection Facilities, System Upgrades, and Adverse System Impacts

The following System Upgrades are required to interconnect the generation facility:

- To properly service the generation facility, the installation of a new primary service and metering package will be needed.
- Replace hydraulic recloser with an electronic recloser bank.
- Replace the in-line fuse with an electronic recloser bank.
- Upgrade the substation transformer relays with dual SEL-487E relay panels.
- Install a set 57kV voltage transformers.
- Install transfer trip via Mirror Bits Protocol over fiber optic cable. The fiber optic cable will run from the Wallace substation to the point of interconnection which is approximately 2.30 miles.

PGE's Responsibilities

PGE will design, procure, install and maintain the new service conductor and metering equipment. However, the conduit and trench from the Point of Interconnection to the riser pole will be installed by the Interconnection Customer.

On the distribution system PGE will install and maintain the two electronic reclosers.

In the Wallace substation PGE will engineer, install and maintain the SEL-487E transformer relay's and 57 kV VT's. A mobile substation will be needed to shift the load off the transformer so the relay work can be completed.

A transfer trip protection scheme will be engineered, installed and maintained by PGE. A fiber optic cable will run from the Wallace Substation to the point of interconnection along the existing distribution route. PGE's preferred method for transfer trip is SEL Mirror Bits Protocol. PGE will provide the settings for the Interconnection Customers relays prior to construction.

Interconnection Customers Responsibilities

For the new service the Interconnection Customer will need to trench and install 4" conduit from the Point of Interconnection to the riser pole in accordance with PGE's standards. Additionally, a pull rope will need to be placed in the conduit to allow PGE to pull in the new service conductors.

The Interconnection Customer will need to purchase and install a small vault along the same path as the conduit. The vault needs to be located between the outside fence of the generation facility and the riser pole. The vault will contain laterals, provided by PGE, that can be used as an isolation point for PGE crews. Vault specifications will be provided during the engineering of the new primary service.

The Interconnection Customer will also be responsible for the installation of the CT's. The CT's will be provided by PGE and wired by PGE after they have been installed.

The Interconnection Customer will also need to provide a non-energized communications cabinet to which the fiber optic cable and transfer trip devices can reside. The Interconnection Customer will be responsible for purchasing and installing the relays for transfer trip. Prior to testing, a copy of the setting must be provided to PGE for review.

The Interconnection Customer will be required to use dynamic reactive current support to mitigate voltage flicker on the feeder. The cost associated with dynamic reactive current support will be borne by the Interconnection Customer and is not included in PGE's cost Estimate.

Below is PGE's non-binding good faith estimate for the work outlined above.

New Primary Service and Metering Package	$30,000.00
Distribution Requirements	$120,000.00
(Two Electronic Recloser Banks)	
Protection Requirements	$459,600.00
(Dual SEL-487E Relays, 57kV VT)	
Communication Requirements	$195,326.00
(Transfer Trip via Mirror Bits Protocol over Fiber Optic Line)	
Total	$804,926.00

Attachment B

Description of Interconnection Facilities and Metering Equipment Operated or Maintained by PGE

PGE will only own the following interconnection equipment at the site:

- Primary voltage service conductors from PGE's area feeder circuit to the termination point in PV plant's switchgear, and
- Metering equipment (Meter, potential transformers, current transformers and associated wiring) that will be installed in the applicant-supplied switchgear.

Periodic maintenance of PGE owned equipment will be needed to ensure accuracy and function. The maintenance will occur on a regular cycle and be set forth by PGE. If at any time the equipment is damaged, the Applicant, or any subsequent assignees of this Agreement, may be held responsible for all associated costs. If at any point, the Applicant wishes to make any changes to the Interconnection Facilities that require PGE personnel or equipment, the Applicant is responsible for all associated costs.

The Applicant shall pay for the cost of the Interconnection Facilities itemized in this Agreement as well as engineering, procurement, construction, and commissioning costs of PGE provided interconnection facilities and distribution upgrades contemplated by this Agreement. The cost set forth herein is only for the scopes of work that will be performed by PGE. Costs for any work being performed by the Applicant or for any Applicant-owned, supplied and installed equipment and associated design and engineering are not included.

PGE will not perform services under this Agreement until payments are received by PGE as set forth under this Agreement. Applicant will be in default per Section 5.6 of the Agreement if PGE does not receive payment of any sum due to PGE as outlined in Attachment D.

The Applicant will acquire all necessary property rights and permits for the construction of the required facilities as well as distribution line easements (meeting PGE requirements), including easements for PGE's owned underground cable route for the new service**.**

Attachment C

One-Line Diagram

One-line diagram depicting the Generator Facility, Interconnection Facilities, metering equipment, and upgrades including safety lockout features and any special accessibility requirements.

To be filled in with as-built drawings upon project completion.

Attachment D

Scope of Work/Milestones

In-Service Date: March 4, 2022

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	Executed Interconnection Agreement / 3-27-2020	Zena Solar
(2)	$10,000 of Estimated Cost / 3-27-2020	Zena Solar
(3)	Certification of Insurance / 4-10-2020	Zena Solar
(4)	Scaled Site Plan Drawings / 6-26-2020	Zena Solar
(5)	Engineering Starts / 6-26-2020	PGE
(6)	Payment of $268,308 / 10-2-2020	Zena Solar
(7)	Easement Documentation / 1-4-2021	Zena Solar
(8)	Payment of $268,309 / 4-9-2021	Zena Solar
(9)	PGE Orders Long Lead Time Items / 4-9-2021	PGE
(10)	*Engineering Complete / 5-7-2021	PGE
(11)	Payment of $258,309 / 10-1-2021	Zena Solar
(12)	PGE Starts Construction / 10-1-2021	PGE
(13)	Final Electric Inspection Provided / 12-27-2021	Zena Solar
(14)	Interconnection Facilities Complete / 2-4-2022	PGE
(15)	Testing and Commissioning / 2-18-2022	Zena Solar
(16)	In-Service Date / 3-4-2022	PGE

* During the design of the communication scheme additional costs or time may be incurred should the existing utility poles need to be replaced or modified to accommodate the fiber optic line.

PGE does not guarantee completion of any project on a targeted date as the schedule is dependent on a

number of variables, including but not limited to, construction of other potential interconnection projects.

Notwithstanding any other language in the Agreement, payment is due on the date specified above. Payments are due without prior notice or demand.

Attachment E

Additional Operating Requirements

No additional operating requirements have been placed on Buckner Zena Solar, LLC.

EXHIBIT 15

MARCH 25, 2020 LETTER FROM ZENA SOLAR TO PGE

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Sanger Law PC
1041 SE 58th Place, Portland, OR 97215 tel (503) 756-7533 fax (503) 334-2235 irion@sanger-law.com

March 25, 2020

Via Email

Kristin M. Ingram
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

RE: Zena Solar Project
Third Demand Letter

Dear Ms. Ingram:

I am sending this letter regarding Portland General Electric Company's ("PGE's") demand that Zena Solar, LLC ("Zena Solar") execute PGE's draft interconnection agreement ("IA") on or before March 27, 2020. We appreciate your timely response to our earlier demand letters. This third demand letter is in response to your March 24, 2020 letter ("March 24, 2020 Letter").

From your March 24, 2020 letter, it appears that PGE is operating from mistaken factual assumptions and material misunderstandings. I am sending this letter to confirm our understanding of the facts and as a last attempt to avoid unnecessary litigation. I am optimistic that, once PGE better understands the factual history, PGE will change its position and agree to allow Zena Solar to hire a third party to conduct an independent System Impact Study as Zena Solar is expressly allowed by the Small Generator Interconnection Rules (OAR 860-082-0060(7)(h)).

PGE's denial of Zena Solar's request is based on the view that: "An applicant that intends to conduct an independent SIS should inform the public utility of that fact before the utility begins its system impact study, or at the latest, before the utility begins its facilities study." Without responding to the reasonableness of this requirement as a general matter, in this circumstance it was impossible for Zena Solar to know that it would want to make the request until after the facilities study was provided. Since Zena Solar could not have made a request to conduct an independent System Impact Study prior to PGE beginning the Facilities Study, Zena Solar should not be held to a requirement or condition that it could not achieve.

PGE provided Zena Solar its second restudied System Impact Study on June 27, 2019, and Zena Solar promptly executed the Facilities Study Agreement on July 17,

2019. After Zena Solar executed the Facilities Studies Agreement, a higher queued project (SQQ0140) withdrew from the interconnection queue on July 26, 2019. As PGE has previously explained, that withdrawal had an impact on Zena Solar's interconnection studies. Specifically, Mr. Jason Zappe wrote Zena Solar on November 20, 2019 that "The Facility Study report provided on October 14, 2019 contained newly identified interconnection requirements (not previously identified in the System Impact Study) due to the withdrawal of the higher queued interconnection request."[1]

Prior to completing the Facilities Study, PGE did not notified Zena Solar that SPQ0140 withdrew, and PGE did not provide Zena Solar an opportunity to request an independent System Impact Study. Instead, PGE simply went forward with the Facility Study relying on the System Impact Study for an entirely different interconnection customer (SPQ0129) from November 2018 that PGE had never provided to Zena Solar.

These facts are important. There was entirely new and critically important information that Zena Solar was unaware of at the time PGE started the Facilities Study. These were not minor pieces of information, but were critical and important, including that another interconnection customer dropped out of the queue, that Zena Solar's System Impact Study would not be used when conducting the Facilities Study, and that PGE instead relied upon a previous System Impact Study for SPQ0129.

This information would have impacted Zena Solar's decision whether or not to request to have its own System Impact Study performed. There was no way for Zena Solar to know that PGE would rely upon an entirely different and never before seen System Impact Study.

Furthermore, the higher queued project (SQQ0140) withdrew from the queue on July 26, 2019—a little over *one* week after Zena Solar executed the Facilities Study Agreement. PGE went forward and took almost three months to complete the Facilities Study on October 15, 2019. There was nothing that prevented PGE from promptly contacting Zena Solar after SPQ0140 withdrew from the queue in July 2019, and allowing Zena Solar to make informed business decisions based on this new and critically important information. It was not until receiving Mr. Zappe's November 20, 2019 email that Zena Solar learned of SPQ0140's queue withdrawal.

PGE has placed Zena Solar in an impossible Catch-22. PGE is insisting that Zena Solar request to perform an independent System Impact Study no later than when PGE begins the Facilities Study. However, PGE did not use Zena Solar's actual System Impact Study and performed a Facilities Study in a manner completely different from

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[1] The actual date was October 15, 2019—PGE's email was in error.

how PGE originally informed Zena Solar that it would conduct the Facilities Study. Essentially, Zena Solar could not have known that it would want to perform an independent System Impact Study until *after* the date upon which PGE says that Zena Solar needed to request to have the independent System Impact Study performed. PGE also could have avoided this entire situation if it had timely informed Zena Solar of the relevant facts instead of moving forward with conducting the Facilities Study.

Mr. Zappe's email from November 20, 2019 also states, "When a higher queued project withdraws, depending on the circumstances of the withdrawal, the particular interconnection requests, and where applicants may be in the study process, PGE determines (in PGE's sole discretion) what additional studies (or restudies) need to occur on a particular application." PGE's exercising its sole discretion on how to proceed with study process and not providing Zena Solar with critically relevant information harms Zena Solar's rights, and is inconsistent with the principles contained in the Small Generator Interconnection Rules.

Zena Solar hopes that, now that PGE has a better appreciation for why Zena Solar could not have requested a System Impact Study prior to PGE beginning the Facility Study, PGE will agree to allow Zena Solar to have an independent System Impact Study performed. If PGE does not agree to allow Zena Solar to have an independent System Impact Study performed, Zena Solar is confident that the Oregon Public Utility Commission will be capable of understanding that PGE has imposed an impossible requirement and will direct PGE to allow such a study to be performed.

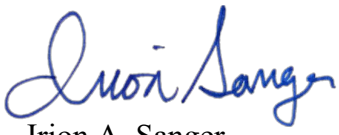
Finally, PGE expresses a desire to not "unacceptably delay the interconnection process, unacceptably delay PGE's interconnection queue, and adversely impact other pending interconnection requests." Zena Solar wants to make it clear that it is PGE that is delaying the process by refusing to cooperate with Zena Solar, and that the passage of time related to a complaint against PGE at the Oregon Public Utility Commission will far exceed any time related to conducting an independent System Impact Study. If PGE is truly concerned about delays, then PGE should have waited to proceed with the Facilities Study until it had first consulted with Zena Solar about the withdrawal of the higher queued project and whether Zena Solar believed it was appropriate to proceed, and should now rapidly agree to Zena Solar's request to conduct an independent System Impact Study. This entire dispute would be unnecessary but for PGE's actions.

Absent a favorable response from PGE by noon on March 26, 2020, Zena Solar intends to file a complaint with the Oregon Public Utility Commission. Finally, Zena Solar requests that PGE agree that, if Zena Solar files a complaint, then PGE will not remove Zena Solar from the interconnection queue or otherwise require Zena Solar to execute the Generator Interconnection Agreement on March 27, 2020. If PGE is not

willing to stay or otherwise agree that Zena Solar does not need to execute the Interconnection Agreement, than any complaint by Zena Solar will include a request that PGE be prevented from removing Zena Solar from the interconnection queue pending resolution of its dispute.

Please feel free to reach out with any questions.

Sincerely,



Irion A. Sanger

cc: Jonathan Nelson, Conifer Energy Partners LLC

EXHIBIT 16

MARCH 26, 2020 LETTER FROM PGE TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric Company
Legal Department
121 SW Salmon Street • 1WTC1301 • Portland, Oregon 97204
Phone 503-464-7370 • Fax 503-464-2200
portlandgeneral.com

Kristin M. Ingram
Assistant General Counsel
kristin.ingram@pgn.com

March 26, 2020

Via Email

Irion Sanger
Sanger Law PC
1041 SE 58th Place
Portland, OR 97215

Re: Zena Solar Project

Dear Mr. Sanger:

I am responding to your March 25, 2020 letter.

PGE provided detailed background information regarding Zena Solar's application in a letter dated January 31, 2020, which was in response to Zena Solar's request for a negotiated interconnection agreement. PGE has also provided you with detailed information on its processes and conclusions with respect to the Zena Solar studies in response to the two demand letters you have sent. I have reviewed those correspondence and disagree with your claim that PGE is operating from mistaken factual assumptions and material misunderstandings.

PGE issued its facilities study for Zena Solar on October 15, 2019. In November 2019, Zena Solar complained to PGE about PGE's use of the system impact study (SIS) originally conducted for SPQ0129 as the new SIS for Zena Solar. PGE believes the use of the SPQ0129 study is appropriate and reasonable and that no new study is needed. Nevertheless, on December 4, 2019, PGE offered to enter into a new system impact study agreement with Zena Solar and to conduct a new SIS for Zena Solar reflecting the withdrawal of SPQ0140. PGE believed this new study was unnecessary because it would reach the same conclusions as the November 6, 2018 SIS for SPQ0129, but PGE indicated that it would conduct such a study if Zena Solar insisted on a new Zena Solar study rather than use of the existing SPQ0129 study. Zena Solar rejected PGE's offer. Instead, Zena Solar requested a negotiated interconnection agreement, presenting terms to which PGE could not agree. You sent your First Demand Letter dated February 10, 2020, to which PGE responded in detail. Then, in your Second Demand Letter dated March 16, 2020, you requested that Zena Solar be allowed to perform its own independent SIS (the first time this was requested by Zena Solar). As PGE noted in its March 24, 2020 response, this request to perform an independent SIS comes too late in the interconnection process.

OAR 860-082-0060(7) governs the system impact study conducted by a public utility. OAR 860-082-0060(7)(h) states that if an applicant provides an independent system impact study, then the

public utility must evaluate and address any alternative findings from the independent study as part of the utility's own system impact study. This is the only rule that addresses an independent system impact study. It necessarily implies that the independent study is completed *before* the utility conducts its system impact study. However, in a good faith effort to cooperate with interconnection applicants, PGE has stated it will work with an applicant to facilitate an independent system impact study either before PGE completes its own system impact study or before PGE completes its facilities study. Under this approach, the applicant should inform PGE that it will conduct an independent system impact study before the parties execute the system impact study or, at the latest, before the parties execute the facilities study agreement.

PGE appreciates that the facts of the matter at hand are unique and may not fit into the above described process. In this situation, the time for Zena Solar to have pursued an independent SIS was in November or December of 2019 when Zena Solar was aware that SPQ0140 had withdrawn and that PGE had relied on the findings of the November 6, 2018 SIS for SPQ0129. Zena Solar could have agreed that PGE conduct a new SIS for Zena Solar in December 2019, and/or Zena Solar could have indicated in November or December 2019 that Zena Solar would conduct its own independent SIS. But Zena Solar did not pursue any of these options.

PGE has conducted the Zena Solar interconnection process in good faith and has provided Zena Solar with PGE's best conclusions regarding the improvements required to interconnect the Zena Solar Project and the estimated cost of those improvements. PGE has been responsive to Zena Solar's complaints and has provided detailed responses to the issues raised. PGE has no desire to see this matter result in a contested complaint before the Commission, but PGE needs to take a consistent approach to management of its interconnection queue and does not believe that an independent SIS should be permitted at this time or that further delay of this interconnection request is justified. Notably, there is an application (SPQ0240) that is behind Zena Solar in the queue which will be impacted by Zena Solar's election.

To be clear, PGE is not demanding that Zena Solar execute an interconnection agreement. PGE is processing Zena Solar's interconnection application under the Commission's small generator interconnection process. Under that process, Zena Solar has until March 27, 2020, to execute the interconnection agreement. If Zena Solar does not do so, then Zena Solar's interconnection application will be deemed withdrawn by operation of OAR 860-082-0025(7)(e).

Sincerely,

K Ingram

Kristin Ingram
Associate General Counsel

EXHIBIT 17

ZENA SOLAR FACILITY STUDY
DATED OCTOBER 15, 2019

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric

Facility Study

Interconnection Request:

Zena Solar, LLC – 2.50 MWAC

SPQ0163

10/15/2019

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1. Introduction 3
2. Facility Study Scope 3
3. Facility Study Assumptions 4
4. Facility Study Overview 4
5. Cost Estimate 7
6. Schedule 7
7. Higher Queued Projects 8

1. Introduction

On February 8, 2018, Portland General Electric (PGE) received a completed Small Generator Interconnection Request. The Interconnection Request seeks to interconnect a 2.50 MW$_{AC}$ solar facility located in Marion, Oregon at GPS coordinates 45.017705, -123.096697. The interconnection point will be on PGE's Wallace-13 distribution feeder connected to the Wallace substation.

As set forth in the Oregon Administrative Rules 860-082-0015(29), PGE has assigned queue number SPQ0163 to the Interconnection Request.

On July 19, 2019, PGE received an executed Facility Study Agreement with the appropriate deposit from the Interconnection Customer.

The Facility Study provides the study results based on the information provided in the Interconnection Request.

The Interconnection Customer will operate this generator as a Qualifying Facility as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA).

2. Facility Study Scope

The primary purpose of the Facility Study is to provide a preliminary project scope and cost estimates for the necessary infrastructure modifications to serve a new 2.50 MW$_{AC}$ generation facility. PGE in the System Impact Study provided the following information:

- Documentation of any impacts observed in meeting the NERC/WECC System Performance Criteria that are adverse to the reliability of the electric system as a result of the interconnection.
- A list of facility additions and upgrades which the applicable power flow, and short circuit analyses determine to be required to accommodate the interconnection.
- A non-binding, good faith estimate of cost responsibilities for making the required additions and system upgrades necessary to accommodate the interconnection.
- A non-binding, good faith estimate of the time to construct the required additions and system upgrades necessary to accommodate the request.

The Facility Study report will identify any additional Interconnection Requirements and provide a preliminary cost estimate.

3. Facility Study Assumptions

The Facility Study considerations include the following assumptions:

- 2.50 MWAC is assumed to be the peak output. The generation is assumed to be summer peaking.
- The Point of Interconnection will be on PGE's Wallace-13 distribution feeder.
- Delivery Voltage at the point of interconnection is assumed to be 13 kV.
- The Interconnection Customer will design, permit, build and maintain all facilities on the customer's side of the Point of Interconnection.
- Line reconductor or fiber underbuild required on existing poles will be assumed to follow the most direct path on the Distribution System. If during detailed design the path must be modified it may result in additional cost and timing delays for the Interconnection Customer.
- The load characteristics of the electrical equipment during starting and operation will not have a negative impact on the quality of service to PGE's customers.
- The Interconnection Customer will acquire all necessary distribution line easements, including easements for PGE's owned underground cable route for the new service.
- This report is based on information available at the time of the study September 20, 2019.

4. Facility Study Overview

The scope of work detailed below outlines the requirements and responsibilities of both PGE and the Interconnection Customer.

With the addition of SPQ0163 two distribution protective devices become overloaded and will need to be replaced with electronic reclosers.

The first is a recloser located at the intersection of Zena Rd and Highway 221. Under normal configuration the recloser could load to 115A. The recloser is currently rated at 70A.

The second device is an in-line fuse located near 44°59'5.15"N, 123° 5'45.24"W. When the feeder configuration is modified and fed from the opposite direct the fuse could load to 198A. The fuse is currently rated at 40A.

This section of the feeder is a loop and the configuration will change to accommodate distribution maintenance and outages.

To properly service the generation facility, the installation of a new primary service and metering package will be required.

The daytime minimum load on the Wallace-13 feeder is -0.7 which occurred on September 19, 2018. Additionally, the daytime minimum load on the Wallace substation transformer is 1.73 which occurred on September 19, 2018. The Wallace substation transformer is rated at 28.5 MW.

Under the conditions outlined above the generation can carry the entire Wallace BR1 transformer load and will backflow into the transmission system. This causes the potential for the following scenario to occur.

When there is ground fault on the high side of the substation transformer, the line relays will trip the line breakers leaving the substation primary without a ground reference. The DER back-feeding to the primary will create an overvoltage condition on the unfaulted phases of up to 173% of normal phase-ground voltage. Until the fault is cleared and the back feed interrupted, the arresters on the un-faulted phases will be exposed to this overvoltage, and will continuously conduct, leading to thermal runaway and arrester failure. The overvoltage condition can also damage the transformer and the line insulators. At low DER penetration the relatively large stranded load facilitates rapid cessation of the DER; at higher penetration levels the DER removes itself increasingly slowly.

There are two approaches to address this fault induced overvoltage condition:

Prevent it by making the substation transformer appear to the transmission system as an effectively grounded source; this would require replacement of the substation transformer with a different configuration or in the installation of a grounding bank.

Rapidly detect the overvoltage condition and remove the transformer as a source; this is referred to as 3V0 sensing or as 59N protection.

The first approach is preferable, but considerably more expensive than the second approach. The first approach may be implemented during substation rebuilds; the second approach is how existing substations are being adapted for high penetrations of DER.

Once the DER is separated from the transmission system, it is essential that the DER be tripped to allow the transmission system to reenergize the distribution system without risk of closing in out-of-phase to still energized portions.

To rapidly detect the overvoltage condition, remove the transformer as a source and trip the DER the follow is required:

- SEL-487E relays to detect 3V0 (59N)
- 57 kV voltage transformers (VT's)
- Transfer trip to the DER via Mirror Bits

Transfer trip will require installing approximately 2.30 miles of fiber optic cable from the substation to the generation facility.

PGE's Responsibilities

PGE will design, procure, install and maintain the new service conductor and metering equipment. However, the conduit and trench from the Point of Interconnection to the riser pole will be installed by the Interconnection Customer.

On the distribution system PGE will install and maintain the two electronic reclosers.

In the Wallace substation PGE will engineer, install and maintain the SEL-487E transformer relay's and 57 kV VT's. A mobile substation will be needed to shift the load off the transformer so the relay work can be completed.

A transfer trip protection scheme will be engineered, installed and maintained by PGE. A fiber optic cable will run from the Wallace Substation to the point of interconnection along the existing distribution route. PGE's preferred method for transfer trip is SEL Mirror Bits Protocol. PGE will provide the settings for the Interconnection Customers relays prior to construction.

Interconnection Customers Responsibilities

For the new service the Interconnection Customer will need to trench and install 4" conduit from the Point of Interconnection to the riser pole in accordance with PGE's standards. Additionally, a pull rope will need to be placed in the conduit to allow PGE to pull in the new service conductors.

The Interconnection Customer will need to purchase and install a small vault along the same path as the conduit. The vault needs to be located between the outside fence of the generation facility and the riser pole. The vault will contain laterals, provided by PGE, that can be used as an isolation point for PGE crews. Vault specifications will be provided during the engineering of the new primary service.

The Interconnection Customer will also be responsible for the installation of the CT's. The CT's will be provided by PGE and wired by PGE after they have been installed.

The Interconnection Customer will also need to provide a non-energized communications cabinet to which the fiber optic cable and transfer trip devices can reside. The Interconnection Customer will be responsible for purchasing and installing the relays for transfer trip. Prior to testing, a copy of the setting must be provided to PGE for review.

The Interconnection Customer will be required to use dynamic reactive current support to mitigate voltage flicker on the feeder. The cost associated with dynamic reactive current support will be borne by the Interconnection Customer and is not included in PGE's cost Estimate.

5. Cost Estimate

The following estimate represents only the scopes of work that will be performed by the Distribution Provider. Costs for any work being performed by the Interconnection Customer are not included.

Distribution Modifications		$120,000.00
Protection Requirements		$459,600.00
Communications Requirements		$195,326.00
New Service Metering		$30,000.00
	Total	$804,926.00

A payment schedule will be set forth and agreed to in the Interconnection Agreement.

6. Schedule

PGE estimates it will require approximately 23 months to design, procure and construct the facilities described in this report following the execution of an Interconnection Agreement.

The Interconnection of Zena Solar, LLC Solar is not dependent on any higher queued projects completing their interconnection requirements.

Proposed Schedule

Executed Interconnection Agreement	12/4/2019
Engineering Design Starts	2/7/2020
Engineering Design Complete	12/31/2020
PGE Construction Scheduled	2/26/2021
Interconnection Customer Switchgear Installed/Inspected	8/27/2021
Interconnection Facilities Complete	9/30/2021
In-Service Date	10/29/2021

PGE does not guarantee completion of any project on a targeted date as the schedule is dependent on several variables, including but not limited to, construction of other potential

interconnection projects and payment milestones being met by the Interconnection customer.

7. Higher Queued Projects

All active higher queued generation Interconnection Requests were considered in this study and are identified below. If any of these requests are withdrawn, PGE reserves the right to restudy the request, as the results and conclusions contained within the study could significantly change.

Currently there are no higher queued Interconnection Requests on Wallace-13 feeder.

EXHIBIT 18

ZENA SOLAR SECOND SYSTEM IMPACT STUDY
DATED JUNE 27, 2019

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric

System Impact Study

Interconnection Request:

Zena Solar, LLC – 2.50 MWAC

SPQ0163

6/27/2019

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7. Higher Queued Projects 8
8. Attachment A- Detailed System Impact Study Report 8

1. Introduction

On February 8, 2018, Portland General Electric (PGE) received a completed Small Generator Interconnection Request for Zena Solar, LLC ("Interconnection Customer"). The Zena Solar project ("Interconnection Request") seeks to interconnect a 2.50 MW$_{AC}$ solar facility located in Marion, Oregon at GPS coordinates 45.017705, -123.096697. The interconnection point will be on PGE's Wallace-13 distribution feeder connected to the Wallace substation.

As set forth in the Oregon Administrative Rules 860-082-015(29), PGE has assigned queue number SPQ0163 to the Interconnection Request.

On December 4, 2018, PGE received an executed System Impact Study Agreement with the appropriate deposit from the Interconnection Customer.

The System Impact Study provides the study results based on the information provided in the Interconnection Request.

The Interconnection Customer will operate this generator as a Qualifying Facility as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA).

2. System Impact Study Scope

The primary purpose of the System Impact Study is to identify and detail the impacts of the Interconnection Request at the designated Point of Interconnection. PGE will also identify any required system additions necessary to accommodate the request. The study normally consists of the following:

- Documentation of any impacts observed in meeting the NERC/WECC System Performance Criteria that are adverse to the reliability of the electric system as a result of the interconnection.
- Documentation of other providers' to the transmission or distribution systems that are impacted, and identification of these providers as Affected Systems. Note, no Affected Systems were identified for this study.
- Documentation of fault interrupting equipment with short circuit capability limits that are exceeded as a result of the interconnection.
- A short circuit analysis and power flow analysis.
- Protection and set point coordination studies.
- Voltage drop, flicker and grounding reviews.

- A list of facility additions and upgrades which the applicable power flow, and short circuit analyses determine to be required to accommodate the interconnection.
- A non-binding, good faith estimate of cost responsibilities for making the required additions and system upgrades necessary to accommodate the interconnection.
- A non-binding, good faith estimate of the time to construct the required additions and system upgrades necessary to accommodate the request.

The System Impact Study considers all generating facilities that, on the date the study was commenced: April 19, 2019 (i) were directly interconnected to PGE's Distribution System; (ii) were interconnected to Affected Systems and may have an impact on the Interconnection Request; (iii) generating facilities having a pending higher queued Interconnection Request to interconnect to the Distribution System.

3. System Impact Study Assumptions

The System Impact Study considerations include the following assumptions for system conditions for all stages and seasons:

- Generating Facilities and identified PGE electrical system upgrades associated with higher queued Interconnection Requests.
- SPQ0163 was modeled at its maximum capability of 2.50 MWAC.
- The Point of Interconnection will be on PGE's Wallace-13 distribution feeder at GPS coordinates 45.017705, -123.096697.
- The nominal voltage level at the Point of Interconnection will be 13 kV.
- The Interconnection Customer will design, permit, build and maintain all facilities on the customer's side of the revenue meter.
- Line reconductor or fiber underbuild required on existing poles will be assumed to follow the most direct path on the Distribution System. If during detailed engineering design (conducted after an Interconnection Agreement is executed and funded) the path must be modified, then it may result in additional cost and timing delays for the Interconnection Customer.
- Generator tripping may be required under outages, emergency or abnormal system conditions.
- The Generating Facility is expected to operate during daylight hours every day 7 days a week 12 months per year. The Point of Interconnection power factor range studied was unity power factor or 1.0 as stated in the Interconnection Customer's Small Generator Interconnection Request.
- The interconnection was studied with:

- Twenty (20) CPS SCH125KTL-DO/US-600 inverters with reactive power capabilities as shown in the provided Small Generator Interconnection Request.

- This report is based on information available at the time of the study April 19, 2019.

4. System Impact Study Interconnection Requirements

A System Impact Study was performed for SPQ0163. During the study equipment was monitored for voltage, loading, and short circuit violations. Based on the study results, the following are the distribution related impacts pertaining to this interconnection request.

Distribution System Modifications

With the addition of SPQ0163, the amount of proposed generation will cause both an undervoltage and overvoltage conditions to occur. To address these conditions the following requirements will need to be implemented.

Rephasing of the following phase laterals and downstream loads are required:

- Rephase of existing lines on NW Orchard Heights Rd (PRIOH119512) from AC to AB phase.
- Rephase the existing lines on NW Gibson Rd (PRIOH245462) from AC to AB phase.
- Rephase the existing lines on NW 4 H Rd (PRIOH337342) from B to C phase.
- Rephase the lines on Grice Hill Rd (PRIUG231327) from AB to AC phase.
- Rephase the lines on Private road at 3210 NW Brush College Rd (PRIUG231344) from A to C phase.
- Rephase the lines on N Springfield Ct (PRIUG199137, PRIUG97386, and PRIUG146062) from B to A phase.

Additionally, new single-phase voltage regulators with bi-directional controls will need to be installed at the location described below.

- The new voltage regulator will be 3-167kVA and will be located at Near 4640 NW Brush College Road.
- The voltage regulators will be programed with the voltage set point of V=123.0V and reverse voltage set point at V=118.0V.

The analysis determined during light and heavy load conditions the Generation Facility may cause voltage flicker issues on the feeder. The Interconnection Customer will be required to use dynamic reactive current support to mitigate this concern.

The cost associated with dynamic reactive current support will be borne by the Interconnection Customer and is not included in PGE's cost estimate.

To properly service the generation facility, the installation of a new primary service and metering package will also be needed.

Protection Requirements

The daytime minimum load on the Wallace-13 feeder is -0.7 which occurred on April 24, 2018. Additionally, the daytime minimum load on the Wallace substation transformer is 1.73 which occurred on 9/19/2018. The Wallace substation transformer is rated at 28.5 MW.

Under the conditions outlined above the generation can carry the entire BR1 transformer load and will cause backflow into the transmission system. This causes the potential for the following condition to occur.

When there is ground fault on the high side of the substation transformer, the line relays will trip the line breakers leaving the substation primary without a ground reference. The DER back-feeding to the primary will create an overvoltage condition on the unfaulted phases of up to 173% of normal phase-ground voltage. Until the fault is cleared and the back feed interrupted, the arresters on the un-faulted phases will be exposed to this overvoltage, and will continuously conduct, leading to thermal runaway and arrester failure. The overvoltage condition can also damage the transformer and the line insulators. At low DER penetration the relatively large stranded load facilitates rapid cessation of the DER; at higher penetration levels the DER removes itself increasingly slowly.

There are two approaches to address this fault induced overvoltage condition:

1. Prevent it by making the substation transformer appear to the transmission system as an effectively grounded source; this would require replacement of the substation transformer with a different configuration or in the installation of a grounding bank.

2. Rapidly detect the overvoltage condition and remove the transformer as a source; this is referred to as 3V0 sensing or as 59N protection.

The first approach is preferable, but considerably more expensive than the second approach. The first approach may be implemented during substation rebuilds; the second approach is how existing substations are being adapted for high penetrations of DER.

Once the DER is separated from the transmission system, it is essential that the DER be tripped to allow the transmission system to reenergize the distribution system without risk of closing in out-of-phase to still energized portions.

To trip the DER the follow is required:

- Transfer trip to the DER via SEL Mirror Bits

Transfer trip requires running a fiber optic line from the Wallace Substation to the point of interconnection which is approximately 1.75 miles. One preceding interconnection takes a similar path from the substation and will cover a portion of the distance, leaving SPQ0163 responsible for bringing fiber from Wallace Rd NW to the switchgear location which is approximately 0.9 miles.

5. Cost Estimate

The following estimate represents only the scopes of work that will be performed by the Distribution Provider. Costs for any work being performed by the Interconnection Customer are not included.

Distribution Modifications (Equipment outside the substation)		$161,000.00
Protection Requirements (Equipment Inside the Substation)		$58,500.00
Communications Requirements (Fiber)		$74,812.00
New Service Metering		$30,000.00
	Total	$324,312.00

6. Schedule

PGE estimates it will require approximately 18 months to design, procure and construct the facilities described in this report following the execution of an Interconnection Agreement. The schedule will be further developed and optimized during the Facility Study.

The Interconnection of SPQ0163 is dependent on one higher queued project completing their interconnection requirements. Those prerequisite requirements are listed below:

Queue Position	Prerequisite Interconnection Requirements
SPQ0140	Substation Transformer Relay Upgrade to SEL-487E Relay Panels
	Transfer Trip from Wallace Substation to Zena Rd

7. Higher Queued Projects

All active higher queued generation Interconnection Requests were considered in this study and are identified below. If any of these requests are withdrawn, the PGE reserves the right to restudy the request, as the results and conclusions contained within the study could significantly change.

Currently there one higher queued Interconnection Requests on Wallace-13 feeder.

Queue Position	AC Nameplate Rating	Status	Estimated In-Service Date
SPQ0140	3 MW	System Impact Study	December 2020

8. Attachment A- **Detailed System Impact Study Report (attached below)**

SYSTEM IMPACT STUDY FOR SPQ0163 revision

Zena Solar, LLC

Prepared by

Cameron Van Leuven (POWER Engineers, Inc.)

Reviewed by

Brad Hennessey (POWER Engineers, Inc.)

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SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

INTERCONNECTION INFORMATION

Customer Information

Queue Position	SPQ0163
Applicant Name	Zena Solar
System Impact Study Commitment Date	04/19/2019
Size of Proposed Facility (MW)	2.5 MW
Coordinates or Facility Location	**45.017705, -123.096697**
Inverter Type(s)	CPS SCH 125 KTL-DO/US-600
Engineer Performing SIS	Cameron Van Leuven (POWER Engineers, Inc)
Accounting Work Order (AWO)	1000008200

Interconnection Summary

System Impact Study was performed for Zena Solar on the Wallace Substation, feeder Wallace 13. The system was simulated and analyzed for voltage, loading, and short circuit violations under normal configuration and two alternate configurations (Configuration #2 and #3). There are three (3) fuse banks and one (1) hydraulic recloser that have overloading and short circuit rating violations during either base or alternative configurations. Under voltage violations exist on portions of the feeder during heavy loading for Configurations #1, #2, and #3. These conditions were considered preexisting.

Based on the study results, the following are the distribution related impacts pertaining to this interconnection request:

- Rephasing the following phase laterals and downstream loads respectively listed below to mitigate under voltage:
  - NW Orchard Heights Rd (PRIOH119512) from AC to AB phase.
  - NW Gibson Rd (PRIOH245462) from AC to AB phase.
  - NW 4 H Rd (PRIOH337342) from B to C phase.
  - Grice Hill Rd (PRIUG231327) from AB to AC phase.
  - Private road at 3210 NW Brush College Rd (PRIUG231344) from A to C phase
- Rephasing the following Wallace – Willow Lake Feeder phase laterals and downstream loads respectively listed below to balance loading at Wallace Substation Transformer due to rephased laterals and loads on Wallace – Wallace 13 Feeder:
  - N Springfield Ct (PRIUG199137, PRIUG97386, and PRIUG146062) from B to A phase.
- Install 3-1PH 167KVA voltage regulators with Bi-Directional control with the settings forward voltage set point V=123.0V and reverse voltage set point at V=118.0V at 4640 NW Brush College Rd to resolve downstream new overvoltage violations
- Add Dynamic VAR support for flicker
- Install one (1) 300-amp Solid-Blade disconnect cutouts and service metering at DER lateral.

Note: Service Transformers with Delta configurations downstream of the 2 phase laterals shall be reconfigured to the correct phase rotation.

The maximum primary voltage fluctuation was measured to be ~11.6% during light and heavy loading conditions with upgrades, thus Dynamic VAR Support has been recommended to mitigate these voltage flicker issues.

Backfeed onto the transmission system occurs with the addition of the DER during Light loading conditions.

Normal Configuration (Close RCL 7313 and RCL 4842 and open SW OPENPOINT_7386):

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Under the normal configuration during light loading conditions there is one (1) recloser (RCL_7313) that has a short circuit rating violation prior to the addition of SPQ0163. With the addition of SPQ0163, during light loading conditions, one (1) recloser (RCL_7313) becomes overloaded and a portion of the feeder has under voltage violations.

During Heavy loading conditions, prior to the addition of SPQ0140, there are one (1) overloaded fuse (FUSE_4913), one (1) overloaded recloser (RCL_7313), and a portion of the feeder becomes an under voltage violation. With the addition of SPQ0163, during heavy loading conditions, the existing under voltage violations are worsened and extended upstream causing new under voltage violations.

Configuration #2 (Open RCL 7313 and close SW OPENPOINT_7386):
Under Configuration #2 during light loading conditions there is one (1) overloaded fuses (FUSE_3276) prior to the addition of SPQ0163. With the addition of SPQ0163, during light loading conditions, a portion of the feeder becomes an under voltage violation and another portion of the feeder becomes an over voltage violation.

During Heavy loading conditions, prior to the addition of SPQ0163, there are two (2) overloaded fuses (FUSE_4913 and FUSE_3276) and a portion of the feeder has under voltage violations. With the addition of SPQ0163, during heavy loading conditions, new over voltage violations occur on a portion of the feeder.

Configuration #3 (Open RCL 4842 and close SW OPENPOINT_7386):
Under Configuration #3 during light loading conditions there is one (1) overloaded fuse (FUSE_3276), one (1) overloaded recloser (RCL_7313) with a short circuit rating violation, and a portion of the feeder has over voltage violations prior to the addition of SPQ0163. With the addition of SPQ0163, during light loading conditions, no new violations occur.

During Heavy loading conditions, prior to the addition of SPQ0163, there are three (3) overloaded fuses (FUSE_4913, FUSE_3276, and FUSE_3330), one (1) overloaded recloser (RCL_7313), and a portion of the feeder has under voltage violations. With the addition of SPQ0163, during heavy loading conditions, no new violations occur.

Distribution Line Related Upgrades

Description	Estimated Cost
3-1PH 167KVA voltage regulators	$123,500
Rephase 6 2two-phase and single-phase Laterals to mitigate under voltage	$37,500

Total Estimated Distribution Line Cost	**$161,000**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

INTERCONNECTION REQUESTS ASSOCIATED WITH THIS SUBSTATION

Queue Pos #	Name	Feeder Name	Xfmr Pos #	GPS Coordinates	DG Size (MW AC)	Status
SPQ0024	[redacted]	Wallace-Wallace-13	BR1	N/A	2.2	Completed
SPQ0122	[redacted]	Wallace-Wallace-13	BR1	N/A	2.0	Withdrawn
SPQ0129	[redacted]	Wallace-Wallace-13	BR1	N/A	2.5	Withdrawn
SPQ0140 rev	[redacted]	Wallace-Wallace-13	BR1	N/A	3.0	System Impact Study
SPQ0159	[redacted]	Wallace-Wallace-13	BR1	N/A	2.5	Withdrawn
SPQ0163 rev	Zena Solar, LLC	Wallace-Wallace-13	BR1	45.017705, -123.096697	2.5	System Impact Study
SPQ0165	[redacted]	Wallace-Wallace-13	BR1	N/A	2.5	Withdrawn
SPQ0199	[redacted]	Wallace-Wallace-13	BR1	N/A	1.8	Withdrawn

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

BASE CASE INFORMATION FOR LIGHT LOADING CONDITIONS

Substation Name	Wallace
Interconnecting Feeder Name	Wallace -Wallace 13
Substation Transformer Position # (e.g. WR1, BR1)	BR1

Light Loading Information

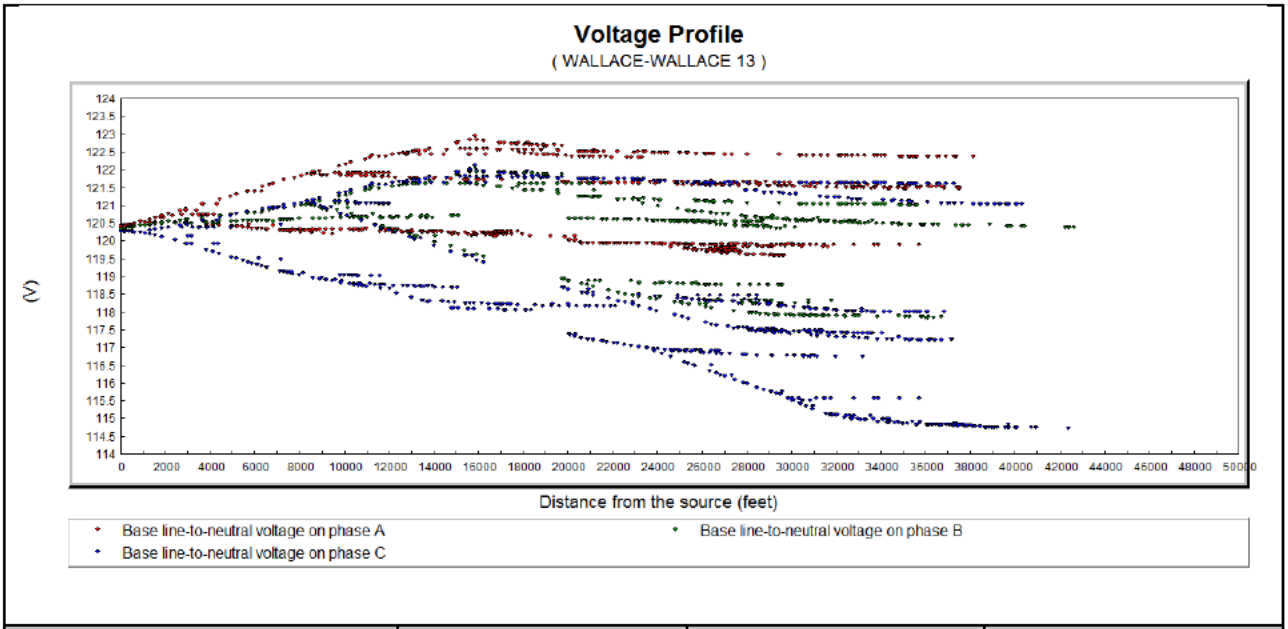
Simulated Date	9/15/2018
Simulated Hour	11:23

Feeder Loading Information

Feeder Name	Transformer Position	Loading (KW)	Loading (KVAR)
Wallace -Wallace 13	BR1	1230	-300
Wallace-Willow Lake	BR1	1800	-530

NORMAL CONFIGURATION

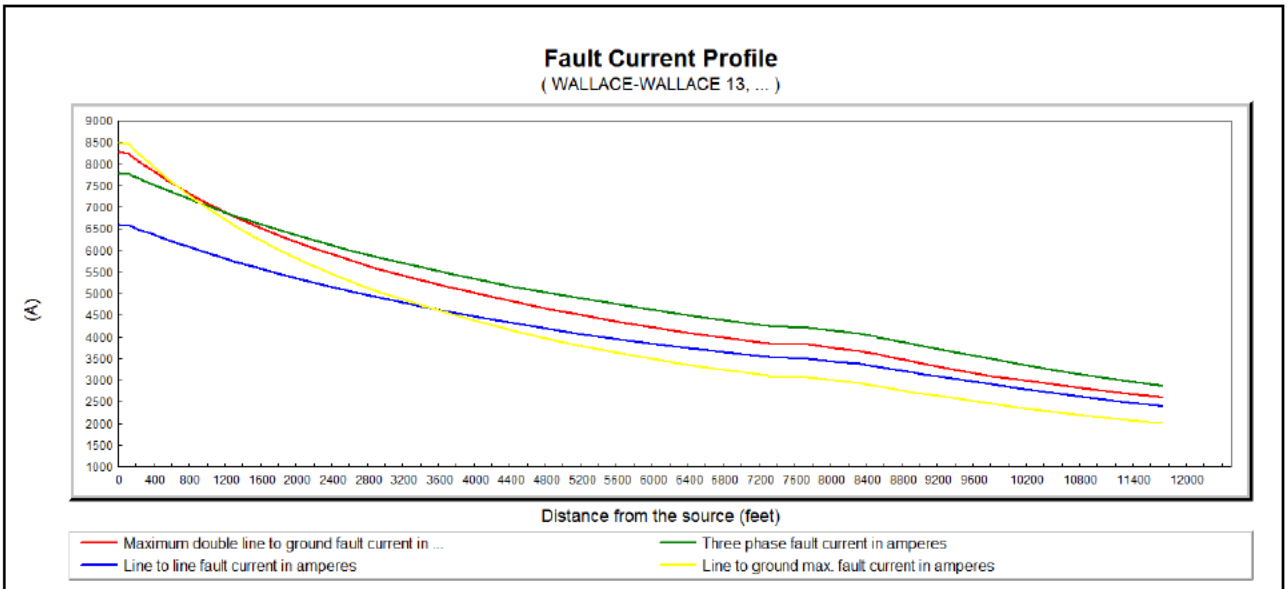
Feeder Voltage Profile for Light Loading Conditions



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	120.4	120.3	120.3
Point of Interconnection	121.8	120.4	120.3

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile



Device Type or ID	Distance From Substation (ft.)	Bidirectional ? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8482
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8459
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4257
RCL_7313, RCL_70A	8518	N	70	4000	4001

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Recloser, RCL_7313	West of NW Wallace Rd and NW Zena Rd intersection	Short Circuit Rating	70A recloser west of NW Wallace Rd and NW Zena Rd intersection has 4001A of fault current and has a short circuit fault duty rating of 4000A.

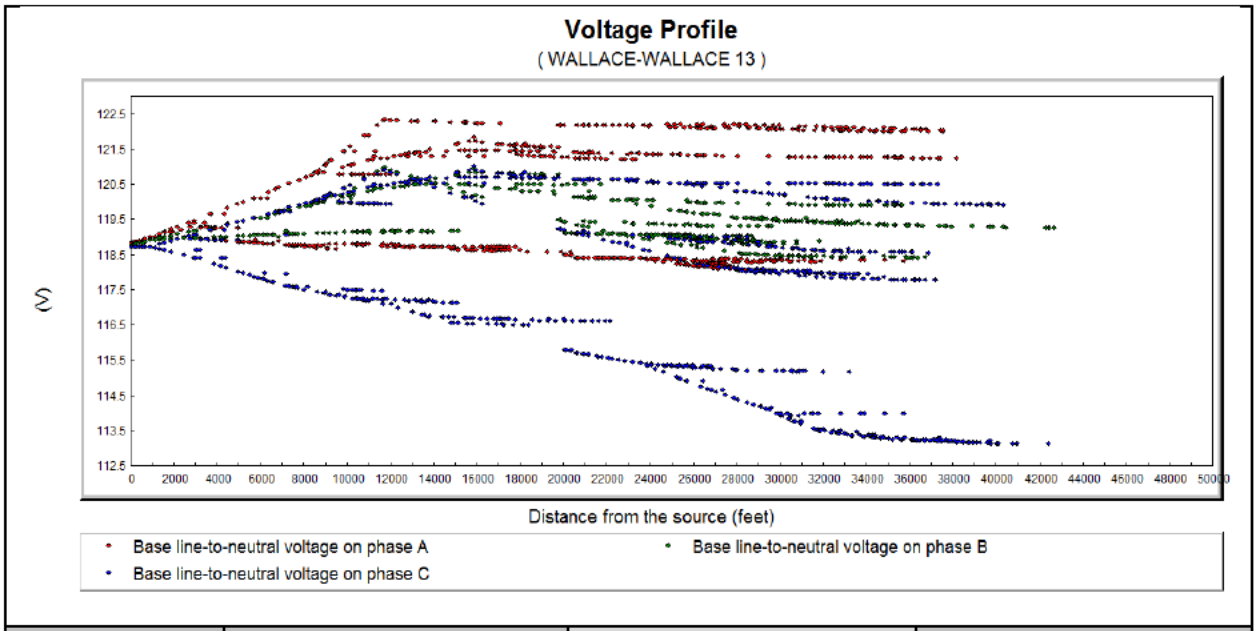
SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER INTERCONNECTION – LIGHT LOADING (DER is connected and in service @ unity) – Configuration #1

DER Location

DER Location	
Latitude (DD)	Longitude (DD)
45.017705	**-123.096697**

Feeder Voltage Profile for Light Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	122.1	121.7	0.3	122.0	121.6	0.3	121.9	121.6	0.2
POI	125.5	122.1	2.8	124.2	120.7	2.9	124.1	120.7	2.8

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

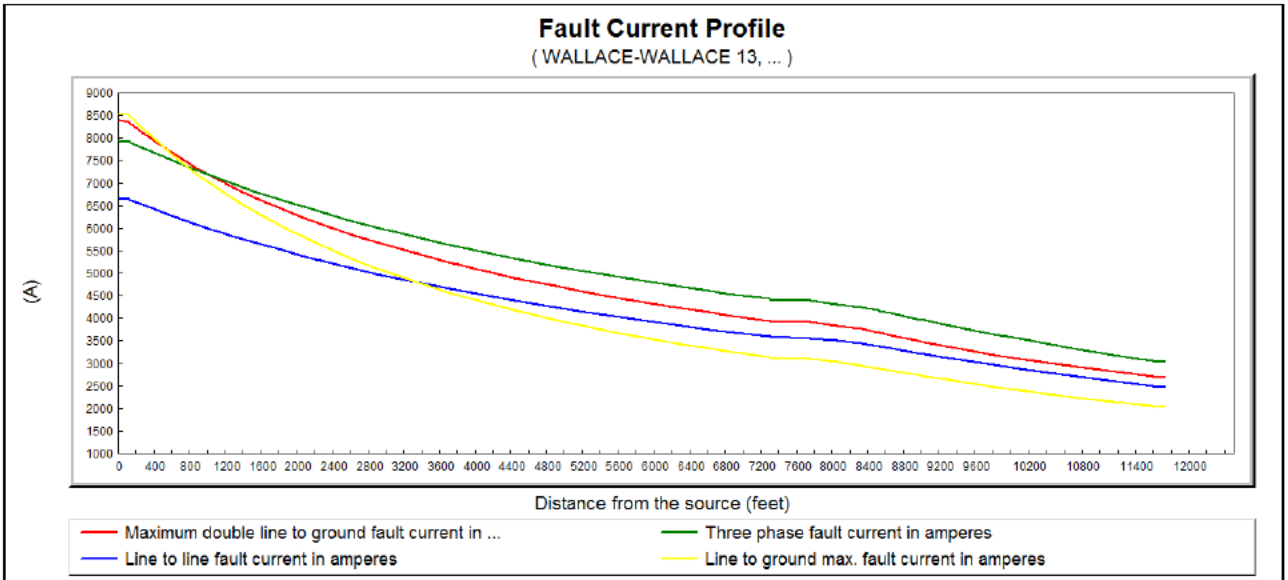
Location	KW	KVAR
Feeder Breaker	**-4333**	**-152**
Transformer (115 or 57kV terminals)	**-2536**	**-622**
Substation Source Location	**-2536**	**-622**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Transmission Planning Recommendations (If there is backfeed onto the transmission system)

No additional work required

Fault Current Profile (DER is connected and in service @ unity)



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8542
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8519
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4425
RCL_7313, RCL_70A	8518	N	70	4000	4170

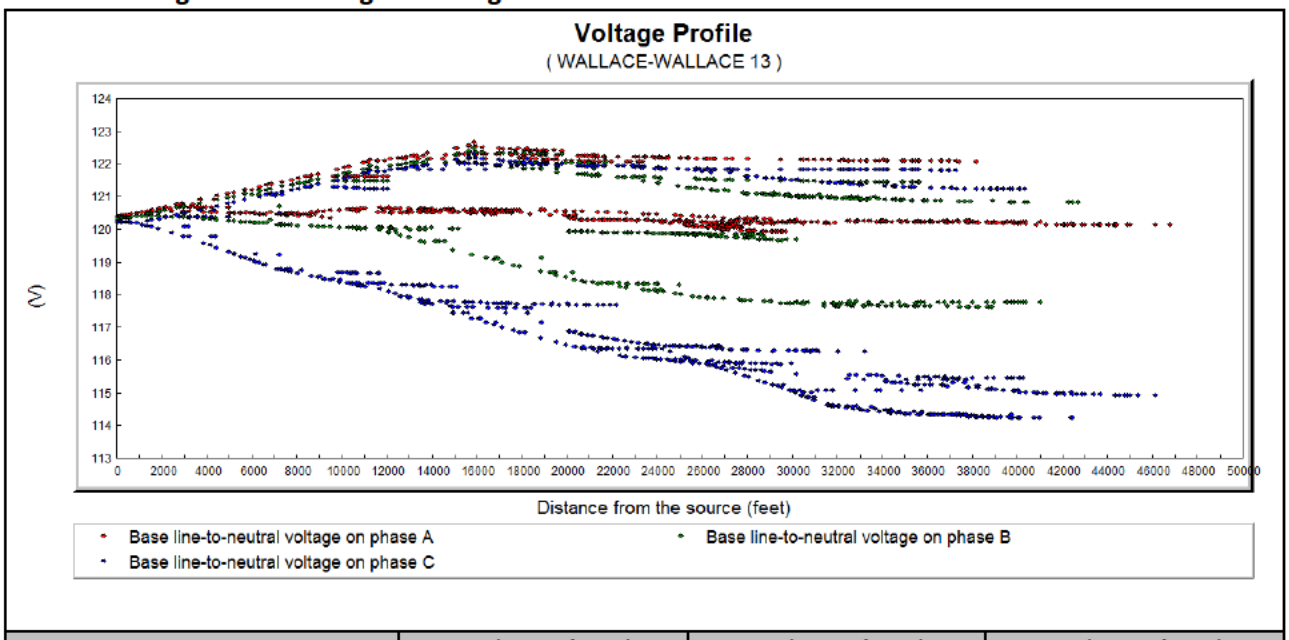
SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Downstream of NW Orchard Heights Rd and NW Eagle Crest Rd intersection	Under voltage	Primary conductor and multiple devices downstream of NW Orchard Heights Rd and NW Eagle Crest Rd intersection has an under voltage violation. Worst under voltage at 94.2% (113.0V at 120V Base).
Recloser, RCL_7313	West of NW Wallace Rd and NW Zena Rd intersection	Overload	70A recloser west of NW Wallace Rd and NW Zena Rd intersection is overloaded at 135.2% (94.7A at 70A rated ampacity).

CONFIGURATION #2

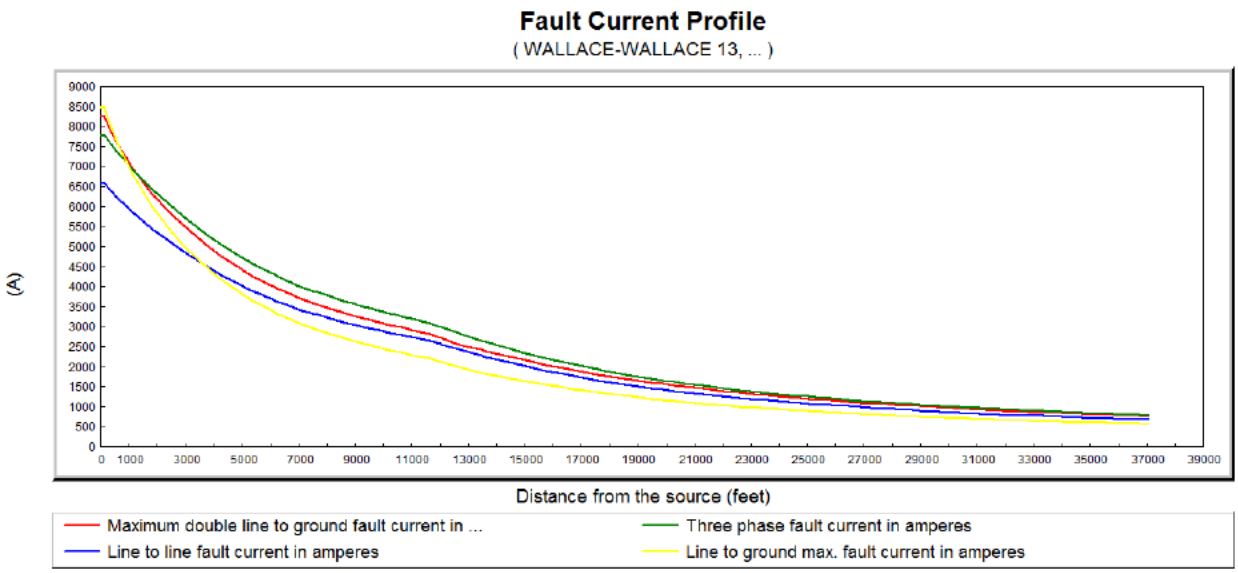
Feeder Voltage Profile for Light Loading Conditions



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	120.4	120.3	120.2
Point of Interconnection	120.2	117.7	115.5

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile



Device Type or ID	Distance From Substation (ft.)	Bidirectional ? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8482
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8459
RCL_4842, RCL_800A	10424	N	800	12500	3289
FUSE_3276, 40_T	12028	Y	40	16000	2991
SW_7309, SW_600A_UNKKV	25031	Y	600	20000	1251

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Fuse, FUSE_3276	East of 6001 NW Bethel Heights Rd	Overload	40T fuse at East of 6001 NW Bethel Heights Rd is overloaded at 129.1% (51.7A at 40A rated ampacity).

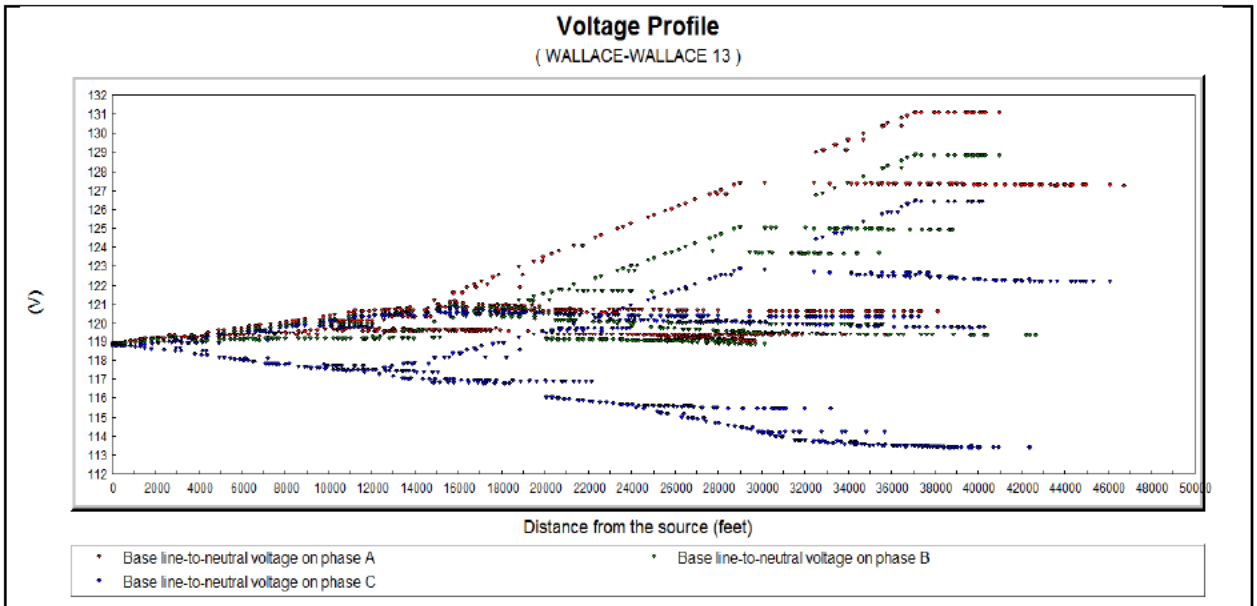
SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER INTERCONNECTION – LIGHT LOADING (DER is connected and in service @ unity) – Configuration #2

DER Location

DER Location	
Latitude (DD)	Longitude (DD)
45.017705	-123.096697

Feeder Voltage Profile for Light Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	122.1	121.7	0.3	122.0	121.6	0.3	121.9	121.5	0.3
POI	134.1	121.5	10.4	131.9	119.0	10.8	129.5	116.8	10.9

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

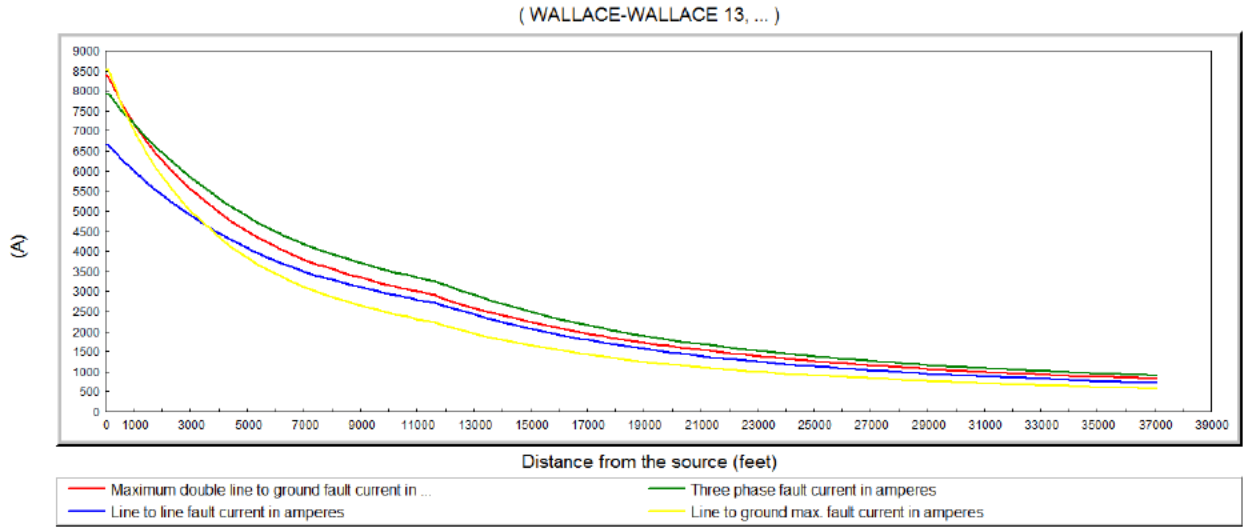
Location	KW	KVAR
Feeder Breaker	**-4222**	**-193**
Transformer (115 or 57kV terminals)	**-2426**	**-665**
Substation Source Location	**-2426**	**-665**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Transmission Planning Recommendations (If there is backfeed onto the transmission system)

No additional work required

Fault Current Profile (DER is connected and in service @ unity)



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8541
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8518
RCL_4842, RCL_800A	10424	N	800	12500	3446
FUSE_3276, 40_T	12028	Y	40	16000	3148
SW_7309, SW_600A_UNKKV	25031	Y	600	20000	1383

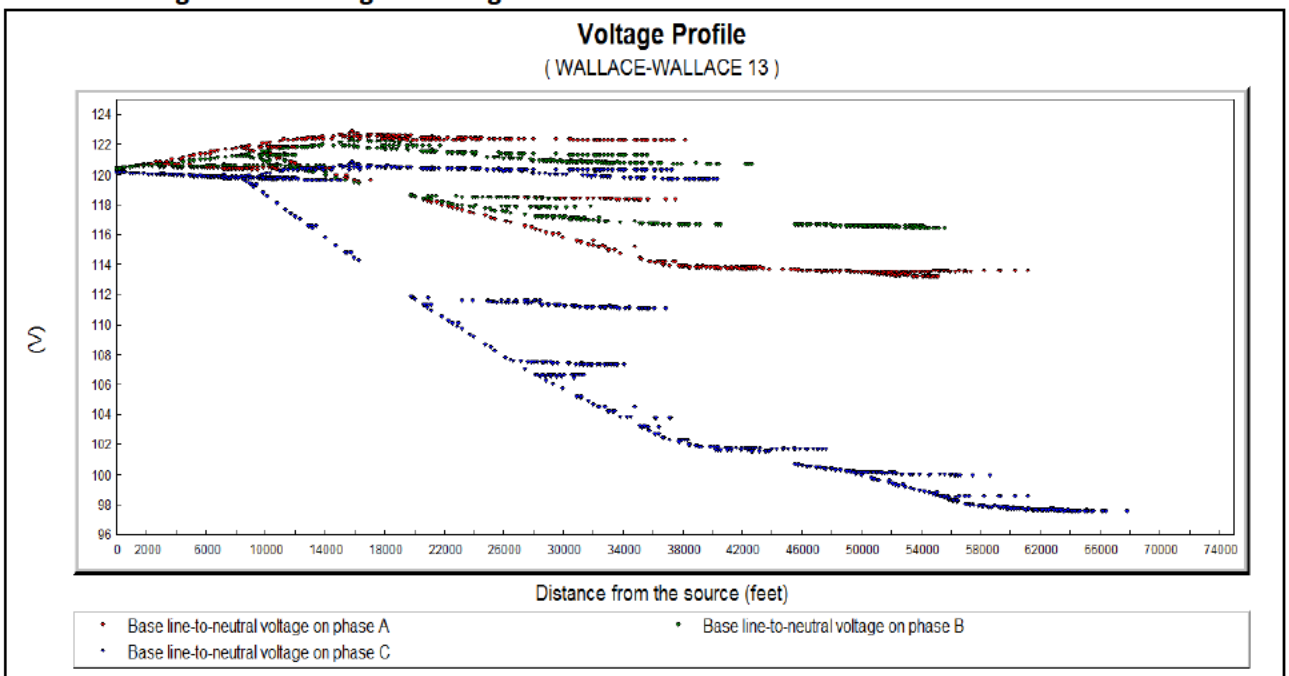
SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Downstream of NW Orchard Heights Rd and NW Eagle Crest Rd intersection	Under voltage	Primary conductor and multiple devices downstream of NW Orchard Heights Rd and NW Eagle Crest Rd intersection has an under voltage violation. Worst under voltage at 94.4% (113.3V at 120V Base).
Multiple	NW Zena Rd	Overvoltage	Primary conductor and multiple devices on NW Zena Rd have overvoltage violations. Worst overvoltage at 109.2% (131.0V at 120V Base).

CONFIGURATION #3

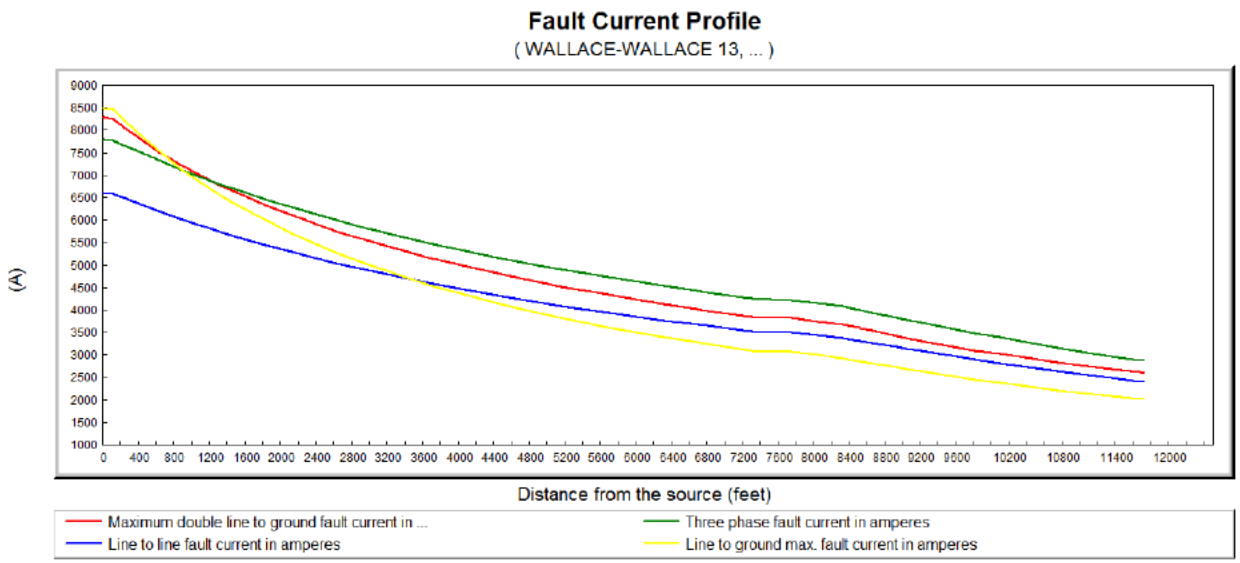
Feeder Voltage Profile for Light Loading Conditions



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	120.3	120.3	120.1
Point of Interconnection	120.7	120.4	117.5

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile



Device Type or ID	Distance From Substation (ft.)	Bidirectional ? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8482
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8459
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4257
RCL_7313, RCL_70A	8518	N	70	4000	4001

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Downstream of 4580 NW Zena Rd	Under voltage	Primary conductor and multiple devices downstream of 4580 NW Zena Rd has an under voltage violation. Worst under voltage at 81.6% (97.9V at 120V Base).
Fuse, FUSE_3276	3041 NW Brush College Rd at Open Point 7386	Overload	40T fuse at 3041 NW Brush College Rd at Open Point 7386 is overloaded at 192.1% (76.8A at 40A rated ampacity).
Recloser, RCL_7313	West of NW Wallace Rd and NW Zena Rd intersection	Overload and Short Circuit Rating	70A recloser west of NW Wallace Rd and NW Zena Rd intersection is overloaded at 188.6% (132.0A at 70A rated ampacity). Also the recloser has a short circuit rating violation.

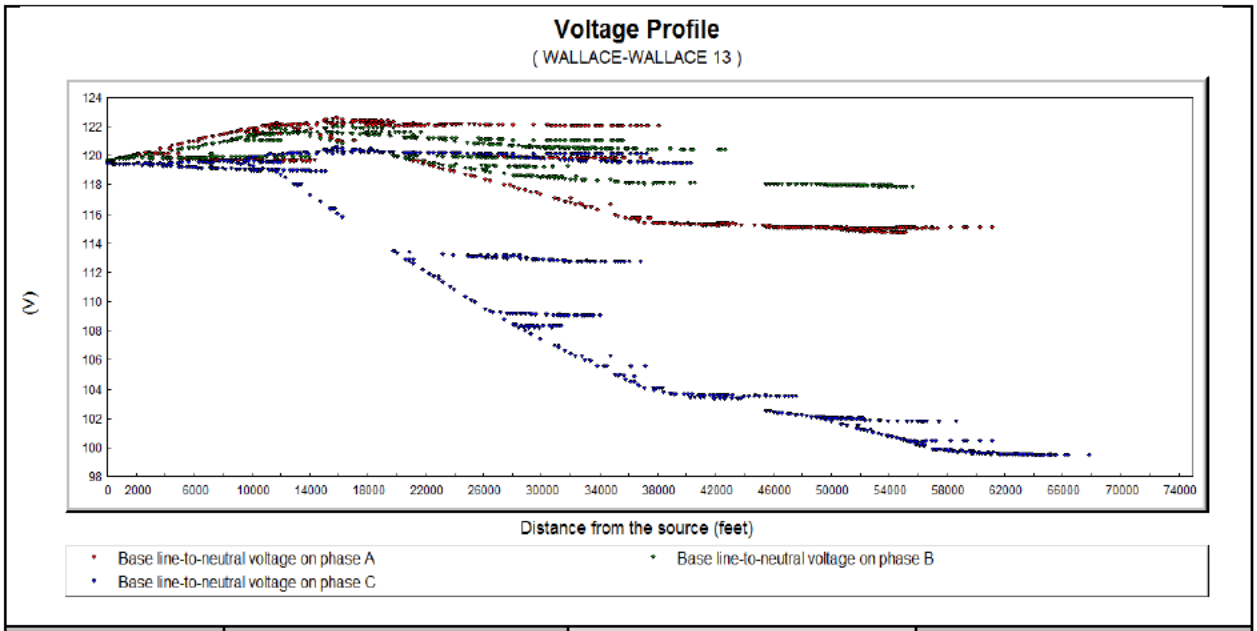
SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER INTERCONNECTION – LIGHT LOADING (DER is connected and in service @ unity) – Configuration #3

DER Location

DER Location	
Latitude (DD)	Longitude (DD)
45.017705	-123.096697

Feeder Voltage Profile for Light Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	122.0	121.6	0.3	122.0	121.6	0.3	121.9	121.4	0.4
POI	124.7	121.0	3.1	124.3	120.7	3.0	121.5	117.6	3.3

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

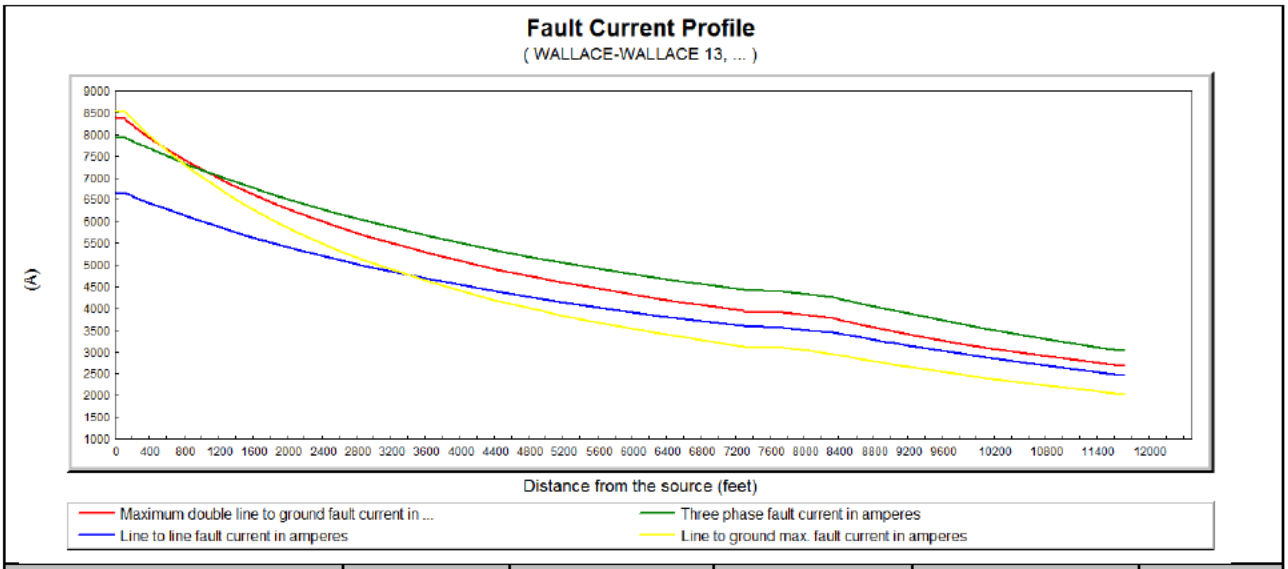
Location	KW	KVAR
Feeder Breaker	**-4248**	**-162**
Transformer (115 or 57kV terminals)	**-2451**	**-619**
Substation Source Location	**-2451**	**-619**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Transmission Planning Recommendations (If there is backfeed onto the transmission system)

No additional work required

Fault Current Profile (DER is connected and in service @ unity)



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8542
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8519
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4425
RCL_7313, RCL_70A	8518	N	70	4000	4170

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

BASE CASE INFORMATION FOR HEAVY LOADING CONDITIONS

Heavy Loading Information

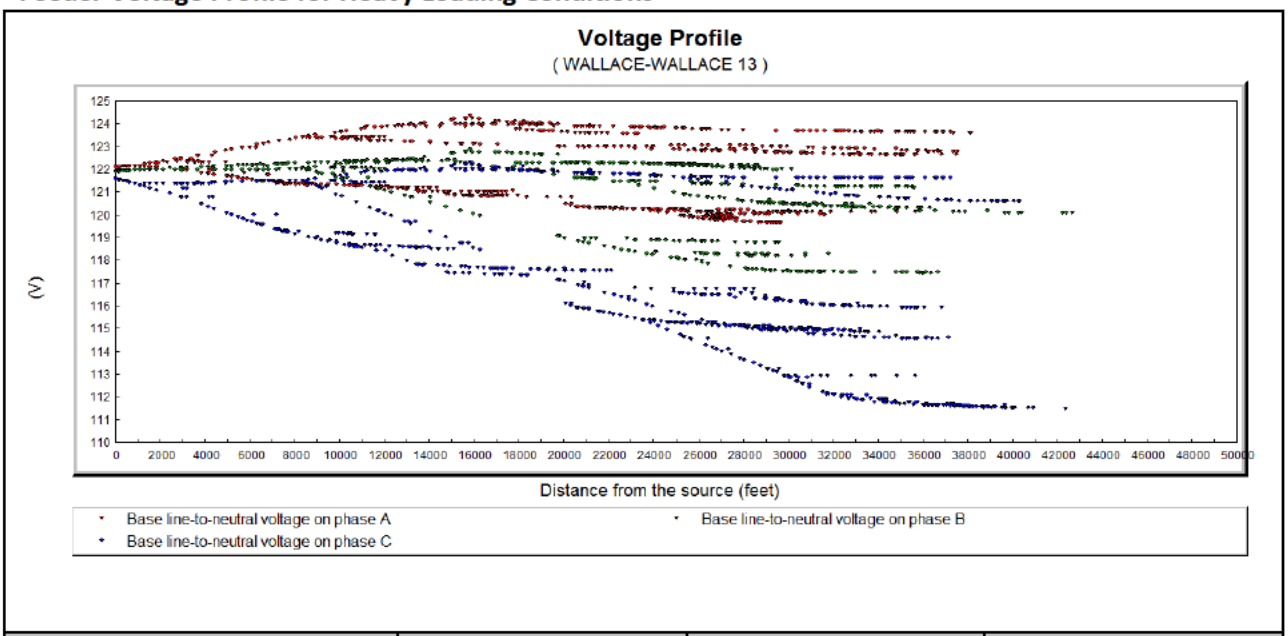
Simulated Date	8/8/2018
Simulated Hour	16:00

Feeder Loading Information (All feeders served from associated substation transformer)

Feeder Name	Loading (KW)	Loading (KVAR)
Wallace – Wallace 13	3042	747
Wallace – Willow Lake	4016	538

NORMAL CONFIGURATION

Feeder Voltage Profile for Heavy Loading Conditions



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	122.1	121.9	121.6
Point of Interconnection	123.2	121.1	120.2

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

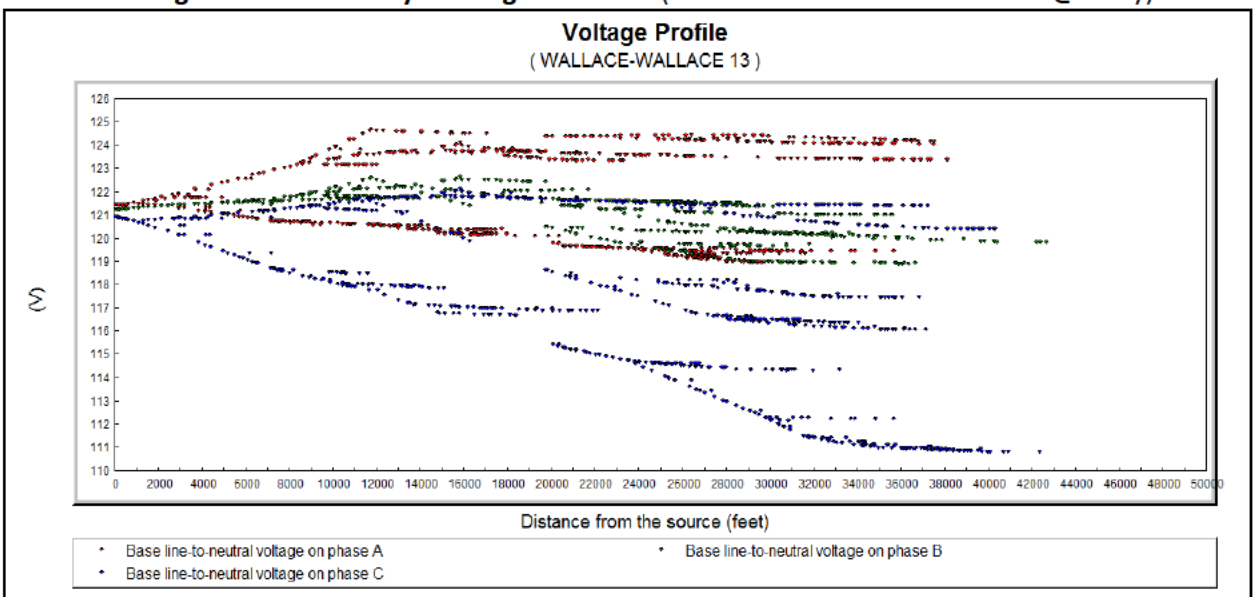
Pertinent Violations

Device Type	General Location	Violation Type	Comments
Fuse, FUSE_4913	Eagle Crest Rd NW and Brush College Rd NW intersection	Overload	15T fuse at Eagle Crest Rd NW and Brush College Rd NW intersection C phase is overloaded at 128.5% (19.3A at 15A rated ampacity).
Recloser, RCL_7313	West of NW Wallace Rd and NW Zena Rd intersection	Overload	70A recloser west of NW Wallace Rd and NW Zena Rd intersection is overloaded at 115.4% (80.8A at 70A rated ampacity).
Multiple	Downstream of NW Orchard Heights Rd and NW 38th Ave intersection	Under voltage	Primary conductor and multiple devices downstream of NW Orchard Heights Rd and NW 38th Ave intersection has an under voltage violation. Worst under voltage at 92.8% (111.3V at 120V Base).

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER INTERCONNECTION – HEAVY LOADING – Configuration #1

Feeder Voltage Profile for Heavy Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	123.8	123.2	0.5	123.6	123.0	0.5	123.3.	122.7	0.5
POI	127.0	123.4	2.9	125.0	121.3	3.1	124.1	120.3	3.2

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

Location	KW	KVAR
Feeder Breaker	**-2616**	**695**
Transformer (115 or 57kV terminals)	**1376**	**1233**
Substation Source Location	**1376**	**1233**

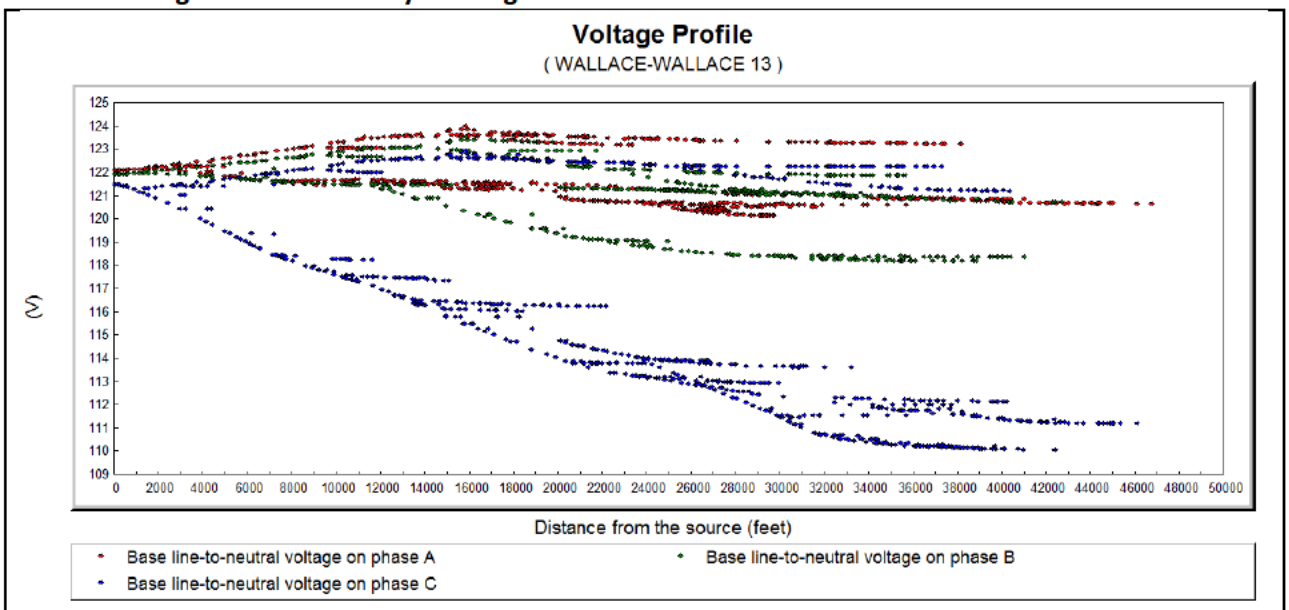
SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Extends upstream of NW Orchard Heights Rd and NW 38th Ave intersection	Under voltage	Primary conductor and multiple devices extend upstream of NW Orchard Heights Rd and NW 38th Ave intersection has an under voltage violation. Worst under voltage at 92.2% (110.6V at 120V Base).

CONFIGURATION #2

Feeder Voltage Profile for Heavy Loading Conditions



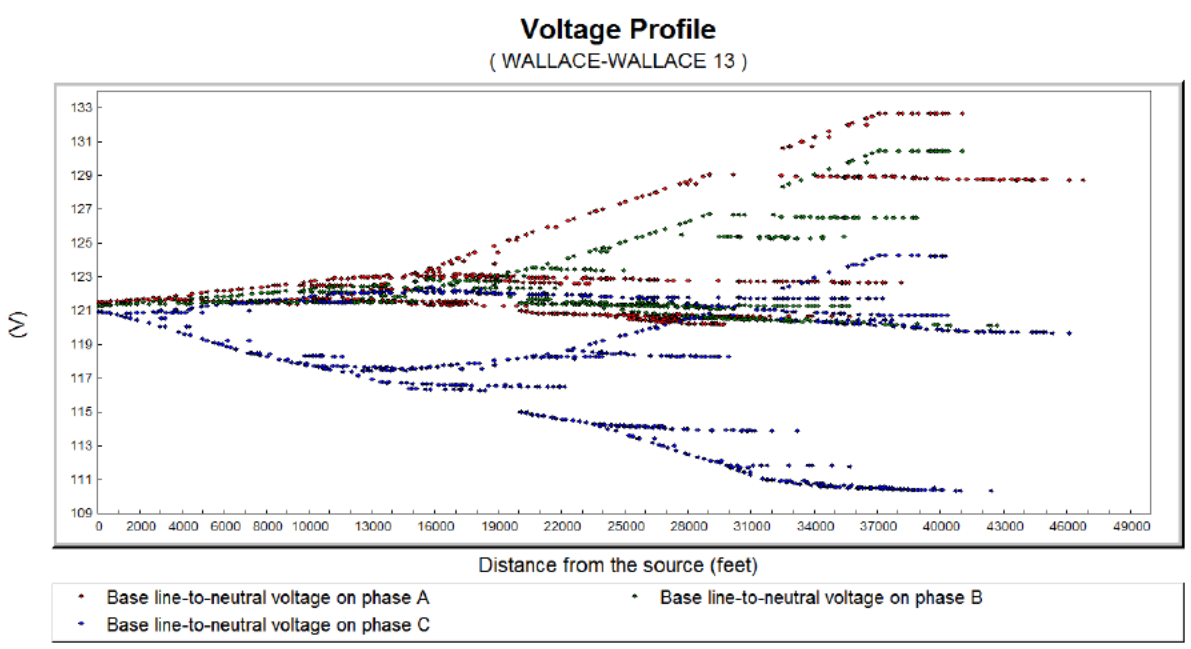
Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	122.0	121.8	121.5
Point of Interconnection	120.8	118.3	112.2

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Downstream of NW Zena Rd and NW Wallace Rd intersection	Under voltage	Primary conductor and multiple devices Downstream of NW Zena Rd and NW Wallace Rd intersection has under voltage violations. Worst under voltage at 91.6% (109.9V at 120V Base).
Fuse, FUSE_4913	Eagle Crest Rd NW and Brush College Rd NW intersection	Overload	15T fuse at Eagle Crest Rd NW and Brush College Rd NW intersection C phase is overloaded at 130.7% (19.6A at 15A rated ampacity).
Fuse, FUSE_3276	3041 NW Brush College Rd at Open Point 7386	Overload	40T fuse at 3041 NW Brush College Rd at Open Point 7386 is overloaded at 206.4% (82.6A at 40A rated ampacity).

DER INTERCONNECTION – HEAVY LOADING– Configuration #2

Feeder Voltage Profile for Heavy Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	123.8	123.2	0.5	123.6	123.0	0.5	123.3	122.6	0.6
POI	134.9	121.9	10.7	132.7	119.4	11.1	126.7	113.3	11.8

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

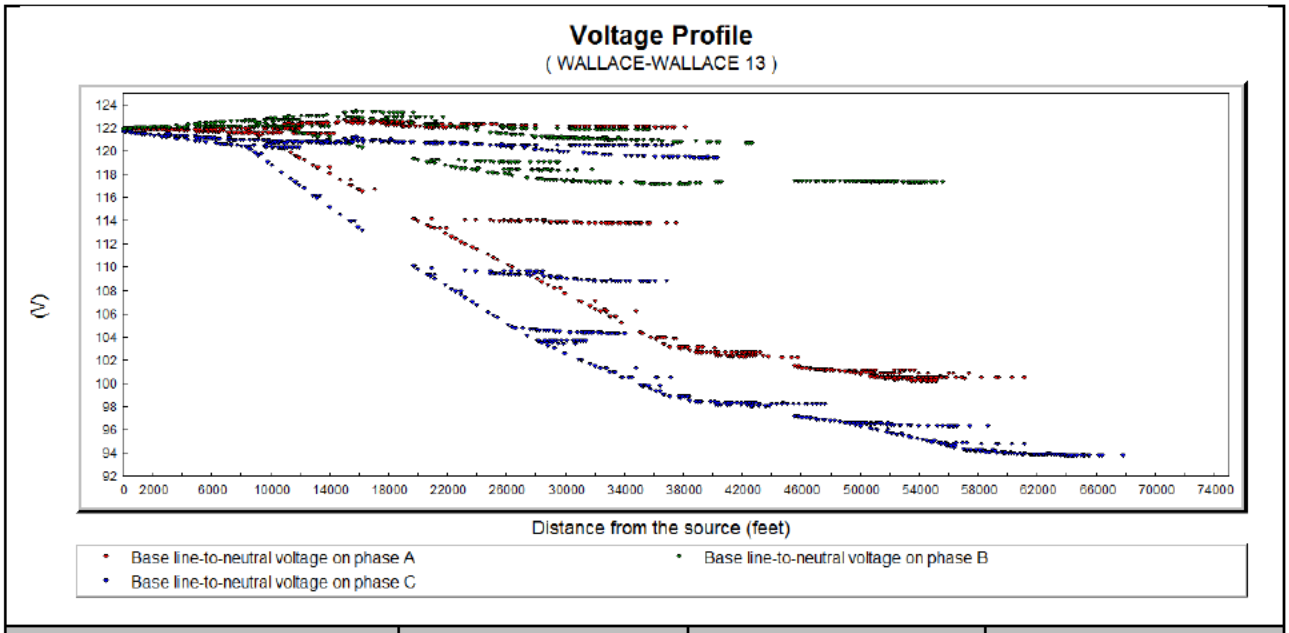
Location	KW	KVAR
Feeder Breaker	**-2529**	**658**
Transformer (115 or 57kV terminals)	**1463**	**1197**
Substation Source Location	**1463**	**1197**

Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Downstream of NW Zena Rd and NW Wallace Rd intersection	Over voltage	Primary conductor and multiple devices Downstream of NW Zena Rd and NW Wallace Rd intersection has overvoltage violations. Worst overvoltage at 110.4% (132.5V at 120V Base).

CONFIGURATION #3

Feeder Voltage Profile for Heavy Loading Conditions



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	121.9	121.9	121.7
Point of Interconnection	119.4	121.6	117.4

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

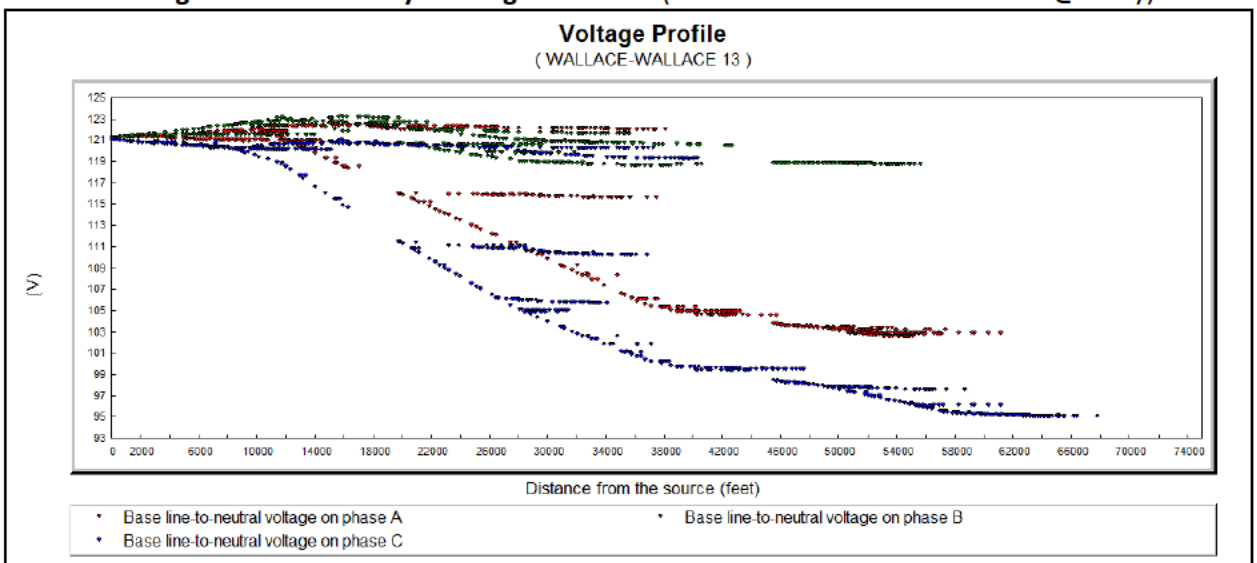
Pertinent Violations

Device Type	General Location	Violation Type	Comments
Multiple	Downstream of NW Zena Rd and NW Brush College Rd	Under voltage	Primary conductor and multiple devices downstream of NW Zena Rd and NW Brush College Rd has under voltage violations. Worst under voltage at 78.3% (94.0V at 120V Base).
Fuse, FUSE_3276	3041 NW Brush College Rd at Open Point 7386	Overload	40T fuse at 3041 NW Brush College Rd at Open Point 7386 is overloaded at 310.6% (124.2A at 40A rated ampacity).
Fuse, FUSE_3330	NW Michigan City Rd	Overload	6T fuse on NW Michigan City Rd is overloaded at 105.1% (6.2A at 6A rated ampacity).
Fuse, FUSE_4913	Eagle Crest Rd NW and Brush College Rd NW intersection	Overload	15T fuse at Eagle Crest Rd NW and Brush College Rd NW intersection C phase is overloaded at 141.6% (21.2A at 15A rated ampacity).
Recloser, RCL_7313	West of NW Wallace Rd and NW Zena Rd intersection	Overload	70A recloser west of NW Wallace Rd and NW Zena Rd intersection is overloaded at 238.4% (166.8A at 70A rated ampacity).

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER INTERCONNECTION – HEAVY LOADING– Configuration #3

Feeder Voltage Profile for Heavy Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	123.7	122.9	0.7	123.6	122.9	0.6	123.4	122.7	0.6
POI	123.9	119.5	3.7	125.5	121.6	3.2	121.2	117.3	3.3

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

Location	KW	KVAR
Feeder Breaker	**-2655**	**683**
Transformer (115 or 57kV terminals)	**1337**	**1219**
Substation Source Location	**1337**	**1219**

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

SYSTEM IMPROVEMENTS – LIGHT LOADING

System Improvement Summary

The improvements needed pertaining to this interconnection:

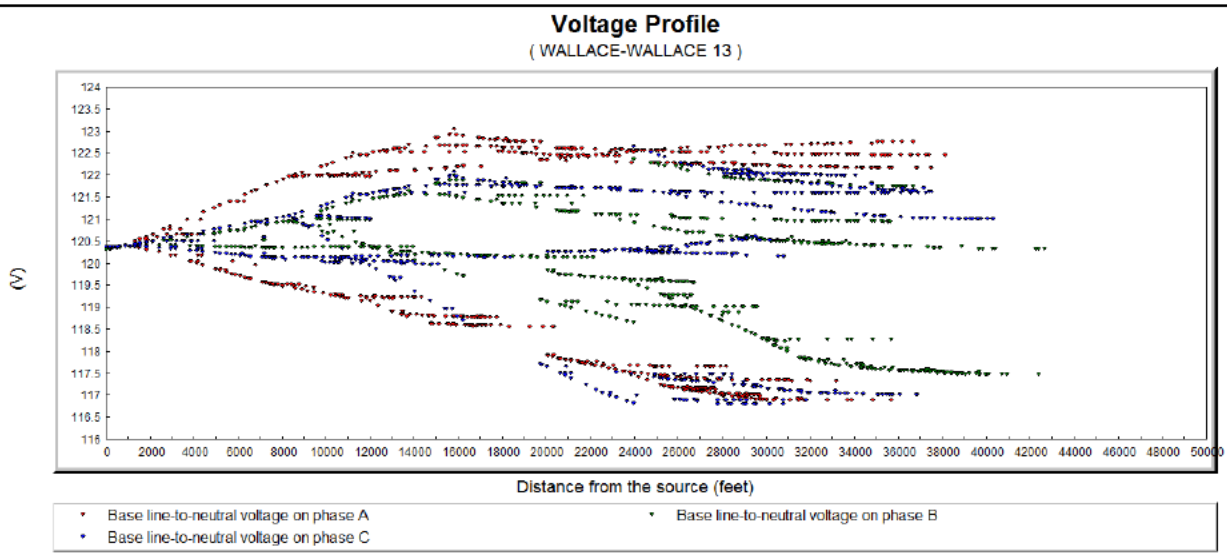
- Rephasing the following phase laterals and downstream loads respectively listed below to mitigate under voltage:
  - NW Orchard Heights Rd (PRIOH119512) from AC to AB phase.
  - NW Gibson Rd (PRIOH245462) from AC to AB phase.
  - NW 4 H Rd (PRIOH337342) from B to C phase.
  - Grice Hill Rd (PRIUG231327) from AB to AC phase.
  - Private road at 3210 NW Brush College Rd (PRIUG231344) from A to C phase
- Rephasing the following Wallace – Willow Lake Feeder phase laterals and downstream loads respectively listed below to balance loading at Wallace Substation Transformer due to rephased laterals and loads on Wallace – Wallace 13 Feeder:
  - N Springfield Ct (PRIUG199137, PRIUG97386, and PRIUG146062) from B to A phase.
- Install 3-1PH 167KVA voltage regulators with Bi-Directional control with the settings forward voltage set point V=123.0V and reverse voltage set point at V=118.0V at 4640 NW Brush College Rd to resolve downstream new overvoltage violations
- Add Dynamic VAR support for flicker
- Install one (1) 300-amp Solid-Blade disconnect cutouts and service metering at DER lateral.

Study was performed in conjunction with [redacted] (SPQ0024) and [redacted] (SPQ0140). There are three fuse banks and one hydraulic recloser that have overloading and short circuit rating violations violations during either base or alternative configurations. Under voltage violations occur on portions of the feeder during heavy loading for Configurations #1, #2, and #3. These devices and overhead conductor did not become a violation due to the addition of the interconnection, SPQ0163.

A transient stability analysis was not performed for this study due to the size of the DG.

NORMAL CONFIGURATION

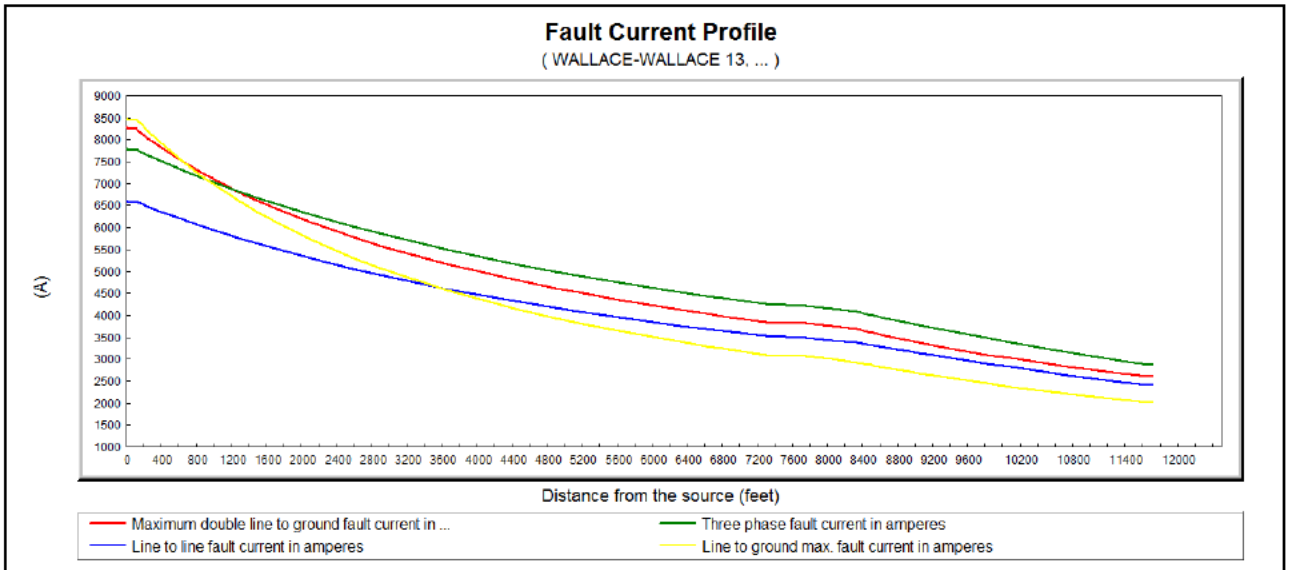
Feeder Voltage Profile for Light Loading Conditions (DER is off)



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	120.3	120.3	120.4
Point of Interconnection	122.0	120.4	120.0

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8482
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8459
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4257
RCL_7313, RCL_70A	8518	N	70	4000	4001

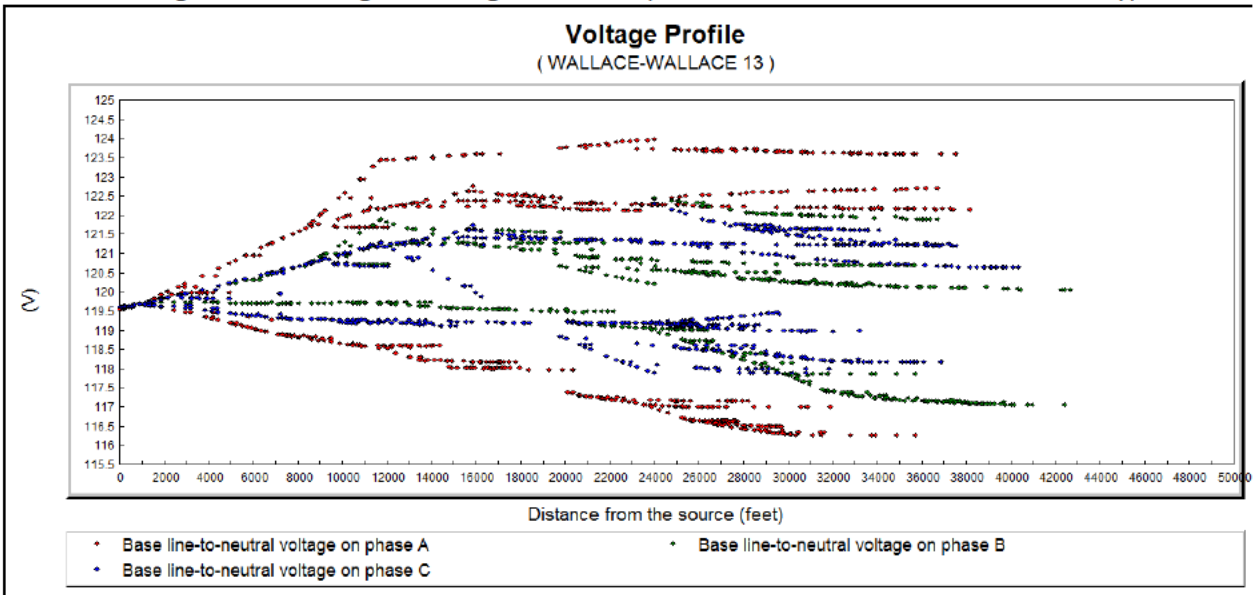
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER Interconnection – Light Loading (DER is connected and in service @ unity) – Configuration #1

Feeder Voltage Profile for Light Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	122.8	122.5	0.3	122.8	122.5	0.2	122.8	122.4	0.3
POI	126.6	123.2	2.8	125.1	121.6	2.9	124.6	121.0	3.0

DER Power Factor

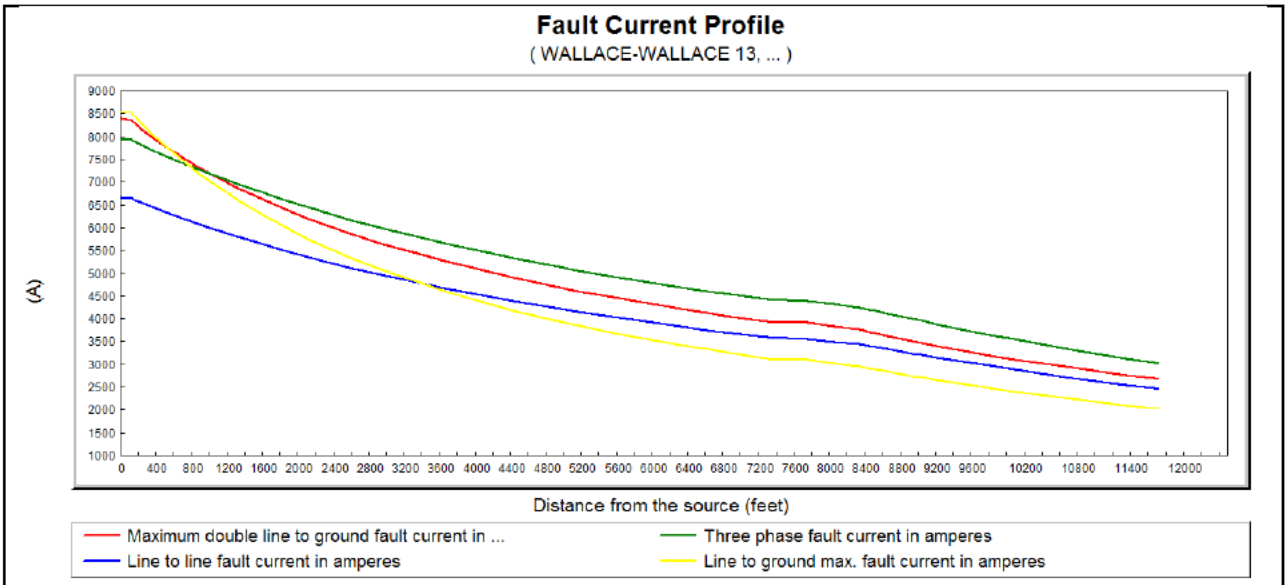
Range	KW	KVAR	Power Factor (%)
Positive (Lagging)			
Negative (Leading)			

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

Location	KW	KVAR	Direction (Yes or No)	
			Toward Source?	Toward Load?
Feeder Breaker	**-4331**	**-167**	**Yes**	**No**
Transformer (115 or 57kV terminals)	**-2536**	**-659**	**Yes**	**No**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile (DER is connected and in service @ unity)



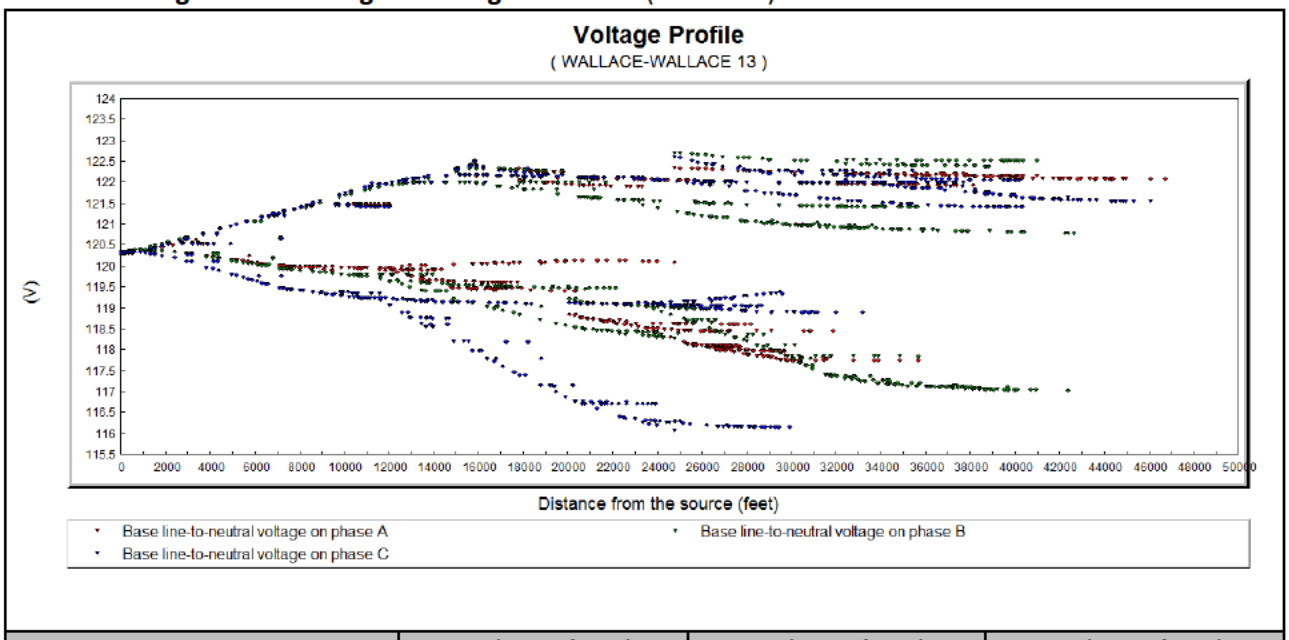
Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8542
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8519
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4425
RCL_7313, RCL_70A	8518	N	70	4000	4170

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

CONFIGURATION #2

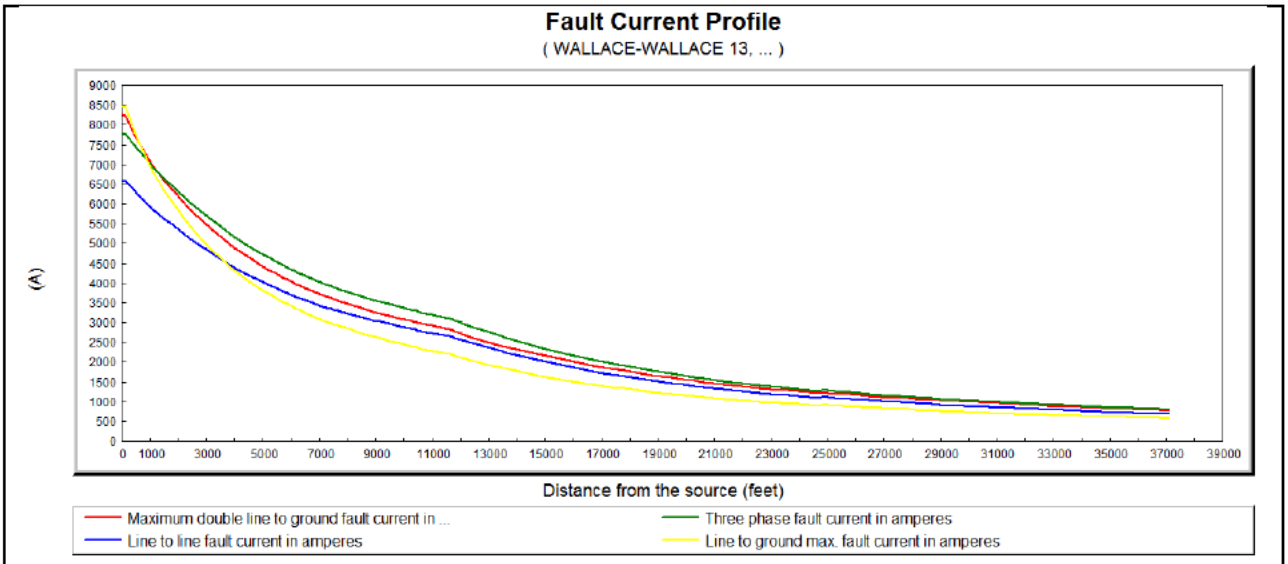
Feeder Voltage Profile for Light Loading Conditions (DER is off)



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	120.3	120.3	120.3
Point of Interconnection	121.9	122.3	121.7

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8484
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8459
RCL_4842, RCL_800A	10424	N	800	12500	3289
FUSE_3276, 40_T	12028	Y	40	16000	2991
SPQ0163_MITIGATION_PEI, 167KVA Regulator	24758	Y	228		1299
SW_7309, SW_600A_UNKKV	25031	Y	600	20000	1282

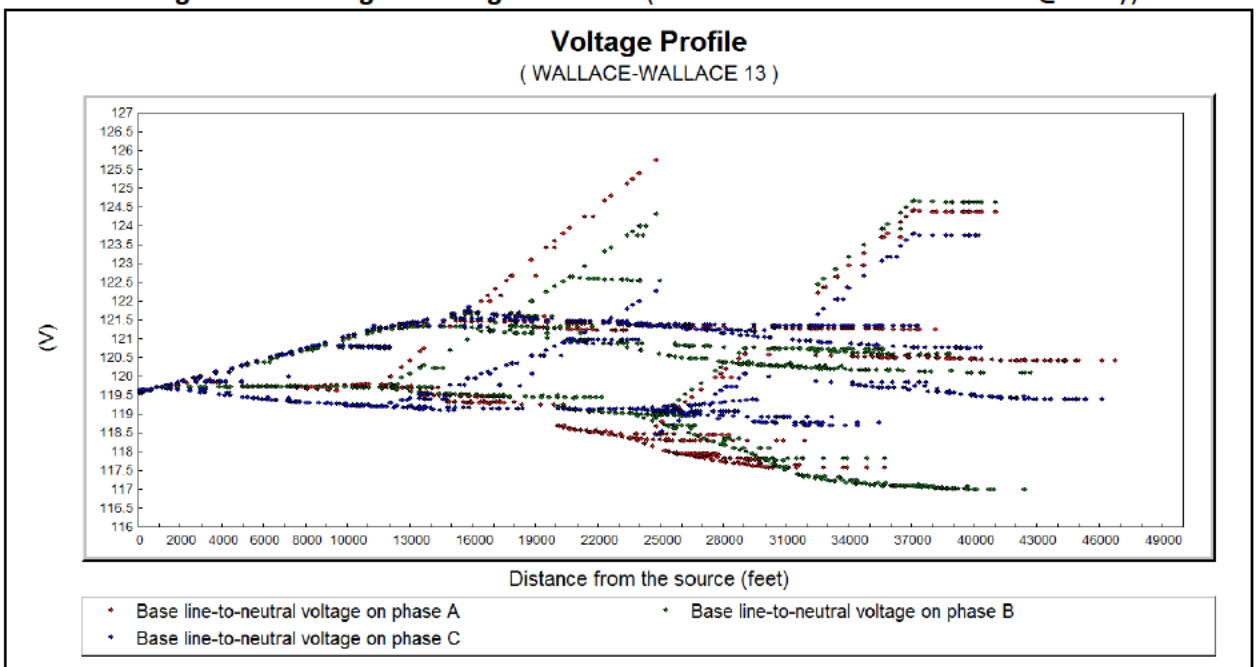
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER Interconnection – Light Loading (DER is connected and in service @ unity) – Configuration #2

Feeder Voltage Profile for Light Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	122.8	122.4	0.3	122.8	122.5	0.2	122.9	122.4	0.4
POI	134.2	122.0	10.0	135.3	122.4	10.5	135.3	122.1	10.8

DER Power Factor

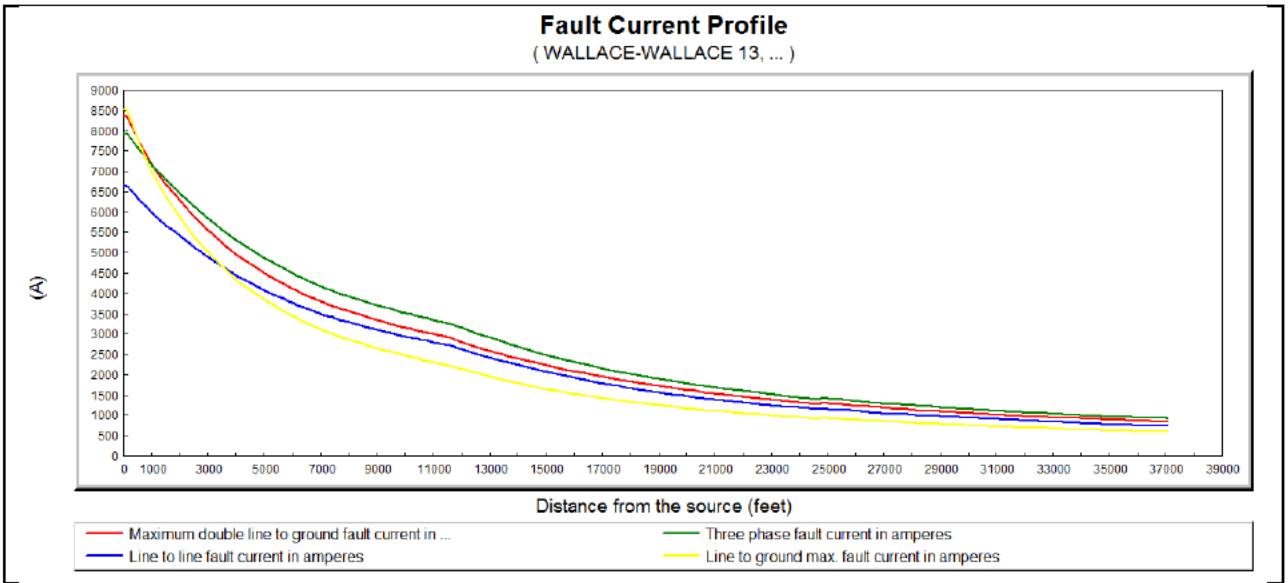
Range	KW	KVAR	Power Factor (%)
Positive (Lagging)			
Negative (Leading)			

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

Location	KW	KVAR	Direction (Yes or No)	
			Toward Source?	Toward Load?
Feeder Breaker	**-4218**	**-203**	**Yes**	**No**
Transformer (115 or 57kV terminals)	**-2423**	**-698**	**Yes**	**No**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile (DER is connected and in service @ unity)



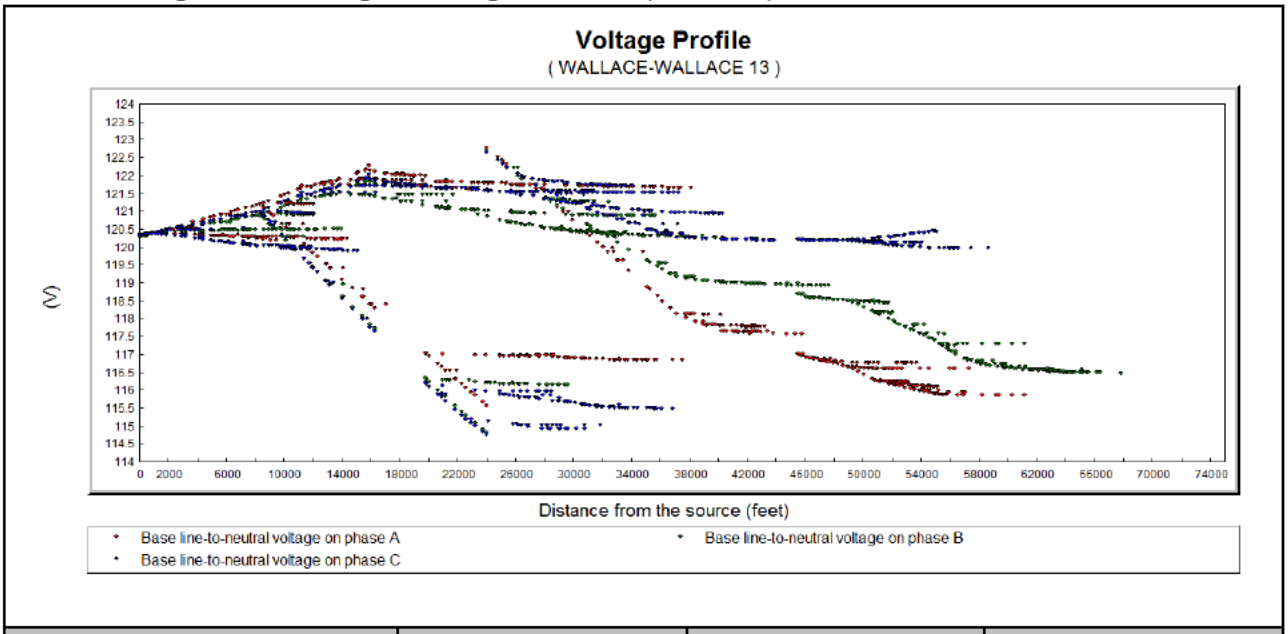
Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8541
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8518
RCL_4842, RCL_800A	10424	N	800	12500	3446
FUSE_3276, 40_T	12028	Y	40	16000	3148
SPQ0163_MITIGATION_PEI, 167KVA Regulator	24758	Y	228		1436
SW_7309, SW_600A_UNKKV	25031	Y	600	20000	1418

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

CONFIGURATION #3

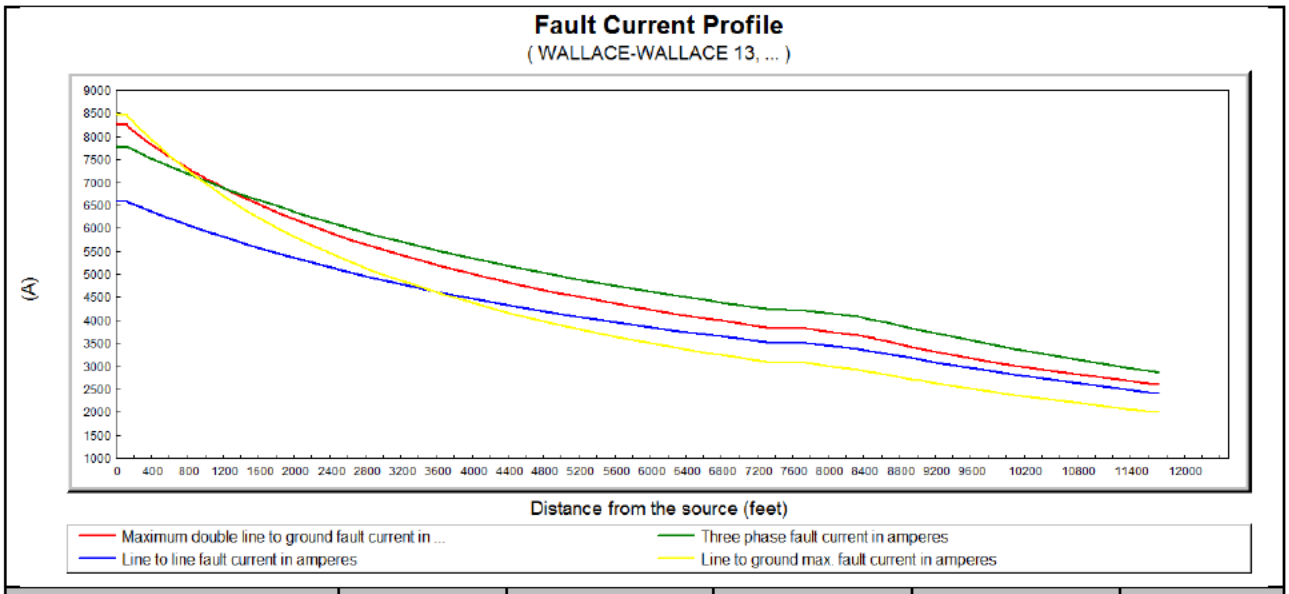
Feeder Voltage Profile for Light Loading Conditions (DER is off)



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	120.3	120.3	120.3
Point of Interconnection	119.9	119.5	119.8

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8482
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8459
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4257
RCL_7313, RCL_70A	8518	N	70	4000	4001

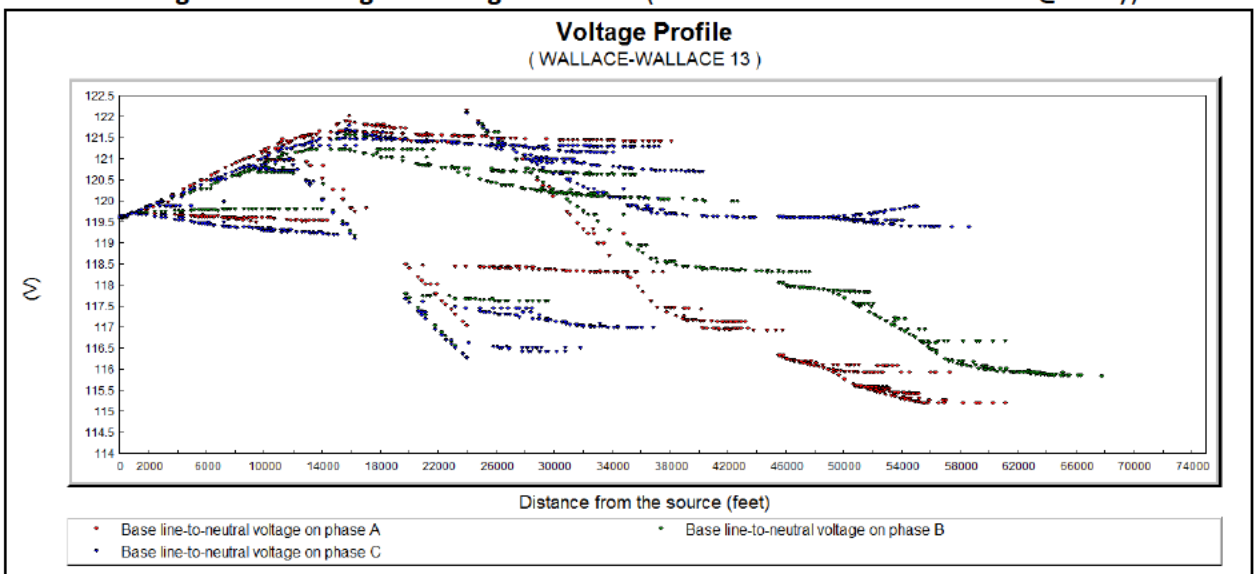
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER Interconnection – Light Loading (DER is connected and in service @ unity) – Configuration #3

Feeder Voltage Profile for Light Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	122.8	122.4	0.3	122.8	122.4	0.3	122.9	122.4	0.4
POI	124.7	121.0	3.1	124.3	120.6	3.1	124.3	120.6	3.1

DER Power Factor

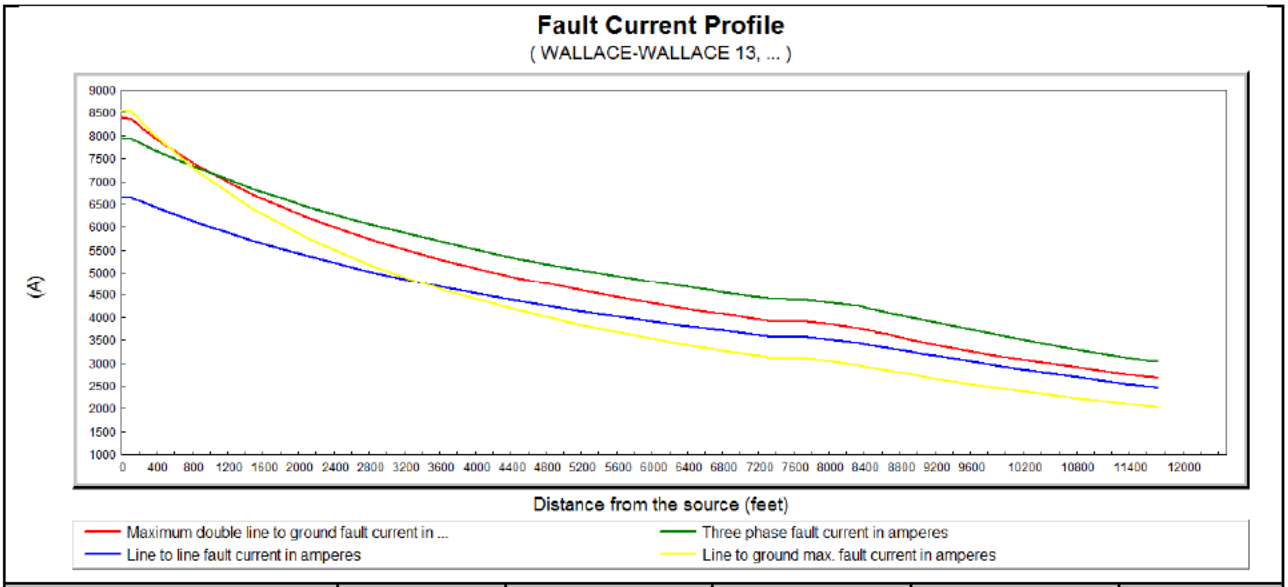
Range	KW	KVAR	Power Factor (%)
Positive (Lagging)			
Negative (Leading)			

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

Location	KW	KVAR	Direction (Yes or No)	
			Toward Source?	Toward Load?
Feeder Breaker	**-4256**	**-161**	**Yes**	**No**
Transformer (115 or 57kV terminals)	**-2461**	**-654**	**Yes**	**No**

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

Fault Current Profile (DER is connected and in service @ unity)



Device Type or ID	Distance From Substation (ft)	Bidirectional? (Y/N)	Continuous Rating (Amps)	Momentary Symmetrical, Asymmetrical Interrupting Rating (Amps)	Max Fault Current (Amps)
BREAKER_WALLACE R110, BREAKER_1200A_UNKKV	0	Y	1200	>10000	8542
SW_5013, SW_1200A_UNKKV	121	Y	1200	20000	8519
SW_1421, SW_600A_UNKKV	7307	Y	600	20000	4425
RCL_7313, RCL_70A	8518	N	70	4000	4170

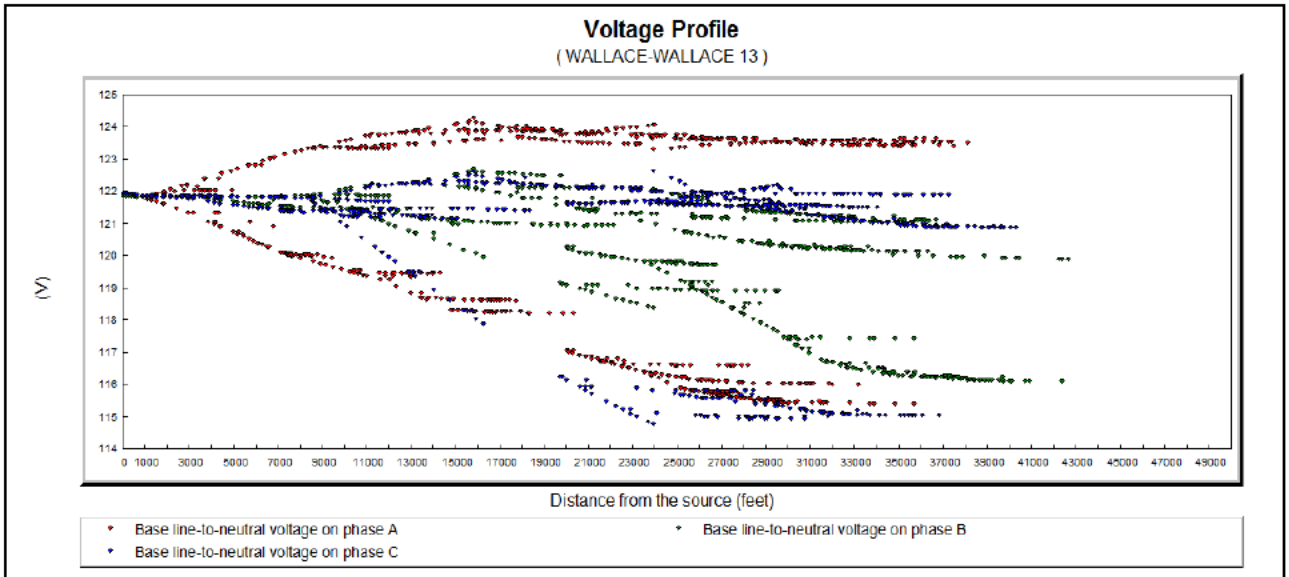
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPROVEMENTS – HEAVY LOADING

NORMAL CONFIGURATION

Feeder Voltage Profile for Heavy Loading Conditions (DER is off)



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	121.8	121.8	121.9
Point of Interconnection	123.4	121.0	120.1

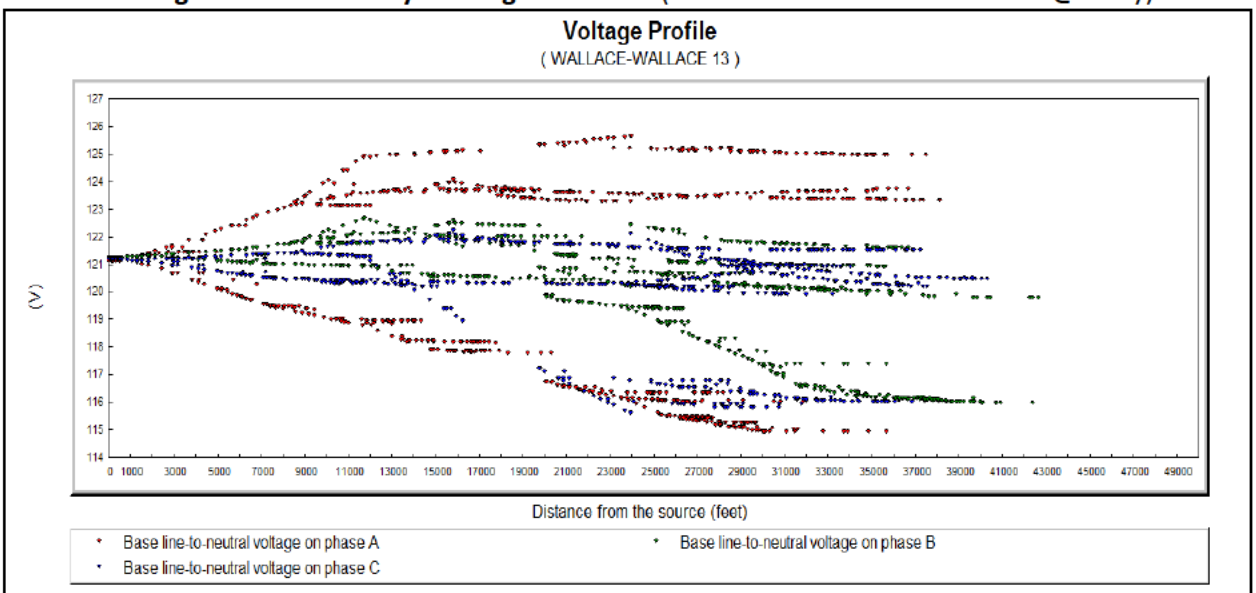
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER Interconnection – Heavy Loading (DER is connected and in service @ unity) – Configuration #1

Feeder Voltage Profile for Heavy Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	123.5	123.0	0.4	123.6	123.0	0.5	123.6	123.0	0.5
POI	127.3	123.7	2.9	125.1	121.4	3.0	123.7	119.9	3.2

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

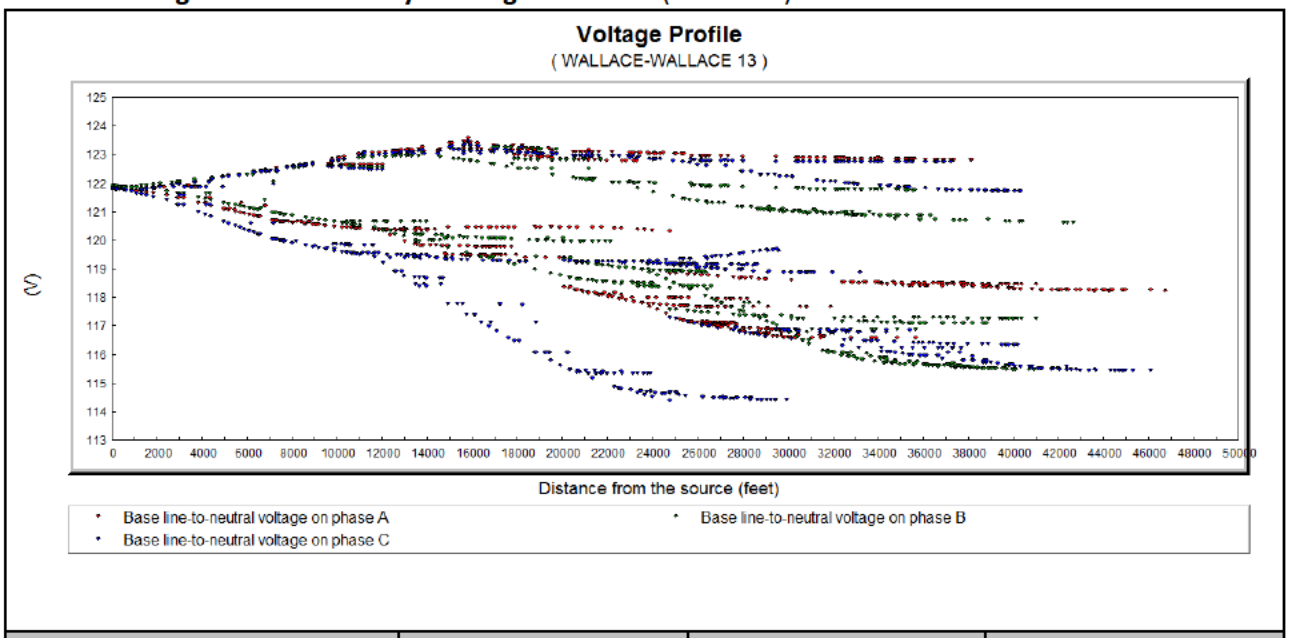
Location	KW	KVAR	Direction (Yes or No)	
			Toward Source?	Toward Load?
Feeder Breaker	**-2610**	**698**	**Yes**	**No**
Transformer (115 or 57kV terminals)	**1377**	**1215**	**No**	**Yes**

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

CONFIGURATION #2

Feeder Voltage Profile for Heavy Loading Conditions (DER is off)



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	121.8	121.8	121.9
Point of Interconnection	121.9	122.1	121.5

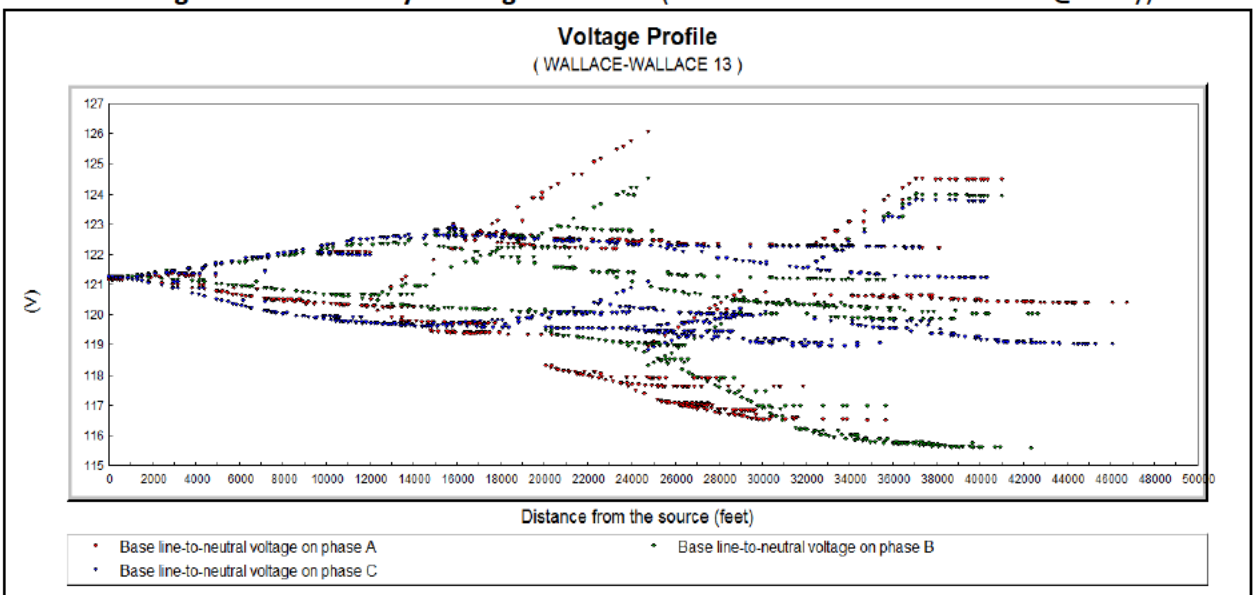
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER Interconnection – Heavy Loading (DER is connected and in service @ unity) – Configuration #2

Feeder Voltage Profile for Heavy Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	123.6	123.0	0.5	123.6	123.0	0.5	123.7	123.0	0.6
POI	134.4	121.9	10.3	135.4	122.1	10.9	135.2	121.2	11.6

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

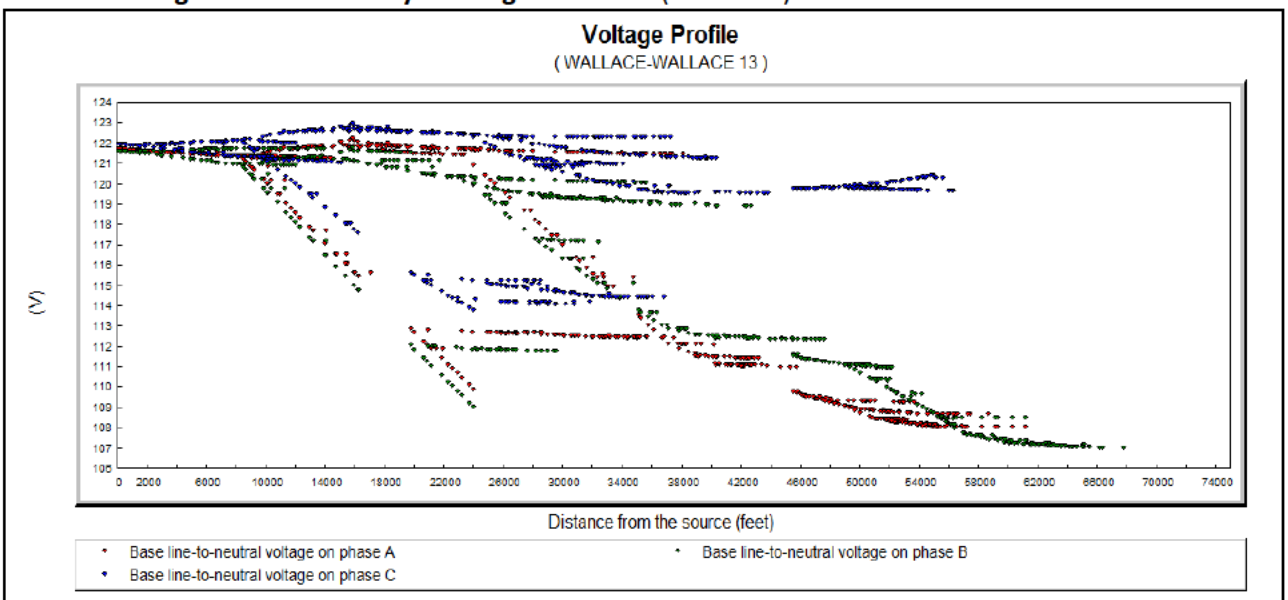
Location	KW	KVAR	Direction (Yes or No)	
			Toward Source?	Toward Load?
Feeder Breaker	**-2528**	**650**	**Yes**	**No**
Transformer (115 or 57kV terminals)	**1459**	**1167**	**No**	**Yes**

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

CONFIGURATION #3

Feeder Voltage Profile for Heavy Loading Conditions (DER is off)



Location	VA (120V base)	VB (120V base)	VC (120V base)
Feeder Bus	121.7	121.6	121.9
Point of Interconnection	118.8	118.3	120.1

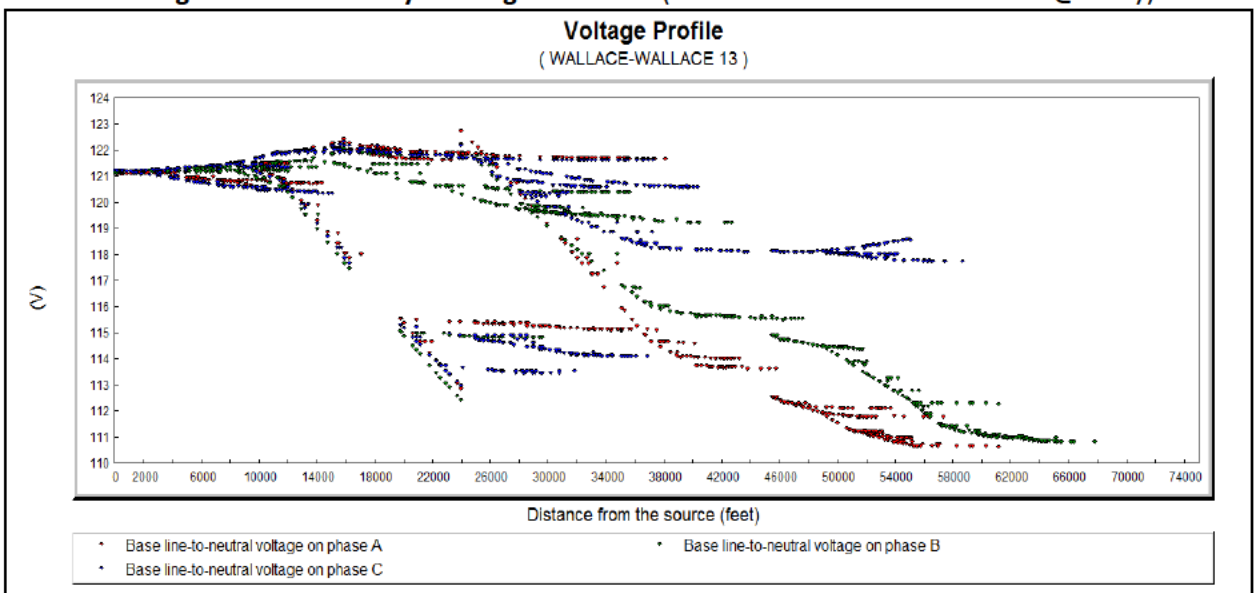
Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

DER Interconnection – Heavy Loading (DER is connected and in service @ unity) – Configuration #3

Feeder Voltage Profile for Heavy Loading Conditions (DER is connected and in service @ unity)



Location	VA			VB			VC		
	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%	Voltage (DER ON)	Voltage (DER OFF)	DELTA%
Feeder Bus	124.3	123.5	0.6	124.4	123.6	0.6	124.4	123.7	0.6
POI	124.2	120.1	3.4	123.9	119.8	3.4	124.1	120.0	3.4

System Backfeed (Record loading at the source side of the proposed DER facilities' feeder breaker, and at the distribution power transformer).

Location	KW	KVAR	Direction (Yes or No)	
			Toward Source?	Toward Load?
Feeder Breaker	**-2392**	**726**	**Yes**	**No**
Transformer (115 or 57kV terminals)	**1595**	**1249**	**No**	**Yes**

Pertinent Violations

Device Type	General Location	Violation Type	Comments
No violations.			

SYSTEM IMPACT STUDY (SIS) FOR DISTRIBUTION LINES AND EQUIPMENT

APPENDIX A: LINKS TO SUPPORTING DOCUMENTATION

IEEE – (Reference IEEE 1547-2003)

Job Aid 1 – Minimum Daylight Load

Job Aid 2 – Setting up CYME for an Interconnection Study

Job Aid 3 – Finding Proposed Interconnection Locations

Job Aid 4 – Conducting a CYME Interconnection SI Study

Power Quality Guidelines – LD19100

Regulator and LTC Settings – Substation

Regulator Settings – Feeder

Small Power (QF) Interconnection Queue

Substation Highside Source Impedances

System Impact Schedule

APPENDIX B: EQUIPMENT RATINGS AND STANDARDS

Cutouts

Polymeric Cutout Specifications					
Cutout Usage	PGE Part Number	Cutout Type	kV Rating	Amp Rating	
				Continuous	Asymmetrical Interrupting
General	40102	Open dropout	15	100	16,000
Special application	39478			200	12,000
	90006289	Solid blade		300	—

15-kV Solid Blade Cutout Ratings				
PGE Part Number	Voltage Rating (kV)		Current Rating (amps)	
	Nominal	Maximum	Continuous	Momentary (asymmetrical)
90006289	14.4	15.0	300	12,000

Table 10: 15-kV Solid Blade Cutout Ratings

Gang Operated Switches

15-kV Gang-Operated Switch Fault Ratings				
PGE Part Number	Manufacturer	Peak Withstand (amps, rms, 10 cycles)	Momentary, Symmetrical (amps, rms, three seconds)	Fault Closing (peak amps)[1]
03586	S&C Electric Company Omni-Rupter[2]	65,000	20,000	42,000
	Inertia Engineering LineBOSS	51,000	32,000	30,000
03587	Unassembled S&C Electric Company Alduti-Rupter	40,000	25,000	20,000

Switches

15-kV Disconnect Switch Ratings				
PGE Part Number	Voltage Rating (kV)		Current Rating (amps)	
	Nominal	Maximum	Continuous	Momentary
03582	15	15.5	1200	61,000

Table 9: 15-kV Disconnect Switch Ratings

Reclosers

Types of Reclosers and Corresponding PGE Part Numbers					
PGE Part Number	Phase	Setting	Continuous Rating	Type	Symmetrical Amps
03398	Single	1A3C	50	L[1]	3000
03399		2A2D			
03401			70		4000
03405			100		
03406			140		
39135			50	V4L	3000
03402			70		4200
39130		1A3C			
03403		2A2D	100		6000
39131		1A3C			
03408		2A2D	140		
39132		1A3C			
03410		2A2D	200		
39133		1A3C			
03411		2A2D	280		
39134		1A3C			
—	Three	Electronic allows a variety of curves	560 and 800 maximum	WE	10,000
03414			800 maximum	VWE	12,000
39756				NOVA	12,500
40242					

1. The L-type recloser is no longer purchased by PGE; it is here for reference only.

Switchgear

Switchgear Design Ratings	
Design	Rating
Maximum voltage	15.5 kV
Power frequency	60 Hz
Lightning impulse withstand voltage	95 kV
Power frequency withstand voltage	35 kV
Continuous current	1200 A
Momentary asymmetrical current	40 kA
Fault-closing asymmetrical current	40 kA

Table 1: Switchgear Design Ratings

600-A, Pad-Mounted Switchgear Configurations				
PGE Part Number	Number of Switch Ways	Number of Fused Ways	Switchgear Momentary Fault Rating (kA, asymmetrical)	Unit Momentary Fault Rating (kA, symmetrical)
39686	3	1	40	14
39687	2	2		

Table 5: 600-A, Pad-Mounted Switchgear Configurations

900-A, Pad-Mounted Switchgear Configurations					
PGE Part Number	Number of Switch Ways	Number of Fault Interrupter Ways	Switch Way Continuous Rating (amp)	Fault Interrupter Way Continuous Rating (amp)	Unit Fault Rating (kA, symmetrical)
90008072	2	2	900	600	25
90008073	3	1			
90008074	4	—		—	

Table 7: 900-A, Pad-Mounted Switchgear Configurations

1200-A, Pad-Mounted Switchgear Configurations				
PGE Part Number	Number of Switch Ways	Number of Fused Ways	Switchgear Momentary Fault Rating (kA, asymmetrical)	Unit Momentary Fault Rating (kA, symmetrical)
01433	4	—	40	35
01434	2	2		14
01435	3	1		
40050[1]	4	—	61	35
40051[1]	3	1		

1. This style is currently only used for Intel sites that require a higher fault rating.

Table 3: 1200-A, Pad-Mounted Switchgear Configurations

600-A, Submersible Switchgear Ratings						
PGE Part Number	Number of Switch Ways	Number of Fault Interrupter Ways	Unit Continuous Rating (amp)	Switchgear Continuous Rating (amp)	Fault Interrupter Continuous Rating (amp)	Unit Fault Rating (kA, symmetrical)
01425	2	2	600	600	200	12.5
01427	3					
01428		3				

Table 10: 600-A, Submersible Switchgear Ratings

900-A, Submersible Switchgear Dimensions					
Unit Fault Rating (kA, symmetrical)	Total Number of Ways	Tank Width[1] (inch)	Tank Depth[2] (inch)	Bushing Height (inch)	Total Height (inch)
12.5	4	65.4375	40.0625	17.5	26.625
25			40.25	28.75	33
12.5	5	80.4375	40.0625	17.5	26.625
25			40.25	28.75	33
12.5	6	95.4375	40.0625	17.5	26.625
25			40.25	28.75	33

1. Termination side of tank.
2. Depth includes controller enclosure but not bushings.

Table 12: 900-A, Submersible Switchgear Dimensions

IEEE Voltage Range/Clearing Times Table

Voltage range (% of base voltage[a])	Clearing time(s)[b]
V< 50	0.16
50 ≤ V< 88	2.00
110 < V < 120	1.00
V ≥ 120	0.16

[a]Base voltages are the nominal system voltages stated in ANSI C84.1-1995, Table 1.
[b]DR ≤ 30 kW, maximum clearing times; DR > 30kW, default clearing times.

The voltage deviation when the DG is off line or in service must be within Voltage Guideline limits from 88% to 110% of the nominal voltage at the point of interconnection and the substation bus. The voltage guideline set by IEEE-1547 requires DG to disconnect from the grid or clear at the set time shown.

EXHIBIT 19

DECEMBER 4, 2019 NOTICE OF DEFAULT TO ZENA SOLAR

UM 2074

Zena Solar, LLC
v.
Portland General Electric Company

PGE's Answer, Affirmative Defenses, and Counterclaim

Portland General Electric Company
121 SW Salmon Street • Portland, Oregon 97204
PortlandGeneral.com

December 4, 2019

Zena Solar, LLC
C/O Conifer Energy Partners LLC
4635 SE 30th Ave
Portland, OR 97202

Dear Asset Manager:

Zena Solar, LLC ("Seller") and Portland General Electric Company (PGE) are parties to a Power Purchase Agreement ("PPA") dated June 4, 2018. This PPA is for purchase of the Net Output from your generation facility. The contractual Commercial Operations Date ("COD") per Section 2.2.2 is December 1, 2019.

Seller has not achieved its contractual Commercial Operation Date. Due to this failure, PGE is providing this written notice of default per Section 9.2. Seller has one year from COD in which to cure the default. If Seller is unable to reach Commercial Operations by that day, PGE may immediately terminate this PPA.

During such time, Seller shall pay PGE damages equal to the Start-up Lost Energy Value during the cure period calculated for each month (Sections 1.35 and 9.2) and due by the later of the 30th day following the end of the Billing Period or 10 days following receipt of invoice.

Sincerely,

PGE QF Contract Administration
Portland General Electric | 121 SW Salmon Street, 3WTC0306, Portland, Oregon 97204
☎: 503-464-7797| ✉: PGE.QFAdmin@pgn.com

Cc: