

**SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
d/b/a VECTREN ENERGY DELIVERY OF INDIANA, INC.
(VECTREN SOUTH)**

IURC CAUSE NO. 45086

**SETTLEMENT TESTIMONY
OF
J. CAS SWIZ
DIRECTOR, RATES AND REGULATORY ANALYSIS**

ON

RATEMAKING AND OTHER TERMS OF THE SETTLEMENT AGREEMENT

**SPONSORING PETITIONER'S EXHIBIT NO. 11
ATTACHMENT JCS-S1**

SETTLEMENT TESTIMONY OF J. CAS SWIZ

I. INTRODUCTION

Q. Please state your name and business address.

A. J. Cas Swiz
One Vectren Square
Evansville, Indiana 47708

Q. By whom are you employed and in what capacity?

A. I am Director, Rates and Regulatory Analysis of Vectren Utility Holdings, Inc. ("VUHI"), the immediate parent company of Southern Indiana Gas & Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren South" or the "Company"). I hold the same position with two other utility subsidiaries of VUHI—Indiana Gas Company, Inc. d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren North") and Vectren Energy Delivery of Ohio, Inc. ("Vectren Ohio").

Q. Are you the same J. Cas Swiz that previously testified on behalf of Vectren South in this proceeding?

A. Yes, I am.

Q. What is the purpose of your testimony at this stage of the proceeding?

A. My testimony supports the Stipulation and Settlement Agreement (the "Settlement Agreement") entered into among Vectren South, the Indiana Office of Utility Consumer Counselor ("OUCC") and Citizens Action Coalition of Indiana, Inc. ("CAC") (collectively, the "Settling Parties") resolving all issues in Cause No. 45086 as between the Settling Parties. Specifically, my testimony describes the relief Vectren South is seeking with respect to the Settlement Agreement and the ratemaking approach agreed upon by the Settling Parties. I also describe certain other substantive terms of the Settlement Agreement and explain why I believe approval of the Settlement Agreement, in its entirety, is in the public interest.

1 **Q. Are any other Vectren South witnesses sponsoring testimony in support of the**
2 **Settlement Agreement?**

3 A. Yes. Thomas L. Bailey, Director of Industrial Sales & Economic Development for VUHI
4 discusses and provides support for the terms of the Settlement Agreement relating to the
5 use of Renewable Energy Credits ("RECs"), as well as the terms relating to customer
6 specific contracts to purchase energy produced by the Solar Project. Mr. Bailey also
7 generally discusses how the terms of the Settlement Agreement benefit Vectren South's
8 customers as a whole.

9
10 **Q. Are you sponsoring any attachments to your settlement testimony proceeding?**

11 A. Yes. I am sponsoring:

- 12 • Petitioner's Exhibit No. 11, Attachment JCS-S1: Calculation of Levelized Rate
13

14 **Q. What relief is Vectren South requesting with respect to the Settlement**
15 **Agreement?**

16 A. Vectren South is requesting the Commission find the Settlement Agreement is
17 reasonable, supported by substantial record evidence, and in the public interest, and
18 that the Commission approve the Settlement Agreement in its entirety, without changes
19 or conditions. In addition, and consistent with the Settlement Agreement, Vectren South
20 is requesting that the Commission: (1) find that the Solar Project meets the requirements
21 of Ind. Code § 8-1-8.5-1 *et seq.* and grant Vectren South a Certificate of Public
22 Convenience and Necessity ("CPCN"); and (2) approve the proposed accounting and
23 ratemaking treatment related to constructing, owning, and operating the Solar Project as
24 set forth in the Settlement Agreement, and more fully described in my testimony.

25
26
27 **II. CPCN AND RELATED REQUESTS FOR RELIEF**
28

29 **Q. What does the Settlement Agreement provide with respect to Vectren South's**
30 **request for a CPCN?**

31 A. The Settling Parties agree the Commission should grant Vectren South a CPCN
32 pursuant to Ind. Code § 8-1-8.5-1 *et seq.*, to construct the Solar Project. The Settling
33 Parties also agree Vectren South's cost estimate for the Solar Project of \$76.174 million

1 (which was discussed in detail in the direct testimony of Petitioner's witness Wayne D.
2 Games) constitutes a reasonable estimate of the construction costs for the Solar Project
3 and should be approved in accordance with Ind. Code § 8-1-8.5-5. In addition, the
4 Settling Parties agree the Solar Project is a "clean energy project" as defined in Indiana
5 Code § 8-1-8.8-3.
6

7 **Q. Are the foregoing agreements supported by and consistent with the evidence**
8 **submitted by the Settling Parties in this proceeding?**

9 A. Yes. In its case-in-chief, Petitioner provided substantial evidence to support a
10 Commission finding that granting a CPCN for the construction of the Solar Project is in
11 the public interest. Petitioner also supported the estimated cost of the Solar Project as
12 well as the status of the project as a "clean energy project." CAC likewise supported the
13 Commission's granting a CPCN for the Solar Project as proposed in the Company's
14 case-in-chief. OUCC witness Haselden was opposed to the Solar Project largely
15 because he believed the cost to customers for energy produced by the project was too
16 high in comparison to prices that might be negotiated under a purchased power
17 agreement ("PPA"). To that end, Mr. Haselden proposed in his direct testimony that
18 Vectren South "should acquire solar power, from its proposed Solar Project or some
19 other project(s), at the lowest cost to participating customers." As I will discuss below,
20 the Settling Parties agreed upon ratemaking terms that reduce the cost per kilowatt hour
21 ("kWh") of energy produced by the Solar Project and thereby ensure that power from the
22 Solar Project is acquired at a favorable cost for renewable energy consistent with Mr.
23 Haselden's direct testimony.
24

25 **Q. What other agreements did the Settling Parties reach with respect to the**
26 **Commission's granting a CPCN in this proceeding?**

27 A. The Settling Parties agreed to use their best efforts to obtain an Order in this proceeding
28 on or before February 28, 2019. The purpose of this term is to enable Vectren South to
29 give First Solar notice to proceed on the project substation on or before April 1, 2019.
30 Substantial completion of the substation before the end of 2019 and commencement of
31 certain other engineering, procurement and permitting elements of the Solar Project will
32 ensure the Solar Project is eligible for the full 30% Investment Tax Credit ("ITC"). The
33 Settling Parties have agreed upon a non-traditional ratemaking approach which reduces

the cost per kWh to customers that is, in part, based on accelerating the flow of this tax benefit to customers.

III. USE OF LEVELIZED RATE

Q. How does the Settlement Agreement address concerns raised by Mr. Haselden regarding the cost of the Solar Project?

A. Based on the special nature of the Solar Project, including the availability of the ITC to offset project costs, the Settling Parties recognized that it presented a unique opportunity to evaluate alternative approaches to traditional ratemaking that would not be applicable to other CPCN projects, including as I will discuss below any future expansions of the Solar Project. Accordingly, the Settling Parties structured the ratemaking terms in the Settlement Agreement to use a fixed levelized rate per kWh of produced energy ("Levelized Rate") for the life of the investment in the Solar Project, subject to adjustment only under limited circumstances.

Q. What is the agreed upon Levelized Rate?

A. The initial agreed upon Levelized Rate is \$0.05452 per kWh. As I will discuss below, this rate is subject to adjustment, but only under specific limited circumstances.

Q. How does the Levelized Rate compare to the cost per kWh set forth in Petitioner's case-in-chief?

A. The Levelized Rate approach results in a lower cost for customers than as proposed in Vectren South's case-in-chief. The average cost of the Solar Project as set forth in Vectren South's case-in-chief was approximately 7.1 cents per kWh over the life of the asset. The Levelized Rate is even slightly lower than the rate Mr. Haselden calculated using a discounted cash flow analysis in his direct testimony (*i.e.*, approximately 5.5 cents per kWh). As with Mr. Haselden's discounted cash flow analysis, the methodology agreed upon in the Settlement Agreement achieves a lower cost of energy by, in part, accelerating the flow of the ITC benefit to customers.

1 **Q. Aside from accelerating recognition of the ITC benefit, how else does the**
2 **Levelized Rate result in a lower cost per kWh?**

3 A. For purposes of compromise, certain other adjustments were made to the return on
4 equity ("ROE") and weighted average cost of capital ("WACC"), which further reduces
5 the Levelized Rate. In addition, the projected life of the project was extended from 30-
6 years to 35-years. A spreadsheet showing how the Levelized Rate was determined is
7 attached as Petitioner's Exhibit No. 11, Attachment JCS-S1. The adjustments shown in
8 Petitioner's Exhibit No. 11, Attachment JCS-S1 were made solely as a compromise in
9 this proceeding and in recognition of the unique characteristics of the Solar Project.
10 Based on the nature of the Solar Project and eligibility for ITCs, Vectren South was
11 willing to compromise on certain ratemaking components that would not otherwise be
12 modified outside of a base rate case. To that end, the Settlement Agreement contains
13 non-precedential language typical in settlement agreements presented to the
14 Commission.

15
16 **Q. In your opinion, does the Levelized Rate have benefits over rates that might be**
17 **included in a PPA with a merchant generator?**

18 A. Yes. In my opinion, the Levelized Rate is beneficial because it will not be subject to an
19 annual escalator like rates typically included in a PPA. In addition, as described by
20 Petitioner's witness Justin M. Joiner in his rebuttal testimony, Vectren South believes
21 development of the Solar Project as a Company-owned generation source is superior to
22 entering into a PPA or feed-in type arrangements. We believe that owning the resource
23 allows maximum operational flexibility to react to market and system conditions.
24 Furthermore, we believe that owning a renewable project interconnected with Vectren
25 South's system has substantial benefits with respect to congestion and other issues.

26
27 **Q. Please describe the circumstances under which the Levelized Rate could be**
28 **adjusted.**

29 A. The Levelized Rate can be adjusted in just three instances: (i) upon issuance of any
30 final order in a future base rate proceeding to capture the impact of changes to the
31 Company's approved ROE; (ii) if any adjustments are made to the law governing Indiana
32 State and/or Federal Income Tax Rates that result in a change to other approved tariff
33 rates; and (iii) to the extent First Solar Electric, LLC ("First Solar") pays Vectren South

Liquidated Damages as a result of the Solar Project failing to achieve the Minimum Guaranteed Capacity or Guaranteed Capacity established in the Engineering, Procurement and Construction Agreement ("EPC Agreement").

Q. What is the purpose of these agreed-upon adjustment triggers?

A. The adjustments are designed to ensure customers benefit from changes that might reduce the Levelized Rate – or in the alternative, that the Company is not unfairly burdened by such changes (*i.e.*, an increase in State or Federal Income Tax Rates).

Q. In your opinion, is the Settling Parties' agreement to use a Levelized Rate approach reasonable and in the public interest?

A. Yes. The Levelized Rate approach reduces the overall impact of the Solar Project on customer rates, while still making the Project feasible from the Company's perspective. In my opinion, the approach represents a reasonable compromise between Vectren South's and the OUCC's respective positions in this proceeding.

IV. LEVELIZED RATE RECOVERED THROUGH CECA

Q. How will the Levelized Rate be applied to customer bills?

A. The Levelized Rate will be incorporated into the Clean Energy Cost Adjustment ("CECA") mechanism, which the Commission approved on August 16, 2017 in Cause No. 44909 for renewable energy projects. Upon Commission approval of an Order in this proceeding, the CECA will be used to recover: (i) the revenue requirement associated with the three solar energy projects totaling approximately 4.3 MWac and two energy storage systems approved in Cause No. 44909 (the "Cause No. 44909 Projects"); and (b) the approved revenue requirement for the Solar Project. Vectren South is not making any changes to the CECA mechanism as approved in Cause No. 44909 except as necessary to support the incorporation of the Solar Project. The revenue requirement for the Cause No. 44909 Projects will be determined in the manner approved in Cause No. 44909.

Q. How will the Solar Project component of the CECA be derived?

1 A. The Solar Project component of the CECA will be derived by multiplying the then
2 effective Levelized Rate per kWh, by the projected kWh produced by the Solar Project
3 during the upcoming twelve (12) month period, grossed up for Indiana Utility Receipts
4 Tax ("IURT"). The projected kWh produced by the Solar Project during each of the 35-
5 year life of the Solar Project (the "Production Baseline") is set forth in a table included in
6 the Settlement Agreement.

7
8 **Q. Will the projected kWh produced by the Solar Project each year be reconciled to**
9 **the actual amount of energy generated?**

10 A. Under certain circumstances, yes. However, the intent of the Settling Parties is for
11 customers to pay a fixed rate per kWh for energy generated by the Solar Project.
12 Therefore, the projected kWh is subject to adjustment only to the extent that actual
13 annual production from the Solar Project for a rolling three-year period is less than 90%,
14 or greater than 110%, of the Production Baseline set forth in the table in the Settlement
15 Agreement for the same rolling three-year period. If actual annual production from the
16 Solar Project for a rolling three-year period is less than 90% of the Production Baseline,
17 customers will be entitled to a credit so long as the difference is not caused by a *force*
18 *majeure* event. This credit will be calculated by taking the difference between the
19 Production Baseline and actual production for the rolling three-year period multiplied by
20 the applicable Levelized Rate. Alternatively, if actual annual production from the Solar
21 Project for a rolling three-year period is greater than 110% of the Production Baseline,
22 an additional charge calculated in the same manner will be included in recoverable
23 CECA costs to recover the difference. In essence, the Settlement Agreement provides
24 for a symmetrical review of actual production so that customers pay less if production is
25 materially reduced and Vectren South is rewarded if production is materially higher than
26 projected such that the Solar Project provides more energy without fuel cost.

27
28 **Q. Are there other circumstances under which the projected kWh produced by the**
29 **Solar Project might be adjusted?**

30 A. Yes. To the extent Vectren South were to receive Liquidated Damages under the EPC
31 Agreement with First Solar due to decreased Solar Project production, and those
32 Liquidated Damages were used as an offset to revenue requirements, a corresponding

adjustment will be made to the annual Production Baseline for the impacted year(s) to match the recalculated Levelized Rate due to decreased Solar Project production.

Q. How will the CECA be allocated to the customer classes?

A. As approved in Cause No. 44909, the CECA will be allocated to Vectren South's various retail Rate Schedules using the 4CP allocation percentages approved in Vectren South's most recent base rate case, modified to reflect the migration of a large customer to Vectren South's LP rate schedule. The allocation factors are set forth in a table included in the Settlement Agreement.

I would note that the allocation factors will be updated based on the results of a 4CP Demand study to be presented in a subdocket to Cause No. 43354-MCRA21. Upon Commission approval of the updated 4CP Allocation Factors, the revised factors will be applied to the CECA in the next annual CECA filing

Q. Please describe the process for filing the CECA.

A. The CECA will be filed annually as a subdocket in Cause No. 44909, which is consistent with the terms of the Order in Cause No. 44909. The initial CECA filing will be made on February 1, 2019 for investments made and completed through December 31, 2018, with initial CECA rates to be effective June 1, 2019. On February 1, 2020, Vectren South will make the second CECA filing and propose two sets of rates for approval: (i) the first set of rates, effective June 1, 2020, will recover the revenue requirement associated with the Cause No. 44909 Projects only; and (ii) the second set of rates, effective on the date of in-service of the Solar Project, will recover the revenue requirement associated with both the Cause No. 44909 Projects as well as the Solar Project. Thereafter, Vectren South will make CECA filings annually on February 1st of each year. The CECA will be reconciled as a part of each annual CECA filing, with any over- or under-recovery collection variances returned to or recovered from customers in the Company's subsequent CECA filings as described in Cause No. 44909.

V. FUTURE IMPROVEMENTS TO THE SOLAR PROJECT AND REPORTING

1 **Q. To the extent future improvements are made to the Solar Project, will those**
2 **improvements be accounted for in the CECA?**

3 A. No. In the event an investment is made at a later date to either expand the Solar Project
4 to increase production or add technological improvements (e.g., battery storage or other
5 investments to extend the life of the Solar Project beyond that which is contemplated in
6 the Settlement Agreement), such investments will be included within standard Vectren
7 South rate base to be proposed for recovery in a future proceeding before the
8 Commission. This agreement reflects that the unique ratemaking arrangements made in
9 the Settlement Agreement are not applicable to other investments not eligible for the
10 ITC.

11
12 **Q. What reports will Vectren South file with respect to the Solar Project?**

13 A. Vectren South agrees to file public quarterly reports following the issuance of an Order in
14 this proceeding. The public quarterly reports will include information on the actual costs
15 incurred to date, projected costs through the end of construction of the Solar Project,
16 and anticipated completion (in-service) date of the Solar Project. In addition, Vectren
17 South will notify the Commission within 60 days of the project's in-service date.

18
19 After these initial filings, Vectren South will provide public informational updates to the
20 Commission and other stakeholders in its ongoing CECA filings. The information to be
21 included in the ongoing CECA public filings is as follows:

- 22 • generation output of the Solar Project (with monthly detail);
- 23 • the actual revenue requirement during the twelve (12) months covered by the report
24 (the "Reporting Period") based upon the Levelized Rate per kWh and the estimated
25 production for the twelve (12) month period;
- 26 • the actual production of the Solar Project compared to the Baseline Production over
27 a three-year rolling period;
- 28 • the total RECs proceeds (in U.S. dollars), if any, associated with solar generation at
29 the Solar Project; and
- 30 • the average annual billing impact on all customer classes

31
32
33 **VI. CONCLUSION**

1

2 **Q. In your opinion is the Settlement Agreement in the public interest?**

3 A. Yes. Vectren South engaged in good faith negotiations with the OUCC and CAC to
4 resolve the issues in this proceeding. The result is a Settlement Agreement that is good
5 for customers and will allow Vectren South to recover its prudently incurred costs
6 associated with the Solar Project. In particular, the agreed upon ratemaking terms
7 provide for reasonable cost recovery while providing related benefits and protections for
8 customers. Furthermore, the Commission and the public will be informed of the status of
9 the project through the initial informational filings and the ongoing CECA filings. The
10 Settlement Agreement provides a reasonable balance to the issues presented in this
11 proceeding.

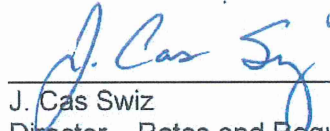
12

13 **Q. Does this conclude your rebuttal testimony?**

14 A. Yes, at the present time.

VERIFICATION

I, J. Cas Swiz, Director – Rates and Regulatory Analysis for Vectren Utility Holdings, Inc., under the penalties for perjury, affirm that the answers in the foregoing Settlement Testimony are true to the best of my knowledge, information and belief.



J. Cas Swiz
Director – Rates and Regulatory Analysis

[illegible]

Levelized Revenue Requirement	\$	5,658.461
Levelized Production		104,287.373
Levelized Rate per kWh Produced (Excluding UPR)	\$	0.05462
Levelized Rate per kWh Produced (Including UPR)	\$	0.05533

[illegible][illegible]

Income Statement - Levelized														
Production - MMH	Revenue	Leasehold	Operating Expenses	Depreciation	Depletion	Depletion	Depletion	Depletion	Depletion	Depletion	Depletion	Depletion	Depletion	Depletion
100,195,200	108,647,433	108,104,186	107,565,675	107,025,966	106,500,277	105,968,274	105,436,482	104,901,340	104,376,833	103,854,848	103,335,674	102,818,986	102,304,901	101,793,276
0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210	6,504,210
6,031,989	6,031,989	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939	5,581,939
1,007,822	1,007,822	1,005,157	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329	1,004,329
2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044	2,176,044
84,189	84,189	83,747	83,747	83,747	83,747	83,747	83,747	83,747	83,747	83,747	83,747	83,747	83,747	83,747
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1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082
1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082	1,406,082							

Levelized Revenue Requirement
Levelized Production
Levelized Rate per kWh Produced (excluding URT)
Levelized Rate per kWh Produced (including URT)

Base Assumptions:

	Year 0	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	Year 31	Year 32	Year 33	Year 34	Year 35
1 Plant Investment		\$ 25,053,000															
2 Parallels/Medulus		\$ 40,121,156															
3 EPC Costs		\$ 2,400,000															
4 Interconnect Investments		\$ 1,500,000															
5 Construction Contingencies and Overheads		\$ 76,174,156															
6 Total Depreciable Base		\$ 76,174,156															
7 MW AC		\$ 50															
8 Cost per MW		\$ 1,523,483															
9 ITC Eligible Percentage		93.80%															
10 ITC Base		\$ 71,451,358															
11 ITC Percentage - 2019		30.05%															
12 Investment Tax Credit Total		\$ 21,435,407															
13 State Tax Rate		4.900%															
14 Federal Tax Rate		21.000%															
15 Effective Tax Rate		24.87%															
16 Production																	
17 MW AC																	
18 Capacity Factor																	
19 Annual Production (MM)																	
20 Annual Hours																	
21 Annual Estimated kWh																	
22 kWh Produced		99,273,863	98,777,484	98,283,607	97,789,189	97,303,228	96,816,711	96,332,828	95,850,985	95,371,710	94,884,851	94,403,377	93,948,275	93,478,524	93,011,141	92,546,085	92,083,355
23 Depreciation																	
24 Annual Depreciation Rate																	
25 Net Book Value - End of Year		\$ 76,174,156	\$ 32,646,057	\$ 30,489,660	\$ 28,283,258	\$ 26,116,653	\$ 23,940,449	\$ 21,764,045	\$ 19,587,640	\$ 17,411,236	\$ 15,234,831	\$ 13,058,427	\$ 10,882,022	\$ 8,705,618	\$ 6,529,213	\$ 4,352,809	\$ 2,176,404
26 MCRS Depreciation - 5 Years		0.00%															
27 Federal Tax Basis		\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156
28 50% of ITC Credit (Federal CMV)		\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204	\$ 10,217,204
29 Federal Tax Depreciation		\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452	\$ 65,456,452
30 Federal Tax Book Value - End of Year		\$ 65,456,452	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31 MCRS Depreciation - 5 Years		0.00%															
32 Gross Asset Balance		\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156
33 State Tax Credit		\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156	\$ 76,174,156
34 State Tax Depreciation		\$ 76,174,156	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
35 State Tax Book Value - End of Year		\$ 76,174,156	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
36 Investment Tax Credit Life																	
37 Investment Tax Credit Amortization		\$ 21,435,407	\$ 9,186,603	\$ 8,574,183	\$ 7,961,723	\$ 7,349,283	\$ 6,736,842	\$ 6,124,402	\$ 5,511,962	\$ 4,899,522	\$ 4,287,081	\$ 3,674,641	\$ 3,062,201	\$ 2,449,761	\$ 1,837,321	\$ 1,224,880	\$ 612,440
38 Deflected Taxes																	
39 DIT Liability/(Asset) Activity - ITC Liability		\$ (4,501,436)	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612	\$ 128,612
40 ADT Liability/(Asset) Balance - ITC Liability		\$ (4,501,436)	\$ (1,929,187)	\$ (1,800,576)	\$ (1,671,962)	\$ (1,543,349)	\$ (1,414,737)	\$ (1,286,124)	\$ (1,157,512)	\$ (1,028,900)	\$ (900,287)	\$ (771,675)	\$ (643,062)	\$ (514,450)	\$ (385,837)	\$ (257,225)	\$ (128,612)
41 DIT Liability/(Asset) Balance - Federal Basis Reduction		\$ 2,250,718	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42 ADT Liability/(Asset) Balance - Federal Basis Reduction		\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718	\$ 2,250,718
43 DIT Liability/(Asset) Activity - Federal Depreciation		\$ -	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)	\$ (457,045)
44 ADT Liability/(Asset) Balance - Federal Depreciation		\$ -	\$ 4,604,958	\$ 4,147,911	\$ 3,690,868	\$ 3,233,821	\$ 2,776,777	\$ 2,319,732	\$ 1,862,687	\$ 1,405,642	\$ 948,597	\$ 491,552	\$ 34,507	\$ (62,538)	\$ (1,306,628)	\$ (1,753,673)	\$ (2,250,718)
45 DIT Liability/(Asset) Activity - State Depreciation		\$ -	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)	\$ (106,644)
46 ADT Liability/(Asset) Balance - State Depreciation		\$ -	\$ 1,599,657	\$ 1,493,013	\$ 1,386,370	\$ 1,279,726	\$ 1,173,082	\$ 1,066,438	\$ 959,794	\$ 853,151	\$ 746,507	\$ 639,863	\$ 533,219	\$ 426,575	\$ 319,931	\$ 213,288	\$ 106,644
47 DIT Liability/(Asset) Activity - State Depreciation Impact to Federal		\$ -	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395
48 ADT Liability/(Asset) Balance - State Depreciation Impact to Federal		\$ -	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395	\$ 22,395
49 DIT Liability/(Asset) Activity		\$ (2,250,718)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)	\$ (412,681)
50 ADT Liability/(Asset) Balance		\$ (2,250,718)	\$ 6,190,217	\$ 5,777,538	\$ 5,364,854	\$ 4,952,173	\$ 4,539,492	\$ 4,126,811	\$ 3,714,130	\$ 3,301,449	\$ 2,888,768	\$ 2,476,087	\$ 2,063,406	\$ 1,650,724	\$ 1,238,043	\$ 825,362	\$ 412,681
51 Expenses																	
52 O&M Exclusion Annual		\$ 1,442,533	\$ 1,468,488	\$ 1,494,031	\$ 1,521,640	\$ 1,549,233	\$ 1,577,119	\$ 1,605,508	\$ 1,634,407	\$ 1,663,826	\$ 1,693,775	\$ 1,724,263	\$ 1,755,300	\$ 1,786,895	\$ 1,819,059	\$ 1,851,802	\$ 1,885,135
53 O&M Expense																	
54 Asset Township Location																	
55 Property Tax Rate																	
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Capital Structure

