



October 28, 2021

Ms. Lisa Felice
Michigan Public Service Commission
7109 W. Saginaw Hwy.
P. O. Box 30221
Lansing, MI 48909

Via E-Filing

RE: MPSC Case N^o: U-21090

Dear Ms. Felice:

The following is attached for paperless electronic filing:

PUBLIC Direct Testimony of Douglas B. Jester on behalf of Michigan Environmental Council, Natural Resources Defense Council, and Sierra Club;

Exhibits MEC-1 through MEC-14; and

Proof of Service.

NOTE: Confidential Testimony and Exhibits will only be served upon those with a signed NDA on file

Sincerely,

Lydia Barbash-Riley
lydia@envlaw.com

xc: Parties to Case No. U-21090

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of
CONSUMERS ENERGY COMPANY for
Approval of an Integrated Resource Plan
under MCL 460.6t, certain accounting
approvals, and for other relief.

U-21090

ALJ Sally L. Wallace

PUBLIC

TESTIMONY OF DOUGLAS B. JESTER

ON BEHALF OF

**MICHIGAN ENVIRONMENTAL COUNCIL,
NATURAL RESOURCES DEFENSE COUNCIL, AND SIERRA CLUB**

October 28, 2021

TABLE OF CONTENTS

I.	INTRODUCTION & QUALIFICATIONS.....	1
II.	OVERVIEW OBSERVATIONS ON CONSUMERS' PCA	6
III.	[[[REDACTED]]]	9
IV.	SOLAR ZONAL RESOURCE CREDITS	14
V.	MAXIMUM SOLAR ACQUISITION RATE.....	20
VI.	SOLAR ACQUISITION PRACTICES	27
VII.	RECOVERY METHODOLOGY OF UNRECOVERED BOOK BALANCES FOR RETIRING PLANT.....	32
VIII.	PPA FINANCIAL INCENTIVES	37
IX.	RECOMMENDATIONS.....	43

1 **I. INTRODUCTION & QUALIFICATIONS**

2 **Q. Please state for the record your name, position, and business address.**

3 A. My name is Douglas B. Jester. I am a Partner of 5 Lakes Energy LLC, a Michigan limited
4 liability corporation, located at Suite 218, 220 MAC Avenue, East Lansing, Michigan
5 48823.

6 **Q. On whose behalf is this testimony being offered?**

7 A. I am testifying on behalf of Michigan Environmental Council (MEC), Natural Resources
8 Defense Council (NRDC), and Sierra Club (SC), collectively referred to as “MNS.”

9 **Q. Please summarize your experience in the field of utility regulation.**

10 A. I have worked for more than 30 years in utility industry regulation and related fields. My
11 work experience is summarized in my resume, provided as Exhibit MEC-1.

12 **Q. Have you testified before this Commission or as an expert in any other proceeding?**

13 A. I have previously testified before the Michigan Public Service Commission
14 (“Commission”) in the following cases:

- 15 • Case U-17473 (Consumers Energy Company Plant Retirement Securitization);
- 16 • Case U-17096-R (Indiana Michigan 2013 PSCR Reconciliation);
- 17 • Case U-17301 (Consumers Energy Renewable Energy Plan 2013 Biennial
18 Review);
- 19 • Case U-17302 (DTE Energy Renewable Energy Plan 2013 Biennial Review);
- 20 • Case U-17317 (Consumers Energy 2014 PSCR Plan);
- 21 • Case U-17319 (DTE Electric 2014 PSCR Plan);

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

- 1 • Case U-17671-R (UPPCO 2015 PSCR Reconciliation);
- 2 • Case U-17674 (WEPCO 2015 PSCR Plan);
- 3 • Case U-17674-R (WEPCO 2015 PSCR Reconciliation);
- 4 • Case U-17679 (Indiana-Michigan 2015 PSCR Plan);
- 5 • Case U-17688 (Consumers Energy Cost of Service and Rate Design);
- 6 • Case U-17689 (DTE Electric Cost of Service and Rate Design);
- 7 • Case U-17698 (Indiana-Michigan Cost of Service and Rate Design);
- 8 • Case U-17735 (Consumers Energy General Rates);
- 9 • Case U-17752 (Consumers Energy Community Solar);
- 10 • Case U-17762 (DTE Electric Energy Optimization Plan);
- 11 • Case U-17767 (DTE General Rates);
- 12 • Case U-17792 (Consumers Energy Renewable Energy Plan Revision);
- 13 • Case U-17895 (UPPCO General Rates);
- 14 • Case U-17911 (UPPCO 2016 PSCR Plan);
- 15 • Case U-17911-R (UPPCO 2016 PSCR Reconciliation);
- 16 • Case U-17990 (Consumers Energy General Rates);
- 17 • Case U-18014 (DTE General Rates);
- 18 • Case U-18089 (Alpena Power PURPA Avoided Costs);
- 19 • Case U-18090 (Consumers Energy PURPA Avoided Costs);
- 20 • Case U-17911-R (UPPCO 2016 PSCR Reconciliation);
- 21 • Case U-18091 (DTE PURPA Avoided Costs);
- 22 • Case U-18092 (Indiana Michigan Power Company PURPA Avoided Costs);
- 23 • Case U-18093 (Northern States Power PURPA Avoided Costs);
- 24 • Case U-18094 (Upper Peninsula Power Company PURPA Avoided Costs);

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

- 1 • Case U-18095 (Wisconsin Public Service Company PURPA Avoided Costs);
- 2 • Case U-18096 (Wisconsin Electric Power Company PURPA Avoided Costs);
- 3 • Case U-18224 (UMERC Certificate of Necessity);
- 4 • Case U-18232 (DTE Renewable Energy Plan);
- 5 • Case U-18255 (DTE Electric General Rates);
- 6 • Case U-18322 (Consumers Energy General Rates);
- 7 • Case U-18406 (UPPCO 2018 PSCR Plan);
- 8 • Case U-18408 (UMERC 2018 PSCR Plan);
- 9 • Case U-18419 (DTE Certificate of Necessity);
- 10 • Case U-20072 UPPCO 2017 PSCR Reconciliation);
- 11 • Case U-20111 (UPPCO Tax Cuts and Jobs Act of 2017 Adjustment);
- 12 • Case U-20134 (Consumers Energy General Rates);
- 13 • Case U-20150 (UPPCO Revenue Decoupling Mechanism Complaint);
- 14 • Case U-20162 (DTE General Rates);
- 15 • Case U-20165 (Consumers Energy Integrated Resource Plan);
- 16 • Case U-20229 (UPPCO 2019 PSCR Plan Case);
- 17 • Case U-20276 (UPPCO General Rates);
- 18 • Case U-20350 (UPPCO Integrated Resource Plan);
- 19 • Case U-20359 (I&M 2019 General Rate Case);
- 20 • Case U-20471 (DTE Integrated Resource Plan);
- 21 • Case U-20479 (SEMCO 2019 General Rate Case);
- 22 • Case U-20561 (DTE 2019 General Rate Case);
- 23 • Case U-20591 (Indian Michigan Power Company IRP);
- 24 • Case U-20642 (DTE Gas 2020 General Rate Case);

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

- 1 • Case U-20649 (Consumers Electric Voluntary Green Pricing).;
- 2 • Case U-20650 (Consumers Gas 2020 General Rate Case);
- 3 • Case U-20697 (Consumers Electric 2020 General Rate Case);
- 4 • Case U-20713 (DTE 202 Voluntary Green Pricing);
- 5 • Case U-20889 (Consumers Karn Retirement Securitization);
- 6 • Case U-20963 (Consumers Energy Electric Rate Case);
- 7 • Case U-21015 (DTE Securitization Case);
- 8 • Case U-20876 (DTE Electric EWR Plan Case);
- 9 • Case U-20881 (DTE Gas EWR Plan Case); and
- 10 • Case U-20883 (SEMCO Gas EWR Plan Case).

11 Additionally, I have testified as an expert witness before the Public Utilities Commission
12 of Nevada in Case No. 16-07001 concerning the 2017-2036 integrated resource plan of NV
13 Energy; and before the Missouri Public Service Commission in Cases Nos. ER-2016-0179,
14 ER-2016-0285, and ET-2016-0246 concerning residential rate design and electric vehicle
15 (“EV”) policy, revenue requirements, cost of service, and rate design. I testified before the
16 Kentucky Public Service Commission in Case No. 2016-00370 concerning municipal
17 street lighting rates and technologies. I testified before the Massachusetts Department of
18 Public Utilities in Case Nos. DPU 17-05 and DPU 17-13 concerning EV charging
19 infrastructure program design and cost recovery. Before the Rhode Island Public Utilities
20 Commission, in case 4780 I testified concerning Advanced Metering Infrastructure and EV
21 charging infrastructure. Before the Delaware Public Service Commission, I testified
22 regarding EV charging infrastructure in case 17-1094. I testified before the Georgia Public
23 Service Commission in Case No. 4822 concerning PURPA avoided cost. I also testified

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 before the Colorado Public Utilities Commission in Cases No. 20A-0204E and 20A-195E
2 concerning cost recovery for EV charging infrastructure.

3 I have also testified as an expert witness on behalf of the State of Michigan before the
4 Federal Energy Regulatory Commission (“FERC”) in cases relating to the relicensing of
5 hydro-electric generation and have participated in state and federal court cases on behalf
6 of the State of Michigan, concerning electricity generation matters, which were settled
7 before trial.

8 **Q. What is the purpose of your testimony?**

9 A. I am testifying on behalf of MNS regarding certain [[REDACTED]
10 [REDACTED]
11 [REDACTED]]; Consumers Energy Company’s (“Consumers” or “the Company”) inaccurate
12 representation of the zonal resource credits that apply to solar facilities; Consumers
13 Energy’s incorrect assumption that it can only acquire 500 MW new solar capacity per
14 year; certain changes that Consumers Energy is proposing in its solar resource acquisition
15 practices; Consumers Energy’s proposed methodology for recovery of unrecovered book
16 balances of retiring plants; and Consumers Energy’s proposals to modify the PPA financial
17 incentives authorized by the Commission. I also offer a few high-level observations about
18 the major resource decisions reflected in the Company’s Proposed Course of Action
19 (“PCA”).

20 **Q. Are you sponsoring any exhibits?**

21 A. Yes, I am sponsoring the following exhibits:

22 Exhibit MEC-1: Resume (or CV) of Douglas B. Jester

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

- 1 Exhibit MEC-2C: [[REDACTED]]
- 2 Exhibit MEC-3C: [[REDACTED]]
- 3 Exhibit MEC-4C: [[REDACTED]]
- 4 Exhibit MEC-5C: [[REDACTED]]
- 5 Exhibit MEC-6C: [[REDACTED]]
- 6 Exhibit MEC-7C: [[REDACTED]]
- 7 Exhibit MEC-8C: [[REDACTED]]
- 8 Exhibit MEC-9C: [[REDACTED]]
- 9 Exhibit MEC-10: Consumers Energy Response to U21090-GLREA-CE-322
- 10 Exhibit MEC-11: MISO Generator Interconnection Interactive Queue Workpaper
- 11 Exhibit MEC-12: Case No. U-20889, Exhibit A-9.
- 12 Exhibit MEC-13: Case No. U-20963, Exhibit A-4 Schedule D-1
- 13 Exhibit MEC-14: Case No. U-20963, Exhibit A-14 Schedule D-1

14 **II. OVERVIEW OBSERVATIONS ON CONSUMERS' PCA**

15 **Q. Please summarize the major elements of this case from your perspective.**

16 **A.** In this Integrated Resource Plan case, the Company proposes the following changes to its
17 resource portfolio:

- 18 • Retire Karn units 3 and 4, which are oil/gas peakers, in May 2023;
- 19 • Retire coal-fired Campbell units 1, 2, and 3 in May 2025;
- 20 • Purchase the New Covert Generating Facility, a gas-fired plant, in May 2023;
- 21 • Purchase three gas plants owned by Consumers' affiliate, CMS Enterprises
22 Company ("CMS") – Dearborn Industrial Generation ("DIG"), Kalamazoo, and
23 Livingston – in May 2025;

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

- 1 • A significant increase in projected utility-scale solar deployment after 2030; and
2 • Modest adjustments in Consumers’ projected Energy Waste Reduction (“EWR”),
3 Demand Response (“DR”), Conservation Voltage Reduction (“CVR”), and Storage
4 resource plans.

5 In addition, Consumers requests that the net book value and decommissioning costs of the
6 Karn and Campbell units be rolled into a regulatory asset that would be amortized over a
7 lengthy period – though 2031 for Karn 3 and 4 and Campbell 1 and 2, and through 2040
8 for Campbell 3. This regulatory asset would earn weighted average cost of capital on the
9 asset’s net value.

10 Pursuant to MCL 460.6t, the Company seeks cost approvals for those elements of its
11 Proposed Course of Action (“PCA”) that it proposes to be implement within three years of
12 the final order in this case. More specifically, the Company is seeking cost recovery for the
13 following:

- 14 • \$1.345 billion, representing the purchase costs of Covert and the CMS plants (DIG,
15 Kalamazoo, and Livingston);
- 16 • demand response costs for January 2023 through June 2025 (\$23.75 million capital,
17 \$3.1 million O&M, \$26.3 million of incentive), to achieve a total of 641 MW (657
18 Zonal Resource Credits) in 2025;
- 19 • energy waste reduction costs for January 2024 through June 225 (\$226.7 million
20 O&M, \$45.3 million of incentive), to achieve savings of 545,305 MWh and 879
21 MW; and
- 22 • conservation voltage reduction costs for January 2023 through June 2025 (\$9.7
23 million capital, \$1.2 million O&M), for savings of 136,351 MWh and 56.81 MW.¹

¹ Revised Direct Testimony of Richard T. Blumenstock, p. 7.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 The Company's PCA includes several other proposals, including certain changes to the
2 competitively bid procurement process for new generation resources, and to the Financial
3 Compensation Mechanism allowing it to earn a return on Power Purchase Agreements.
4 Those issues are addressed in my testimony below.

5 **Q. Do you have any observations about the resource decisions reflected in the**
6 **Company's PCA?**

7 **A.** Yes. I will offer three high-level observations about the PCA's resource selections.

8 First, I am persuaded that the Company's proposal to retire the Campbell coal plant in 2025
9 is a sound decision. After Karn 1 and 2 retire in 2023, Campbell 1-3 will be the last
10 remaining coal units in Consumers' portfolio. The Campbell plant has a greater carbon
11 impact than any other resource owned by the Company, and its retirement is critical to
12 meeting state and federal climate goals.² In proposing Campbell's retirement, the Company
13 also cited economic, community, and co-worker benefits of accelerated retirement over
14 continued operation.³

15 Second, I am encouraged that the Company's PCA does not substantially back away from
16 the clean energy resource investments contemplated by Consumers' 2018 IRP. In the 2018
17 case, the Commission approved a plan that included approximately 5 GW (nameplate) of
18 new solar resources in the 2020s, and significant increases in CVR, EWR, and DR over the
19 same timeframe. In this IRP case, the Company has proposed a plan that deploys similar
20 amounts of CVR, EWR, DR, and solar during the 2020s and then 2 GW Solar in the 2030s

² Because the Campbell emits other pollutants, such as SO₂, NO_x, and particulate matter, retiring Campbell may also have health benefits.

³ Blumenstock Revised Direct, pp. 19, 67-68.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 above the levels included in the 2018 IRP. As I have explained in prior cases, the Company
2 should be pursuing additional CVR, EWR, DR, wind generation, and solar generation.
3 Although the Company should be more proactive in pursuing clean energy resources
4 (including solar, as explained below in my testimony), it is notable that the Company has
5 not significantly backtracked on the clean energy ramp-ups proposed in its earlier IRP.

6 Finally, I am not persuaded by the Company's IRP that Consumers needs to acquire more
7 than 2000 MW of additional gas capacity. Moreover, for reasons explained below in my
8 testimony, and addressed in detail in MNS witness Tyler Comings's direct testimony, the
9 proposed DIG acquisition may pose special risks to Consumers and its ratepayers.

10 **III.** **II** [REDACTED]

11 **Q.** [REDACTED]

12 **A.** [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 **Q.** [REDACTED]

16 **A.** [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 Q.

[REDACTED]

2 A.

[REDACTED]

3

[REDACTED]

4

[REDACTED]

5

[REDACTED]

6

[REDACTED]

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[REDACTED]

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[REDACTED]

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[REDACTED]

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[REDACTED]

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[REDACTED]

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 **Q.** [REDACTED]

9 [REDACTED]

10 **A.** [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 **Q.** [REDACTED]

20 **A.** [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 **Q.** [REDACTED]

6 [REDACTED]

7 **A.** [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 **Q.** [REDACTED]

16 [REDACTED]

17 **A.** [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 **Q.** [REDACTED]

16 [REDACTED]

17 **A.** [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

⁴ [[REDACTED]]

1 [REDACTED]

2 [REDACTED]

3 Q. [REDACTED]

4 A. [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 **IV. SOLAR ZONAL RESOURCE CREDITS**

16 **Q. What are Zonal Resource Credits?**

17 **A.** Consumers Energy is a member and market participant of MISO. One of the obligations
18 that Consumers Energy incurs as a result is compliance with MISO's Resource Adequacy
19 requirements. The essence of those requirements is that each load-serving entity in MISO,
20 of which Consumers Energy is one, must annually control sufficient Zonal Resource
21 Credits ("ZRCs") to exceed that load-serving entity's coincident peak demand plus a
22 reserve margin. ZRCs measure in MW the expected amount of power that the load-serving
23 entity can deliver at the time of MISO's peak demand, net of the likelihood of forced

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 outage. There are related requirements that a load-serving entity have sufficient ZRCs to
2 cover its share of the peak demand in the MISO planning zone in which the load-serving
3 entity is located, after allowing for potential power imports.

4 For fossil fuel-based generators that can generally be dispatched as needed, ZRCs generally
5 correspond to the seasonal generator net power capacity reduced by the generator's forced
6 outage rate. For renewable generation resources such as solar, ZRCs measure the expected
7 output of the generation at the time of peak demand net of the output from that generation
8 type. Because of the variable nature of generation from resource-dependent generation
9 such as solar, MISO may also use a calculation referred to as Effective Load-Carrying
10 Capacity ("ELCC"). ELCC is estimated as the amount of perfectly dispatchable generation
11 that would provide the same contribution to loss of load expectation as does the variable
12 resource that is evaluated by the ELCC.

13 **Q. What is the significance of ZRCs in Consumers Energy's Integrated Resource Plan?**

14 A. Although Consumers Energy's PCA includes building certain resources ahead of the date
15 when they are required for Resource Adequacy, the Integrated Resource Plan aims to
16 ensure that Consumers Energy will control enough ZRCs to meet its projected Resource
17 Adequacy obligations.⁵ Similarly, as described in Consumers Energy's IRP Plan presented
18 as Exhibit A-2, the economic selection of resources in its analyses was based on the net

⁵ See for example Blumenstock Revised Direct, pp. 32-35, 46-68, and the Direct Testimony of Sara T. Walz, pp. 14-18, 23-27, 46-50, 66-71.

1 cost of ZRCs after considering the costs and value of energy that would be expected to be
2 produced by each resource under various scenarios and sensitivities.⁶

3 **Q. How did Consumers Energy determine ZRCs for solar resources in developing its**
4 **Integrated Resource Plan?**

5 A. Consumers Energy assumed that the ELCC for solar is 50% of the nominal capacity of a
6 solar generation resource.⁷

7 **Q. How does MISO currently determine ZRCs for solar generation?**

8 A. According to the current MISO Resource Adequacy Business Practices Manual (BP-011-
9 r24), Section 4.2.3.3.2, ZRCs for solar are set at 50% of nominal capacity when a solar
10 facility is put into service but is computed based on actual performance once operating data
11 are available.⁸ ZRCs based on actual performance are computed as average output during
12 the hours 2pm to 5pm ET during the months of June, July, and August, averaged each year
13 over up to three trailing (previous) years.

14 **Q. What ratio of ZRCs to nominal capacity should be expected for a solar generator**
15 **when operational data are available to determine ZRCs?**

16 A. The ratio of ZRCs to nominal capacity depends on the design of the solar generator. Several
17 features of the solar generator can influence this ratio, but the most important are its
18 orientation, ability to track the sun, and the ratio of solar panel capacity to the inverter

⁶ See particularly Section 5 of the IRP Plan, Ex A-2 Revised, pp. 39-49.

⁷ Ex A-2 Revised, p. 34.

⁸ MISO BPM 011 – Resource Adequacy, effective December 15, 2020, available at <https://cdn.misoenergy.org/BPM%20011%20-%20Resource%20Adequacy110405.zip>, last checked October 24, 2021.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 output capacity at the point of interconnection to the grid. Inverter output capacity is used
2 to determine the nominal capacity of a solar facility. The particular features of a solar
3 generator will be chosen by its designer based on economic considerations; a solar system
4 designed to maximize the net value when compensation is based on energy output will
5 differ from one designed to maximize the combined value of energy and ZRCs. However,
6 I generally expect that ZRCs will exceed 50% of the nominal capacity of a solar generator.

7 **Q. What is the basis for your expectation that ZRCs will exceed 50% of the nominal**
8 **capacity of a solar generator?**

9 A. I base this expectation on actual results for existing generators and on solar system
10 modeling results.

11 **Q. Can you provide examples of actual results?**

12 A. In response to a discovery request from GLREA in this case, Consumers provided the ratio
13 of ZRCs to nominal capacity for the solar facilities that Consumers Energy operated in
14 MISO Planning Year (“PY”) 2020.⁹ Consumers had three such facilities for which ZRCs
15 were based on actual performance: GVSU at 56.67%, WMU at 60%, and Circuit West at
16 67%.¹⁰ It should be noted that all of these are fixed ground mount facilities (i.e., they do
17 not track the sun).¹¹

⁹ See Ex MEC-10 (U21090-GLREA-CE-322).

¹⁰ Consumers Energy also claimed ZRCs for their Cadillac facility, which defaulted to 50% of nominal capacity because it lacked operational data in 2020. Consumers Energy incorrectly labels 50% as the class average for solar, which it is not. U21090-GLREA-CE-321.

¹¹ The EARP Solar resources included in Consumers’ response to GLREA as shown in Exhibit MEC-10 are rooftop solar systems on customer premises and are therefore not technically comparable to ground-mount utility-scale solar resources.

1 **Q. Can you also provide modeling results?**

2 A. Yes. I used the National Renewable Energy Laboratory's System Advisor Model ("SAM")
3 Version 2020.11.29, which is the most recent version of a commonly used tool for
4 modeling the performance of solar and other types of generation with user-specified design.
5 I used the SAM PVWatts module based on Typical Meteorological Year data for Grand
6 Rapids MI using default configuration parameters for a 100 MW DC single-axis, zero-tilt
7 utility-scale facility with a DC to AC ratio of 1.3 and nominal capacity of 76.923 MW to
8 simulate expected output. This is reasonably representative of designs for large-scale
9 facilities under power purchase agreements that emphasize energy sales and is not
10 necessarily optimized for capacity value as reflected in ZRCs. The resulting ZRCs are
11 approximately 47.804 MW or more than 62% of nominal capacity.

12 **Q. What are the consequences in Consumers Energy's Integrated Resource Plan of**
13 **understating the ZRCs to be expected from solar generation?**

14 A. First, by understating the ZRCs to be provided by a representative solar resource,
15 Consumers modeled a higher net cost per ZRC for solar than should be expected. In the
16 Company's resource selection modeling, this created a bias against solar as compared to
17 other resources that could have provided ZRCs. Nonetheless, in many of the Company's
18 modeling scenarios and sensitivities, substantial amounts of solar were chosen, indicating
19 that solar was competitive even under the Company's assumptions. It is quite possible,
20 however, that with a more accurate assessment of ZRCs supplied from representative solar
21 facilities, Consumers would have selected more solar and less of another resource.

22 Second, the understatement of ZRCs for a given trajectory of solar development in
23 Consumers Energy's PCA likely resulted in greater capacity needs to be met with other

1 resource types. For example, the PCA calls for Consumers Energy to have approximately
2 3800 MW nominal solar capacity in 2030, credited as about 1900 MW ZRCs. Had those
3 3800 MW nominal solar capacity been credited as providing ZRCs at 62% of nominal
4 capacity rather than 50%, the total ZRCs from solar in 2030 in the PCA would be 2356
5 MW, or 556 ZRCs larger than projected by Consumers.

6 **Q. How should the Commission consider solar ZRCs in its analysis of Consumers’**
7 **Integrated Resource Plan in this case?**

8 **A.** Since Consumers Energy’s understatement of the ZRCs to be expected from solar
9 generation likely led to overstating the cost of ZRCs from solar generation, the
10 Commission should support at least the level of solar resources included in the PCA. Since
11 the understatement of ZRCs from the proposed solar development in the PCA leaves
12 Consumers Energy with an overstated need for ZRCs in 2030 and thereafter, the
13 Commission should be skeptical of Consumers Energy’s proposal to acquire gas generation
14 resources in the near term based on projected capacity needs in 2030 and later.

15 **Q. How does Company witness Clark’s testimony¹² that the ELCC of solar resources**
16 **may change in future relate to the correct attribution of ZRCs in the Integrated**
17 **Resource Plan?**

18 **A.** First, I note that notwithstanding Clark’s testimony, Consumers projected solar ZRCs in
19 its plan and testimony based on the consistent application throughout the planning period
20 of their assumption that solar ZRCs are 50% of nominal solar capacity.

¹² Direct Testimony of Thomas P. Clark, p. 15.

1 Second, the potential decline of solar ELCC that Mr. Clark cites is a decline in the average
2 ELCC of solar as solar penetration increases and saturates energy needs at the times when
3 solar is productive, moving the time when incremental capacity is needed to other times.
4 That process reflects the declining reliability contribution of additional solar generation
5 and not a reduction of the reliability benefits of any earlier increments of solar. Thus, if
6 there is some future change in MISO's assessment of the reliability value of solar, that does
7 not diminish the ZRCs that should be attributed to the solar resources that will be added in
8 the early years of Consumers' PCA.

9 **V. MAXIMUM SOLAR ACQUISITION RATE**

10 **Q. In preparing its Integrated Resource Plan, did Consumers Energy assume a limit to**
11 **the rate at which it could or would acquire solar generation resources?**

12 **A.** Yes. Consumers Energy witness Sara Walz testifies that in the Company's use of the
13 Aurora model to optimize resource selection, there was a constraint of 500 MW nominal
14 solar additions per single year (Walz Direct, p. 64).¹³ Consumers Energy witness Jeffrey
15 Battaglia testifies that Consumers Energy intends to constrain solar development to 500
16 MW, subject to flexibility due to changes to the competitive procurement process discussed
17 by witness Keith Troyer (Battaglia Direct, p. 14). Witness Troyer's discussion of this
18 flexibility indicates that it is to match acquisitions to project sizes offered rather than to
19 acquire materially different quantities of solar in any given year and that deviations from

¹³ This constraint was generally modeled by Consumers such that [

1 the targeted level of acquisition would lead to adjustments in subsequent procurement
2 (Troyer Direct, pp. 36-38).

3 **Q. If Consumers Energy had allowed greater than 500 MW per year to be selected in its**
4 **modeling work, would more have been selected?**

5 **A.** When represented as ZRCs, this constraint appears as the addition of 250 ZRCs per year.
6 Exhibit A-13 demonstrates that in a large portion of modeling runs, this constraint was
7 active – particularly in the 2020s, meaning that 250 ZRCs solar was selected and implying
8 that absent this constraint more solar would have been selected. The Company modeled a
9 variety of assumptions in their various scenarios and sensitivities, so there were some cases
10 in which the amount of solar chosen per year was less than 500 MW nominal or 250 ZRCs.
11 In the final PCA, it is apparent that annual solar additions were generally limited by the
12 lesser of 500 MW per year or the number of ZRCs needed to satisfy Resource Adequacy
13 requirements.

14 **Q. Did you test whether Consumers’ model would have selected more than 500 MW of**
15 **solar without the Company’s planning constraint?**

16 **A.** Yes. At my request, MNS witness George Evans developed one illustrative model run in
17 which he:

- 18 (1) assumed Consumers’ PCA but removed DIG and Kalamazoo Plants;
19 (2) used Consumers’ BAU planning scenario with the CE gas price forecast;
20 (3) used Consumers’ renewable cost assumptions; and
21 (4) removed the constraint that limited the amount of solar that could be built.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 Under these assumptions, the model chose to add approximately 780 MW solar in 2025
2 and did not select any new gas resources (Exhibit MEC-50). Because the modeling as done
3 by Consumers assumed that the PCA from the 2018 IRP is fixed, 2025 is the first year in
4 which this model run could select additional solar resources (Walz Direct, p. 36). Because
5 the modeling as done by Consumers and replicated by Mr. Evans in this illustrative model
6 run only allows the addition of any resource when Consumers has a capacity need relative
7 to assumed Resource Adequacy requirements, the model then made minimal additions until
8 2030 when projected termination of the Midland Cogeneration PPA causes a modeled
9 capacity need. From 2027 through 2030, total additional solar additions totaled 2829 MW,
10 which averages out to a build rate of 707 MW per year.

11 This modeling run is purely illustrative – Mr. Evans did not attempt to calculate an NPV
12 for this modeling run, and I am not suggesting that Consumers should adopt this specific
13 buildout. What this modeling run *does* show, however, is that Consumers’ model would
14 have selected more than 500 MW of solar per year without Consumers’ planning
15 constraint.

16 **Q. Is it feasible for Consumers Energy to acquire more than 500 MW solar per year?**

17 **A.** Yes. Both the amounts of solar in MISO’s Generator Interconnection Queue and the
18 amounts offered to Consumers Energy in response to its Requests for Proposals indicate
19 that significantly more than 500 MW solar per year is available for acquisition by
20 Consumers Energy.¹⁴

¹⁴ In addition, Consumers Energy and the Commission could consider additional methods for solar acquisition, such as entering into Standard Offer Contracts from PURPA Qualifying Facilities (“QFs”) up

1 **Q. What is the relevance of MISO’s Generator Interconnection Queue to the amount of**
2 **solar that Consumers Energy could acquire?**

3 **A.** The MISO interconnection queue represents projects that are in the MISO transmission
4 planning area and that the project developer has requested MISO to study for possible
5 interconnection. These projects are limited to those that will be interconnected to
6 transmission and may therefore not include many smaller projects. These projects will not
7 definitely be built, but are far enough along that the developer is prepared to pay substantial
8 fees for an interconnection study, generally indicating that the developer has or reasonably
9 expects to obtain land control, planning permission, and an offtake or build and transfer
10 agreement. This queue is therefore indicative of the amount of large-scale solar that could
11 be developed in the next few years.

12 **Q. What amount of solar in Michigan is currently active in MISO’s Generator**
13 **Interconnection (“GI”) Queue?**

14 **A.** I obtained data from the MISO Generator Interconnection Interactive Queue about solar
15 projects in Michigan for which interconnection requests are underway or pending and
16 deleted those located in the Upper Peninsula.¹⁵ Projects included range in size from 35 MW
17 to 500 MW with application in-service dates through 2025, but predominantly with
18 application in-service dates through 2023; the interconnection study process schedule

to 5 MW capacity outside of the competitive bidding process. Smaller projects have numerous advantages, such as a less contentious development process due to smaller footprint; lower transaction costs; lower interconnection costs; and greater accessibility for small businesses, people with more modest means, minority-owned businesses, and local investors to participate.

¹⁵ See Ex MEC-11. Data sourced from MISO Interactive Queue, available at https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/gi-interactive-queue/, last checked October 24, 2021.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 would support project applications after the date of this testimony for projects with
2 commercial operation dates in 2024 or 2025. There is a total of 11,323 MW of solar projects
3 located in Michigan's Lower Peninsula in the MISO Generator Interconnection Queue with
4 an application in-service date before the end of 2025, of which 2,260 MW has an
5 application in-service date before the end of 2022, 9,394 MW has an application in-service
6 date before the end of 2023, and 10,444 MW has an application in-service date before the
7 end of 2024.

8 The presence in the MISO Generator Interconnection Queue of 7,134 MW of transmission-
9 connected solar generation in the Lower Peninsula with an application in-service date in
10 2023 is evidence that developers are capable of providing Consumers Energy far more than
11 500 MW additional solar per year. Even if we assume that (i) there will be no non-
12 transmission-interconnected solar, (ii) Consumers Energy can only acquire about 40% of
13 the available solar in the Lower Peninsula, and (iii) project completion will be less than
14 50%, the projects in queue for potential implementation in 2023 would still supply almost
15 1500 MW new solar acquisition to Consumers Energy – about 3 times the 500 MW that
16 Consumers Energy assumes is the limit of its acquisition.

17 **Q. Please summarize Consumers' experience with RFPs for solar generation.**

18 **A.** Consumers witness Keith Troyer describes the results of Consumers' 2019 and 2020 RFPs
19 (Troyer Direct, pp. 33-34).

20 In 2019, Consumers solicited proposals to acquire 300 MW new solar to be installed by
21 2022. Proposals for 34 unique projects totaling nearly 2,000 MW were submitted.
22 Consumers contracted for 290 MW of the capacity offered (Troyer Direct, p. 33).

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 In 2020, Consumers solicited proposals to acquire another 300 MW new solar to be
2 installed by 2023. Proposals for 43 unique projects totaling nearly 2,500 MW were
3 submitted (Troyer Direct p. 34).

4 **Q. What do these RFP results indicate about the supply of additional solar generation**
5 **that Consumers could acquire?**

6 **A.** The fact that the solar capacity that was offered in response to Consumers RFPs was more
7 than six to eight times the quantity that Consumers sought indicates that the Company
8 could have readily acquired more than the 300 MW sought. Indeed, it suggests that
9 Consumers could have acquired well more than 500 MW in each of these solicitations. I
10 further suggest that because solar developers will engage in the development process with
11 some consideration of the likelihood of successfully selling the resulting project or its
12 output, an increase in Consumers' announced rate of acquisition of new solar would also
13 be likely to produce an increase in the amount of new solar development that is undertaken
14 and could be offered to Consumers.

15 **Q. What are the consequences in the Company's Integrated Resource Plan of its**
16 **assumption that it can only acquire 500 MW new solar each year?**

17 **A.** This assumption, unexamined by sensitivity analyses to determine whether more solar
18 would be acquired if it were made available, likely led Consumers to propose less solar
19 resource than it would otherwise have done.

20 **Q. How should the Commission consider the limit of 500 MW new solar per year in this**

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 **case?**

2 **A.** The Commission should consider that there is considerable risk that Consumers Energy's
3 assumption that it cannot acquire more than 500 MW solar per year will become self-
4 fulfilling. Because Consumers made this assumption, the Company's modeling results and
5 PCA were limited to 500 MW new solar capacity per year. On that basis, Consumers
6 proposes to acquire not more than 500 MW solar per year and will therefore not learn
7 whether it could have acquired more than 500 MW on acceptable terms.

8 **Q.** **What action do you recommend the Commission take on this issue?**

9 **A.** I recommend that the Commission require Consumers to solicit proposals and be prepared
10 to acquire well more than 500 MW of new solar in RFPs to be initiated during the three-
11 year period following this Integrated Resource Plan, from 2023 through 2025, for which
12 the Commission can grant cost-recovery. As a useful test of Consumers' assumption about
13 what it can acquire, I recommend that Consumers issue RFPs for up to 750 MW per year.

14 If Consumers finds that the cost of acquiring 750 MW is unreasonable, the Company can
15 present its RFP results to the Commission and decline to acquire more than the 500 MW
16 that are included in the PCA. Since the incremental 250 MW will necessarily be more
17 expensive than the least-costly 500 MW offered in response to an RFP, that incremental
18 cost will not inherently provide justification for acquiring less than 750 MW. Rather,
19 Consumers Energy will need to show that the cost of the incremental 250 MW is greater
20 than the cost of solar assumed by Consumers Energy in the development of this Integrated
21 Resource Plan, or that the additional cost of the incremental 250 MW over the cost of the
22 first 500 MW of solar selected from RFP responses supports deferring that acquisition.

1 If Consumers Energy acquires materially more than 500 MW solar per year through RFPs
2 issued in 2023 and 2024, that can be considered in Consumers Energy's next Integrated
3 Resource Plan, which will presumably be filed in 2024.

4 **VI. SOLAR ACQUISITION PRACTICES**

5 **Q. Please summarize Consumers Energy Company's proposals in this case to change its**
6 **solar acquisition practices.**

7 **A.** As described by Consumers witness Keith Troyer, Consumers proposes several changes to
8 its solar resource procurement practices for IRP resources (Troyer Direct, pp. 36-51.)
9 Consumers Energy proposes changes related to the quantity of solar capacity acquired in
10 each RFP and the timing of Commercial Operation Dates ("COD"); solicitation ownership
11 structure; the term length of Power Purchase Agreements ("PPAs"); and the evaluation of
12 bids.

13 **Q. How does Consumers Energy propose to change the quantity of solar capacity**
14 **acquired in each RFP and the timing of CODs?**

15 **A.** It has apparently been Consumers view that under the settlement agreement for its last
16 Integrated Resource Plan, Consumers was obligated to procure exactly the planned
17 quantity of solar capacity in each solicitation and to award precisely 50% of that amount
18 as PPAs. As a result, Consumers has negotiated modifications to the system size in selected
19 projects to reach precisely the required numbers. In this case, Consumers requests
20 flexibility to adjust procurement in each selection process based on the specific proposals
21 received, and then to reconcile those acquisitions against the cumulative PCA between
22 solicitations. Consumers also proposes flexibility in the division of solar capacity between

1 company-owned (or build and transfer agreements) and PPA projects within each
2 solicitation, to be reconciled over time. Consumers similarly proposes flexibility in the
3 COD required for a given solicitation, to reflect the complexity of aligning procurement
4 schedules and interconnection planning and construction schedules.

5 **Q. What is your assessment of this change proposed by Consumers Energy?**

6 **A.** I agree that Consumers should be afforded some solicitation-by-solicitation flexibility as
7 witness Troyer proposed, with reconciliation and adjustments in future solicitations to
8 follow the plan established in the Integrated Resource Plan. However, I note that with
9 respect to the PCA path to acquire 500 MW solar nominal capacity per year, as noted above
10 I recommend that the Commission direct Consumers to solicit up to 750 MW per year over
11 a three-year period. This 750 MW solicitation is in order to determine whether a higher
12 rate of acquisition is reasonable and prudent and to avoid making self-fulfilling
13 Consumers' assumed limit of 500 MW nominal solar capacity per year. If the Commission
14 adopts this recommendation, then the reconciliation of the PCA would occur with respect
15 to the PCA adopted in the Company's next Integrated Resource Plan revision and not in
16 the interim.

17 **Q. What change in solicitation ownership structure does Consumers Energy propose?**

18 **A.** As described by witness Keith Troyer (Troyer Direct, pp. 40-41), Consumers proposes to
19 change from the settlement terms of its previous Integrated Resource Plan Case No. U-
20 20165, with respect to ownership of solar resources. In U-20165, at least 50% of the
21 capacity acquired through solicitations will be through PPAs and not more than 50% from
22 company-owned or build-and-transfer projects. In this case, the Company proposes to
23 reverse that standard and acquire not more than 50% of capacity through PPAs. The

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 rationale for this proposal is that in previous solicitations, Consumers found it necessary to
2 reduce the size of awarded contracts below the sizes proposed in RFP responses in order
3 to stay within the limit of 300 MW to be acquired in each RFP. For Company-owned
4 projects, the physical project size was reduced, while PPA counterparties were able to sell
5 the remaining output of their projects to other parties rather than scale down the total
6 project size.

7 **Q. What is your assessment of this change in solicitation ownership that Consumers**
8 **proposed?**

9 **A.** If the Commission allows flexibility in the total solar capacity acquired in each solicitation
10 as Consumers proposed and as I supported above, this change in ownership structure will
11 be unnecessary. Consumers will be able to purchase a project that is larger than its precise
12 capacity need in a given solicitation and make adjustments in subsequent solicitations to
13 reflect that “over-acquisition”. It is also relevant that while a PPA supplier has the option
14 to sell a portion of the output of its proposed facility to another purchaser, doing so is not
15 without transaction and coordination costs to that PPA supplier.

16 **Q. What change in PPA term length does Consumers propose?**

17 **A.** Through Mr. Troyer’s testimony, the Company states that it intends to shorten the term
18 length for which it solicits PPAs from 25 years to 15 years or 10 years with options to
19 extend in increments of 5 years (Troyer Direct, pp. 43-45).

20 **Q. What is your assessment of the change in PPA term Consumers proposes?**

21 **A.** This proposal should be rejected. By reducing the period of time during which the owner
22 of a project with a PPA has certainty of a contract by which to recoup investments, the

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 proposal will drive up the prices offered for PPAs. This will lessen competition for projects
2 owned by or built and transferred to Consumers, which will increase costs to customers.

3 Consumers tries to justify this proposal by comparing PPA procurement in the utility and
4 non-utility sectors (Troyer Direct, pp. 44-46), with particular reliance on a Wood
5 Mackenzie study that Consumers commissioned.¹⁶ That study notes that utility PPAs
6 typically have term of 20 years or more, while PPAs where the buyer is a commercial or
7 industrial enterprise typically have a term of 12 to 15 years (Exhibit A-46, p. 6).

8 The fact that commercial customer PPAs often have shorter terms does not justify use of a
9 shorter term by Consumers. The vast majority of commercial PPAs are for facilities located
10 in restructured competitive power markets¹⁷ in which the owner of a facility that reaches
11 the end of a PPA can reasonably expect to sell power at a price determined by market
12 conditions. In contrast, the owner of a project in the Lower Peninsula of Michigan and
13 reaching the end of a PPA would face a monopsonistic market in which the only buyers
14 are utilities that have incentives to own facilities even if it is more costly than a PPA. In
15 sum, Consumers has not justified its proposal to shorten the length of solar PPAs, and the
16 Commission should reject this proposal.

17 **Q. How does Consumers propose to change the evaluation of bids?**

18 **A.** Witness Troyer describes two changes in detail while alluding to a variety of other potential
19 changes (Troyer Direct, pp. 45-48). The two changes Mr. Troyer specifically identifies are

¹⁶ Consumers included this study with its initial filing. See Ex A-46.

¹⁷ See NREL, The Geography of Green Power (2017 Data), available at <https://www.nrel.gov/docs/fy19osti/72432.pdf>, last checked October 24, 2021.

1 a shift from ranking projects based on their net cost per unit of energy and elimination of
2 specific \$/MWh adders for value-added criteria.

3 **Q. What is your assessment of the changes in the evaluation of bids that Consumers**
4 **proposed?**

5 **A.** In support of his argument for changing from ranking projects based on their net cost, Mr.
6 Troyer claims there is uncertainty about net cost due to unspecified “value...based on a
7 volatile commodity” (Troyer Direct, p. 47, line 18). He then argues that the ratio of cost to
8 value is a better measure because the ratio indicates risk associated with such volatility.
9 But Mr. Troyer’s argument does not justify this change. Customers pay for the cost of
10 power, so the value of a power supply option is the difference between the cost of that
11 option and the avoided cost of the next best alternative. This is directly measured by the
12 net cost criterion. Further, Consumers has not shown that when selecting among competing
13 solar generation projects, there is a material difference between the rankings of projects
14 based on net cost and the ranking based on cost-to-value ratio.

15 **Q. What do you recommend that the Commission decide in response to Consumers’**
16 **proposals to change its evaluation of bids in solar procurement?**

17 **A.** The Commission has undertaken a review of competitive procurement practices in docket
18 U-20852, based on thorough stakeholder engagement, and recently issued an Order
19 adopting guidelines proposed by Staff (with minor modifications).¹⁸ The Commission

¹⁸ Case No. U-20852, September 9, 2021, Order.

1 should rely on that work for the time being and reevaluate those guidelines through a
2 subsequent stakeholder process.

3 **Q. What do you recommend that the Commission decide in response to Consumers’**
4 **proposals to change its solar procurement practices?**

5 **A.** The Commission should allow Consumers some flexibility in the total capacity and
6 commercial operation dates of solar projects acquired in each solicitation, while adjusting
7 future solicitations to be consistent with the long-term trajectory of Consumers PCA. The
8 Commission should reject Consumers’ proposal to shift from a minimum of 50% of solar
9 capacity through PPAs to a maximum of 50% of solar capacity through PPAs, and
10 Consumers’ proposal to discriminate against PPAs by changing contract terms. The
11 Commission should rely on its work on competitive selection criteria in Case No. U-20852
12 for the time being and reevaluate those guidelines through a subsequent stakeholder
13 process, rather than accept Consumers’ proposals in this case.¹⁹

14 **VII. RECOVERY METHODOLOGY OF UNRECOVERED BOOK BALANCES FOR**
15 **RETIRING PLANT**

16 **Q. Please summarize the Company’s proposal regarding the unrecovered book balances**
17 **of the plant it proposes to retire in this case.**

18 **A.** In this case, Consumers proposes to retire several generating units earlier than previously
19 planned. These include Karn 3, Karn 4, Campbell 1, Campbell 2, and Campbell 3. As a
20 result, Consumers currently projects that there will be unrecovered book balances for these
21 plants at the time of their retirement. Consumers projects that the remaining unrecovered

¹⁹ *Id.*

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 book balances for these plants at December 31, 2022 will be approximately \$1.5 billion.
2 (Maddipati Direct, p. 11)

3 Understandably, Consumers is loath to retire these plants without assured recovery of the
4 associated unrecovered book balances. As such, Consumers proposes to move the
5 remaining balances to a regulatory asset and recover this asset through “traditional
6 ratemaking” over the prior planned remaining life of the units. (Maddipati Direct, p. 8). In
7 essence, Consumers would continue to receive through rate revenue the same allowances
8 for depreciation and pre-tax weighted average cost of capital (including ROE) on these
9 book balances that Consumers would have received had these plants remained in service.

10 **Q. Do you recommend that the Commission authorize Consumers to establish a**
11 **regulatory asset for the remaining book balance of these plants, assuming that the**
12 **Commission agrees that their retirement should be accelerated earlier than under**
13 **previous plans?**

14 **A.** Yes. Although I might have reached different conclusions than the Commission in past
15 proceedings, the Commission did authorize Consumers’ investments in these plants and
16 the depreciation rates by which the Company has been amortizing the resulting book
17 values. It is reasonable for Consumers to expect recovery of its unamortized investments
18 in these plants.

19 **Q. Do you agree that the Commission should authorize Consumers to recover the**
20 **proposed regulatory asset through traditional ratemaking?**

21 **A.** No.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 I agree with Consumers that significantly accelerated recovery of the proposed regulatory
2 asset would cause undesirable rate increases (Maddipati Direct, pp. 8-9). I also agree with
3 Consumers that the Commission should not adopt reduced returns on such a regulatory
4 asset, thereby materially impairing Consumers' return on capital. (Maddipati Direct, pp. 8-
5 9). However, contrary to Consumers' proposal (Maddipati Direct, pp. 11-16), I recommend
6 that the Commission order Consumers to file a securitization request not later than March
7 1, 2023 for the expected remaining net book value of such plants as the Commission
8 approves to retire.

9 **Q. Why should the Commission order Consumers to file a securitization request for the**
10 **remaining book value of the retiring plant?**

11 **A.** The potential savings for Consumers' customers are considerable. In recent Case No. U-
12 20889, the Commission authorized securitization of \$691.2 million remaining book value
13 of Karn 1 and Karn 2 in conjunction with their upcoming retirement in 2023.²⁰ Upon filing,
14 Consumers estimated that the net present value of securitization payments would be \$565.2
15 million, for a net savings to customers of \$126.0 million (Exhibit MEC-11, U-20889
16 Exhibit A-9). Assuming that the comparative cost of securitization and "traditional
17 ratemaking" is similar in this case as in U-20889, the net present value of savings to
18 customers would be approximately \$273 million.²¹

²⁰ Case No. U-20889, December 17, 2020, Order.

²¹ This value was calculated as the \$126.0 million net savings to customers for securitization of \$691.2 million as documented in U-20889 Exhibit A-9 (Ex MEC-11), scaled to the securitization of \$1.5 billion that I recommend in this case.

1 **Q. What is Consumers' position regarding securitization in this case?**

2 **A.** Consumers opposes securitization (Maddipati Direct, p. 15), arguing that securitization
3 bonds are considered as part of the Company's balance sheet and negatively impact the
4 Company's credit ratings (Maddipati Direct, p. 14). Consumers further argues that if
5 securitization is used as the method of recovery, then securitization debt should be
6 considered in calculating the Company's regulatory capital structure, providing for an
7 increase in equity relative to non-securitization debt. (Maddipati Direct, p. 16)

8 **Q. If Consumers' proposal to consider securitization debt in establishing the Company's**
9 **regulatory capital structure was adopted, would you nonetheless recommend that the**
10 **Commission order Consumers to request securitization of the remaining book value**
11 **of the plants to be retired?**

12 **A.** Yes. Analysis during the securitization case would determine whether securitization is
13 beneficial under these terms. The Commission would also be free to reject securitization
14 in that case and instead allow "traditional ratemaking" to apply to the regulatory asset that
15 would result from the proposed retirements.

16 My expectation is that even if the Commission adopted Consumers' view on the inclusion
17 of securitization debt in its regulatory debt structure, securitization would nonetheless
18 provide savings to customers.

19 **Q. Do you agree that securitization bonds should be considered as debt in Consumers'**
20 **regulatory capital structure?**

21 **A.** Likely not, and certainly not as equivalent to corporate debt. Over much of the repayment
22 period for the securitization bonds, the cash flow requirements of securitization bonds will

1 generally be less than the costs of comparable corporate debt. In the event of bankruptcy,
2 securitization bond holders would not compete with corporate debt holders for a share of
3 available value. It would therefore be inappropriate to consider securitization debt as
4 equivalent to corporate bonds of comparable face value.

5 **Q. Mr. Maddipati cites Moody's *Corporate Methodology for Electric Gas and Utilities* as**
6 **an authority that securitization bonds should be considered as being on-credit debt.**
7 **On what basis do you disagree?**

8 **A.** In the passage from Moody's *Methodology* that Mr. Maddipati cites (Maddipati Direct, p.
9 14), the reason given for that view is that "in part because the ratings associated with it
10 reduce the utility's headroom to increase rates for other purposes...". However, when the
11 alternative is application of "traditional ratemaking" to a regulatory asset of the same initial
12 size, the higher cost of the "traditional ratemaking" approach will leave even less headroom
13 to increase rates for other purposes. Moody's rationale does not apply to the circumstances
14 of this case.

15 **Q. Are there other factors regarding Consumers' finances that the Commission should**
16 **consider in this case?**

17 **A.** Yes. Even if the Commission requires securitization of the net book value of the retiring
18 plants in this case, Consumers will still enjoy a substantial financial benefit from approval
19 of the PCA. Securitization would reduce rate base by approximately \$1.5 billion. This
20 would be offset by contemporaneous additions to rate base of approximately \$1.345 billion
21 through the proposed purchase of gas plants, and \$33.451 million for DR and CVR
22 (Blumenstock Revised Direct, pp. 89-91). The Company would then add significant solar
23 to rate base after 2025.

1 In the case of the proposed purchase of the DIG, Kalamazoo, and Livingston plants that
2 Consumers Energy proposes to acquire from its affiliate CMS Enterprises, the investment
3 required by Consumers Energy to purchase these plants could be financed by their parent
4 corporation using the proceeds to CMS Enterprises, so no incremental financing is
5 required.²² Further, because this is a transaction between willing seller and willing buyer,
6 the Commission should presume that this transaction is profitable for CMS or that it
7 provides a material risk reduction by moving these assets from an unregulated to a
8 regulated business. The Commission should take Consumers Energy's concerns about its
9 balance sheet (Maddipati Direct, p. 17) with "a grain of salt".

10 **VIII. PPA FINANCIAL INCENTIVES**

11 **Q. Consumers proposes to change the amount of financial incentive that it would receive**
12 **for acquiring power through a PPA rather than utility ownership of generation.**
13 **Please summarize the change it proposes.**

14 **A.** Consumers' proposal to change PPA financial incentives is presented by witness Maddipati
15 (Maddipati Direct, pp. 3-8). Although he presents a number of arguments that Consumers
16 deserves even greater compensation for PPAs, he proposes to increase the PPA financial
17 incentive approved by the Commission when it approved settlement of Case No. U-20165
18 to a larger amount in this case. In Case No. U-20165, the financial incentive agreed on in
19 settlement was set as the product of PPA payments made and Consumers' then after-tax

²² The amount paid for these plants would be added to Consumers Energy's invested capital and would be received by CMS Enterprises. The funds supplied to CMS Enterprises by this transaction can accrue to CMS Energy Corporation, which can then invest those funds in Consumers Energy to fund the purchase of these plants.

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 weighted average cost of capital of 5.88% based on its total capital structure.²³ In this case,
2 Consumers proposes to increase the financial incentive to obtain power through PPAs to
3 the product of PPA payments made and Consumers' pre-tax weighted average cost of
4 capital using its permanent capital structure, which Mr. Maddipati asserts is currently
5 8.64% (Maddipati Direct, p. 6). He is thereby asking the Commission to make two
6 decisions that increase the financial incentive for Consumers to use PPAs: (1) use pre-tax
7 rather than after-tax cost of capital, and (2) weight cost of capital based on permanent rather
8 than total capital structure.

9 **Q. What is your view of Consumers' proposal?**

10 **A.** The Commission should reject this proposal because approving it would either exceed the
11 Commission's authority or require a misinterpretation of the law. It is also not warranted
12 by the arguments Consumers advances that the company deserves higher compensation.

13 **Q. What is the legal basis for a PPA financial incentive?**

14 **A.** 2016 PA 341 provides in part that:

15 "For power purchase agreements that a utility enters into after the effective
16 date of the amendatory act that added this section with an entity that is not
17 affiliated with that utility, the commission shall consider and may authorize
18 a financial incentive for that utility that does not exceed the utility's
19 weighted average cost of capital."²⁴

20 In U-20165, I and others argued that this provision should be interpreted as allowing an
21 incentive calculated as a multiple of PPA payments made. That is the interpretation that
22 was embodied in the settlement of U-20165 and has since been applied by the Commission

²³ Case No. U-20165, June 7, 2019, Order Approving Settlement Agreement.

²⁴ MCL 460.6t(15).

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 in approving a settlement of UPPCO’s Integrated Resource Plan in U-20350 and in
2 adjudicating the PPA financial incentives related to DTE Electric’s Voluntary Green Power
3 Plan in U-20713 and related changes to DTE Electric’s Renewable Energy Plan in U-
4 20851.²⁵ While witness Maddipati asserts that he still believes that the Company should be
5 compensated for PPAs on the basis of imputed debt (Maddipati Direct, p. 6), Consumers
6 appears to have accepted this interpretation at least for purposes of this case.

7 **Q. What must the Commission decide regarding the interpretation of 2016 PA 341 in**
8 **this case?**

9 **A.** The Commission must decide whether to interpret “the utility’s average weighted cost of
10 capital” as being (1) pre-tax and (2) based on “permanent capital” rather than “total capital”

11 **Q. How should the Commission approach this question?**

12 **A.** I recommend that the Commission use the meaning that the Commission ordinarily assigns
13 to the phrase “weighted average cost of capital”.

14 In Consumers’ current rate case U-20963, Exhibit A-4 Schedule D-1 displays the
15 authorized rate of return summary for the historical year and Exhibit A-14 Schedule D-1
16 displays Consumers Energy’s proposed rate of return summary.²⁶ In both cases, weighted
17 cost of capital is computed only on the total capital structure and not on the permanent

²⁵ Case No. U-20350, February 6, 2020, Order Approving Settlement Agreement; Case No. U-20851, June 9, 2021, Order.

²⁶ Ex MEC-13 (Case No. U-20963, Ex A-4 Schedule D-1); Ex MEC-14 (Case No. U-20963, Ex A-14, Schedule D-1).

1 capital structure. It seems apparent that the ordinary meaning of weighted average cost of
2 capital is based on total capital structure.

3 Similarly, in both cases the Exhibits display a column titled “weighted cost” that is the
4 calculation of after-tax weighted cost of capital and then show the calculation of a column
5 titled “Pre-Tax Return.” Again, it seems apparent that the ordinary meaning of weighted
6 average cost of capital is the after-tax return.

7 **Q. On what rationale does Consumers assert that it should receive more generous PPA**
8 **incentives?**

9 **A.** Witness Maddipati presents arguments that PPAs:

- 10 • have financial characteristics similar to long-term debt and therefore require support of
11 additional equity to balance this “imputed debt”;
- 12 • would not be possible without reliance on utility equity capital; and
- 13 • impact the Company’s ability to attract capital.

14 **Q. Do PPAs have financial characteristics similar to long-term debt and therefore**
15 **require support of additional equity?**

16 **A.** Witness Maddipati argues that because a PPA obligates the Company to purchase energy
17 and capacity over an extended period of time at a pre-determined price, it is similar to long-
18 term debt. He then asserts that financial analysts view that obligation as reducing financial
19 flexibility and increasing risk, hence requiring that the Company have additional equity to
20 offset that financial risk (Maddipati Direct, p. 4).

21 Maddipati’s analysis is incomplete. Under Michigan law (MCL 460.6j), the costs of
22 purchased power and capacity are recovered from customers through annual power supply

1 cost recovery proceedings. Good utility practice would include PPA provisions providing
2 Consumers Energy a “regulatory out” of the PPA contract if the Commission denied cost
3 recovery.²⁷ Thus, the utility obligation to pay a PPA counterparty is exactly offset by
4 revenue and there is not a material risk to the utility’s debt or equity holders.

5 **Q. Are PPAs reliant on utility equity capital?**

6 **A.** Witness Maddipati next argues that PPA providers would not be able to raise capital on
7 favorable terms but for the PPA with a creditworthy utility. On that basis, he argues that
8 PPAs use the Company’s equity capital (Maddipati Direct, pp. 4-5).

9 Again, Maddipati’s analysis is incomplete. Independent power producers are able to invest
10 in generation in restructured markets without PPAs, based on expected revenue from
11 market sales. The principal reason that a power producer in Consumers’ service territory
12 requires a PPA in order to invest is due to the monopsony that Consumers holds for
13 acquiring power to be delivered to Consumers’ customers. That monopsony is established
14 by law and Consumers is compensated for its investments through the regulatory process.
15 It is less the case that PPAs are reliant on utility equity capital than that a PPA is a necessary
16 defense against monopsony.

²⁷ See, for example Section 7.4 of Consumers Energy’s Standard Offer Contract for PURPA QFs, available at <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t00000030vzMAAQ>, last checked October 24, 2021.

1 **Q. Do PPAs impact Consumers Energy's ability to attract capital?**

2 **A.** Witness Maddipati makes this claim, building on his earlier argument that PPAs are reliant
3 on utility equity capital, and offers the analogy of co-signing a loan. However, he offers no
4 evidence that PPAs affect the ability to attract capital (Maddipati Direct, p. 5).

5 If this claim is correct, the result should be that the Company's actual cost of debt and cost
6 of equity should increase, which should then be discernable in the Company's cost of
7 capital. It would not be discernable as caused by PPAs but as lender and investor response
8 to the Company's total circumstances. The appropriate way to deal with this claim is not
9 to increase PPA incentive revenue but to determine the Company's cost of capital in rate
10 cases.

11 **Q. Does Consumers Energy propose a specific rationale for basing the PPA financial**
12 **incentive on permanent capital rather than total capital?**

13 **A.** Witness Maddipati argues that PPA expenses would not generate any substantial deferred
14 taxes and that the cost of capital should therefore be based on permanent capital structure
15 (Maddipati Direct, pp. 6-7).

16 This argument is founded in the idea advocated by Maddipati that the PPA Incentive is
17 compensation for Company imputed investment. It is not. It is simply an incentive.

18 **Q. Does Consumers Energy propose a specific rationale for basing the PPA financial**
19 **incentive on pre-tax cost of capital?**

20 **A.** Witness Maddipati argues that because the Company will pay taxes on income received
21 from PPA incentives, that incentive should be based on the pre-tax required return so that
22 the net incentive will be the weighted average cost of capital. (Maddipati Direct, p. 7).

1 The statutory authorization for the Commission to provide PPA incentive revenue does not
2 provide a basis for the Company to expect net earnings equal to its weighted average cost
3 of capital. It caps the incentive at the weighted average cost of capital.

4 **Q. How do you recommend that the Commission respond to Consumers' proposals to**
5 **modify the previously agreed-upon PPA incentive mechanism?**

6 **A.** I recommend that the Commission reject this request. Consumers' rationale for their
7 request is, at best, based on the incorrect notion that the PPA incentive mechanism is
8 compensation for financing requirements that it incorrectly imputes to the use of PPAs. If
9 PPAs do impose any financial burden on the Company, that burden should be reflected in
10 its actual cost of real capital and can be dealt with in rate cases.

11 **IX. RECOMMENDATIONS**

12 **Q. Please summarize your conclusions and recommendations to the Commission.**

13 **A.** On behalf of MNSC, I recommend that the Commission:

14 (1) When considering Consumers' proposal to purchase the DIG Plant, consider the risk
15 that [[REDACTED]

16 [REDACTED]

17 [REDACTED]];

18 (2) When considering Consumers' Proposed Course of Action, recognize that Consumers
19 has materially understated the ZRCs that will accrue to planned solar resources, making
20 other sources of ZRCs like the acquisition of gas plants less justified;

21 (3) If significant solar resources are included in an approved course of action, direct
22 Consumers to solicit more than 500 MW of solar capacity (750 MW for example) in each
23 of 2023, 2024, and 2025 subject to a determination of reasonableness of amounts to be

DIRECT TESTIMONY OF DOUGLAS JESTER
U-21090

1 acquired in excess of 500 MW in each of those solicitations, with adjustments to the PCA
2 as needed in Consumers' next IRP;

3 (4) Respond to Consumers' proposals to change solar acquisition practices by:

4 (a) authorizing some flexibility in the quantity and commercial operation dates of
5 solar resources to be acquired in each solicitation and the shares of the acquisition
6 between PPAs and Company-owned resources, to be reconciled with the PCA in
7 subsequent solicitations;

8 (b) reject Consumers' request to shift from acquiring at least 50% of solar capacity
9 through PPAs to acquiring at least 50% of solar capacity as company-owned
10 resources;

11 (c) reject Consumers' proposal to use systematically short PPA terms; and

12 (d) require Consumers to use procurement practices consistent with the
13 Commission Order in Case No. U-20852;

14 (5) Authorize Consumers to establish a regulatory asset for the unrecovered book balances
15 of retiring generating plants but require Consumers to request securitization of those costs;
16 and

17 (6) Reject Consumers' proposal to change the PPA incentive mechanism approved in the
18 settlement agreement for Case No. U-20165.

19 **Q. Does that complete your testimony?**

20 **A. Yes.**

Douglas B. Jester

Personal Information

Contact Information:

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Professional experience

January 2011 – present

5 Lakes Energy

Partner

Co-owner of a consulting firm working to advance the clean energy economy in Michigan and beyond. Consulting engagements with foundations, startups, and large mature businesses have included work on public policy, business strategy, market development, technology collaboration, project finance, and export development concerning energy efficiency, smart grid, renewable generation, electric vehicle infrastructure, and utility regulation and rate design. Policy director for renewable energy ballot initiative and Michigan energy legislation advocacy. Supported startup of the Energy Innovation Business Council, a trade association of clean energy businesses. Expert witness in electric utility regulation cases. Developed integrated resource planning models for use in ten states' compliance with the Clean Power Plan.

February 2010 - December 2010

Michigan Department of Energy, Labor and Economic Growth

Senior Energy Policy Advisor

Advisor to the Chief Energy Officer of the State of Michigan with primary focus on institutionalizing energy efficiency and renewable energy strategies and policies and developing clean energy businesses in Michigan. Provided several policy analyses concerning utility regulation, grid-integrated storage, performance contracting, feed-in tariffs, and low-income energy efficiency and assistance. Participated in Pluggable Electric Vehicle Task Force, Smart Grid Collaborative, Michigan Prosperity Initiative, and Green Partnership Team. Managed development of social-media-based community for energy practitioners. Organized conference on Biomass Waste to Energy.

August 2008 - February 2010

Rose International

Business Development Consultant - Smart Grid

- Employed by Verizon Business' exclusive external staffing agency for the purpose of providing business and solution development consultation services to Verizon Business in the areas of Smart Grid services and transportation management services.

December 2007 - March 2010 Efficient Printers Inc

President/Co-Owner

- Co-founder and co-owner with Keith Carlson of a corporation formed for the purpose of acquiring J A Thomas Company, a sole proprietorship owned by Keith Carlson. Recognized as Sacramento County (California) 2008 Supplier of the Year and Washoe County (Nevada) Association for Retarded Citizens 2008 Employer of the Year. Business operations discontinued by asset sale to focus on associated printing software services of IT Services Corporation.

August 2007 - 2015 IT Services Corporation

President/Owner

- Founder, co-owner, and President of a startup business intended to provide advanced IT consulting services and to acquire or develop managed services in selected niches, currently focused on developing e-commerce solutions for commercial printing with software-as-a-service.

2004 – August 2007 Automated License Systems

Chief Technology Officer

- Member of four-person executive team and member of board of directors of a privately-held corporation specializing in automated systems for the sale of hunting and fishing licenses, park campground reservations, and in automated background check systems. Executive responsible for project management, network and data center operations, software and product development. Brought company through mezzanine financing and sold it to Active Networks.

2000 - 2004 WorldCom/MCI

Director, Government Application Solutions

- Executive responsible in various combinations for line of business sales, state and local government product marketing, project management, network and data center operations, software and product development, and contact center operations for specialized government process outsourcing business. Principal lines of business were vehicle emissions testing, firearm background checks, automated hunting and fishing license systems, automated appointment scheduling, and managed application hosting services. Also responsible for managing order entry, tracking, and service support systems for numerous large federal telecommunications contracts such as the US Post Office, Federal Aviation Administration, and Navy-Marine Corps Intranet.
- Increased annual line-of-business revenue from \$64 million to \$93 million, improved EBITDA from approximately 2% to 27%, and retained all customers, in context of corporate scandal and bankruptcy.
- Repeatedly evaluated in top 10% of company executive management on annual performance evaluations.

1999-2000 Compuware Corporation

Senior Project Manager

- Senior project manager, on customer site with five project managers and team of approximately 80, to migrate a major dental insurer from a mainframe environment to internet-enabled client-server environment.

1995 - 1999 City of East Lansing, Michigan

Mayor and Councilmember

- Elected chief executive of the City of East Lansing, a sophisticated city of 52,000 residents with a council-manager government employing about 350 staff and with an annual budget of about \$47 million. Major accomplishments included incorporation of public asset depreciation into budgets with consequent improvements in public facilities and services, complete rewrite and modernization of city charter, greatly intensified cooperation between the City of East Lansing and the East Lansing Public Schools, significant increases in recreational facilities and services, major revisions to housing code, initiation of revision of the City Master Plan, facilitation of the merger of the Capital Area Transportation Authority and Michigan State University bus systems, initiation of a major downtown redevelopment project, City government efficiency improvements, and numerous other policy initiatives. Member of Michigan Municipal League policy committee on Transportation and Environment and principal writer of league policy on these subjects (still substantially unchanged as of 2009).

1995-1999 Michigan Department of Natural Resources

Chief Information Officer

- Executive responsibility for end-user computing, data center operations, wide area network, local area network, telephony, public safety radio, videoconferencing, application development and support, Y2K readiness for Departments of Natural Resources and Environmental Quality. Directed staff of about 110. Member of MERIT Affiliates Board and of the Great Lakes Commission's Great Lakes Information Network (GLIN) Board.

1990-1995 Michigan Department of Natural Resources

Senior Fisheries Manager

- Responsible for coordinating management of Michigan's Great Lakes fisheries worth about \$4 billion per year including fish stocking and sport and commercial fishing regulation decisions, fishery monitoring and research programs, information systems development, market and economic analyses, litigation, legislative analysis and negotiation. University relations. Extensive involvement in regulation of steam electric and hydroelectric power plants.
- Served as agency expert on natural resource damage assessment, for all resources and causes.
- Considerable involvement with Great Lakes Fishery Commission, including:
 - Co-chair of Strategic Great Lakes Fishery Management Plan working group

- Member of Lake Erie and Lake St. Clair Committees
- Chair, Council of Lake Committees
- Member, Sea Lamprey Control Advisory Committee
- St Clair and Detroit River Areas of Concern Planning Committees

1989-1990 American Fisheries Society

Editor, North American Journal of Fisheries Management

- Full responsibility for publication of one of the premier academic journals in natural resource management.

1984 - 1989 Michigan Department of Natural Resources

Fisheries Administrator

- Assistant to Chief of Fisheries, responsible for strategic planning, budgets, personnel management, public relations, market and economic analysis, and information systems. Department of Natural Resources representative to Governor's Cabinet Council on Economic Development. Extensive involvement in regulation of steam electric and hydroelectric power plants.

1983-present Michigan State University

Adjunct Instructor

- Irregular lecturer in various undergraduate and graduate fisheries and wildlife courses and informal graduate student research advisor in fisheries and wildlife and in parks and recreation marketing.

1977 – 1984 Michigan Department of Natural Resources

Fisheries Research Biologist

- Simulation modeling & policy analysis of Great Lakes ecosystems. Development of problem-oriented management records system and "epidemiological" approaches to managing inland fisheries.
- Modeling and valuation of impacts of power plants on natural resources and recreation.

Education

1991-1995 Michigan State University

PhD Candidate, Environmental Economics

Coursework completed, dissertation not pursued due to decision to pursue different career direction.

1980-1981 University of British Columbia

Non-degree Program, Institute of Animal Resource Ecology

1974-1977 Virginia Polytechnic Institute & State University

MS Fisheries and Wildlife Sciences

MS Statistics and Operations Research

1971-1974 New Mexico State University

BIS Mathematics, Computer Science, Biology, and Fine Arts

**Citizenship and
Community
Involvement**

Youth Soccer Coach, East Lansing Soccer League, 1987-89

Co-organizer, East Lansing Community Unity, 1992-1993

Bailey Community Association Board, 1993-1995

East Lansing Commission on the Environment, 1993-1995

East Lansing Street Lighting Advisory Committee, 1994

Councilmember, City of East Lansing, 1995-1999

Mayor, City of East Lansing, 1995-1997

East Lansing Downtown Development Authority Board Member, 1995-1999

East Lansing Transportation Commission, 1999-2004

East Lansing Non-Profit Housing and Neighborhood Services Corporation Board Member, 2001-2004

Lansing – East Lansing Smart Zone Board of Directors, 2007-2017

Council on Labor and Economic Growth, State of Michigan, by appointment of the Governor, May 2009 – May 2012

East Lansing Downtown Development Authority Board Member and Vice-Chair, 2010 – 2018.

East Lansing Brownfield Authority Board Member and Vice-Chair, 2010 – 2018.

East Lansing Downtown Management Board and Chair, 2010 – 2016

East Lansing City Center Condominium Association Board Member, 2015 – present.

City of East Lansing Advisory Commissioner to the Lansing Board of Water and Light, 2017 – present.

State of Michigan UP Energy Task Force, 2019-present, appointed by Governor Whitmer.

MEC-2C

CONFIDENTIAL EXHIBIT

Ex: MEC-3C | Source: MEC-CE-088_ATS_1 CONFIDENTIAL Attachment (DIG_NPDES_ThermalLoading Limit Issues_052821_Update)

MEC-3C

CONFIDENTIAL EXHIBIT

Ex: MEC-4C | Source: MEC-CE-088_ATS_1 CONFIDENTIAL Attachment (CWE_ExecutiveSummary)

MEC-4C

CONFIDENTIAL EXHIBIT

MEC-5C

CONFIDENTIAL EXHIBIT

Ex: MEC-6C | Source: MEC-CE-088_ATS_1 CONFIDENTIAL Attachment (0490.0030 DIG Thermal Load Reduction Cost Estimate_Rev A)

MEC-6C

CONFIDENTIAL EXHIBIT

Ex: MEC-7C | Source: MEC-CE-088_ATS_1 CONFIDENTIAL Attachment (DIG Cost Estimate REV B))

MEC-7C

CONFIDENTIAL EXHIBIT

MEC-8C

CONFIDENTIAL EXHIBIT

MEC-9C

CONFIDENTIAL EXHIBIT

Question:

6. Please confirm and admit that the IRP modeling uses an ELCC of 50% of nameplate capacity when determining the capacity contribution of all existing and proposed future solar generation facilities in all years, except in the case of the solar ELCC sensitivity study. If this is not admitted, detail what other ELCC was used, for which facilities and in which years?

Response:

Proposed future solar resources use an ELCC of 50% in all years, except in the case of the solar ELCC sensitivity.

Capacity credit for solar is determined per the MISO Resource Adequacy Business Practice Manual:

“Non-wind powered Intermittent Generation and Dispatchable Intermittent Resources that are new, upgraded or returning from extended outages and that do not have 30 consecutive days of operation data will have their annual Total UCAP value determined based on class-average capacity credit.”;

“For existing Solar Resources, the Total Unforced Capacity (UCAP) is determined by the historical average output of the resource during the Summer months (June, July, and August) for the hours ending 15, 16, 17 EST. Existing Run-of-River resources can submit up to 15 years of similar Summer data, with Total UCAP determined by the median of that data.”

Existing solar resources receiving a capacity credit other than 50% are:

<u>Resource</u>	<u>Nameplate MW</u>	<u>ELCC (all years)</u>
Circuit West	0.5	67%
GVSU Solar Garden	3.0	57%
WMU Solar Garden	1.0	60%
EARP Solar (Expansion)	4.8	35%
EARP Solar (Original)	2.5	35%
Heritage Garden Wind Farm I, LLC (Solar Portion)	0.9	18%



Sara T Walz
October 8, 2021

Project #	Status	Queue Date	Appl In Service Date	Transmission Owner	County	State	Study Cycle	Study Group	Study Phase	Service Type	POI Name	Summer MW	Winter MW	Fuel	Generating Facility	Post GIA Status	Negotiated In Service Date	Decision Point 1 ERIS MW	Decision Point 1 NRIS MW	Decision Point 2 ERIS MW	Decision Point 2 NRIS MW	Cumulative Summer MW
J1320	Active	4/29/2019	4/20/2019	Michigan Electric Transmission Company, LLC	Branch County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Coldwater - Batavia 138kV Line	150	150	Solar	PV Photovoltaic	Not Started		150	150	0	0	150
J1192	Active	3/25/2019	7/1/2021	Michigan Electric Transmission Company, LLC	Eaton County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Oneida 138kV Substation	35	35	Solar	PV Photovoltaic	Not Started		35	35	0	0	185
J1248	Active	4/29/2019	8/1/2021	Michigan Electric Transmission Company, LLC	Calhoun County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Marshall - Black Stone 138 kv line	100	100	Solar	PV Photovoltaic	Not Started		100	100	0	0	285
J1297	Active	4/29/2019	12/1/2021	Michigan Electric Transmission Company, LLC	Shiawassee County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Cornell - Bell Road 138 kv Line	170	170	Solar	PV Photovoltaic	Not Started		170	170	0	0	455
J1399	Active	4/29/2019	12/1/2021	Michigan Electric Transmission Company, LLC	Ingham County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Deli - Churchill - Tompkins 138kV Line	90	90	Solar	PV Photovoltaic	Not Started		90	90	0	0	545
J1401	Active	4/29/2019	12/1/2021	Michigan Electric Transmission Company, LLC	Branch County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Batavia - Wagner 138kV Line	150	150	Solar	PV Photovoltaic	Not Started		150	150	0	0	695
J1350	Active	4/29/2019	4/20/2022	Michigan Electric Transmission Company, LLC	Monroe County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Milan 46" Monroe 46" Morocco 345 kv Point	150	150	Solar	PV Photovoltaic	Not Started		150	150	0	0	845
J1203	Active	4/25/2019	6/1/2022	Michigan Electric Transmission Company, LLC	Genesee County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Theford 345kV Substation	125	125	Solar	PV Photovoltaic	Not Started		125	125	0	0	970
J1331	Active	4/29/2019	6/30/2022	ITC Transmission	St. Clair County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Greenwood 120 kv Substation	100	100	Solar	PV Photovoltaic	Not Started		100	100	0	0	1190
J1389	Active	4/29/2019	8/1/2022	Michigan Electric Transmission Company, LLC	Saginaw County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Murphy Station - Nelson Road 345 kv Line Tap	120	120	Solar	PV Photovoltaic	Not Started		120	120	0	0	1190
J1430	Active	4/29/2019	8/1/2022	Michigan Electric Transmission Company, LLC	Calhoun County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Verona - Foundary 138kV Line	100	100	Solar	PV Photovoltaic	Not Started		100	100	0	0	1290
J1472	Active	4/29/2019	8/1/2022	Michigan Electric Transmission Company, LLC	Jackson County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Leoni - Parr Road 138kV Line	100	100	Solar	PV Photovoltaic	Not Started		100	100	0	0	1390
J1196	Active	4/25/2019	8/29/2022	ITC Transmission	Sanilac County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Greenwood - Rapson (Banner) 345 kv Line Tap	200	200	Solar	PV Photovoltaic	Not Started		200	200	0	0	1590
J1224	Active	4/27/2019	10/30/2022	ITC Transmission	Washtenaw County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Majestic - Milan 345 kv Line Tap	170	170	Solar	PV Photovoltaic	Not Started		170	170	0	0	1760
J1255	Active	4/29/2019	10/30/2022	Michigan Electric Transmission Company, LLC	Ionia County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Marquette - Vergennes 138 kv Line Tap	200	200	Solar	PV Photovoltaic	Not Started		100	100	0	0	1960
J1307	Active	4/29/2019	12/1/2022	Michigan Electric Transmission Company, LLC	Eaton County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Oneida - Battle Creek 345kV Line	150	150	Solar	PV Photovoltaic	Not Started		150	150	0	0	2110
J1589	Active	6/25/2020	12/15/2022	Michigan Electric Transmission Company LLC	Clinton	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Hubbardston - Tech Drive 138kV	150	150	Solar	Photovoltaic	Not Started		0	0	0	0	2260
J1527	Active	6/25/2020	4/1/2023	Michigan Electric Transmission Company LLC	Ottawa	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Kenowa 345kV	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	2460
J1310	Active	4/29/2019	6/30/2023	Michigan Electric Transmission Company, LLC	Jackson County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Blackstone - Marshall 138 kv Line	125	125	Solar	PV Photovoltaic	Not Started		125	125	0	0	2585
J1463	Active	4/29/2019	9/1/2023	Michigan Electric Transmission Company, LLC	Ionia County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Marquette 138 kv Substation	200	200	Solar	PV Photovoltaic	Not Started		200	200	0	0	2785
J1552	Active	6/25/2020	9/1/2023	Michigan Electric Transmission Company LLC	Jackson	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Blackstone to Marshall 138kV (J1310 POI)	100	100	Solar	Photovoltaic	Not Started		0	0	0	0	2885
J1587	Active	6/25/2020	9/1/2023	ITC Transmission	Muskegon	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Du Pont to Cobb 138 kv (J1375 POI)	100	100	Solar	Photovoltaic	Not Started		0	0	0	0	2985
J1609	Active	6/25/2020	9/1/2023	Consumers Energy Company	St. Joseph	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Simpson 138kV	125	125	Solar	Photovoltaic	Not Started		0	0	0	0	3110
J1654	Active	6/25/2020	9/1/2023	Michigan Electric Transmission Company LLC	Genesee	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Goss-Theford 345kV Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	3310
J1658	Active	6/25/2020	9/1/2023	Michigan Electric Transmission Company LLC	Hillsdale	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Coldwater to Moore Road 138kV Line	180	180	Solar	Photovoltaic	Not Started		0	0	0	0	3490
J1664	Active	6/25/2020	9/1/2023	ITC Transmission	St. Clair	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Carrigan 120kV Substation	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	3690
J1553	Active	6/25/2020	9/15/2023	Michigan Electric Transmission Company LLC	Clinton	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Bingham West 138kV	150	150	Solar	Photovoltaic	Not Started		0	0	0	0	3840
J1571	Active	6/25/2020	9/15/2023	Michigan Electric Transmission Company LLC	Lenawee	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Morocco to Belle River 138kV (Ckt 1)	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	4040
J1603	Active	6/25/2020	9/15/2023	Michigan Electric Transmission Company LLC	Otsego	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Vantyle 138kV	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	4240
J1663	Active	6/25/2020	9/15/2023	Michigan Electric Transmission Company LLC	Ottawa	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Argenta to Tallmadge 345kV	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	4440
J1226	Active	4/27/2019	9/29/2023	Michigan Electric Transmission Company, LLC	Lenawee County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Morocco 345 kv Substation	200	200	Solar	PV Photovoltaic	Not Started		200	200	0	0	4640
J1375	Active	4/29/2019	9/29/2023	Michigan Electric Transmission Company, LLC	Muskegon County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Du Pont - Cobb - White Lake 138kv	100	100	Solar	PV Photovoltaic	Not Started		100	100	0	0	4740
J1379	Active	4/29/2019	10/1/2023	Michigan Electric Transmission Company LLC	Montcalm County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Eureka - Vestaburg 138 kv Line Tap	200	200	Solar	PV Photovoltaic	Not Started		200	200	0	0	4940
J1516	Active	6/25/2020	10/1/2023	ITC Transmission	St. Clair	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Fitz 120kV	100	100	Solar	Photovoltaic	Not Started		0	0	0	0	5040
J1525	Active	6/25/2020	10/1/2023	ITC Transmission	Huron	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Grassmere 345kV	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	5240
J1536	Active	6/25/2020	10/1/2023	ITC Transmission	St. Clair	MI	DPP-2020-Cycle	East (ITC)	PHASE 1	NRIS	Greenwood 345kV	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	5440
J1210	Active	4/27/2019	10/31/2023	Michigan Electric Transmission Company, LLC	Iroquois County	MI	DPP-2019-Cycle	East (ITC)	PHASE 2	NRIS	Whittemore - Twining 138kV Line	50	50	Solar	PV Photovoltaic	Not Started		50	50	0	0	5490
J1892	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Otsego	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Livingston - Keystone 345 kv	64.8	64.8	Solar	Photovoltaic	Not Started		0	0	0	0	5548.8
J1905	Active	7/22/2021	11/1/2023	ITC Transmission	Sanilac	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Banner-Rapson 345kV Transmission Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	5754.8
J1909	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Bay	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Gallagher-Tittabawassee 345kV Transmission Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	5954.8
J1910	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Bay	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Gallagher-Tittabawassee 345kV Transmission Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	6154.8
J1911	Active	7/22/2021	11/1/2023	ITC Transmission	Livingston	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Madrid - Blackfoot 345kV	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	6354.8
J1912	Active	7/22/2021	11/1/2023	ITC Transmission	Sanilac	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Greenwood-Rapson 345kV Transmission Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	6554.8
J1913	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Midland	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Murphy-Tittabawassee 345kV Transmission Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	6754.8
J1914	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Presque Isle	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Rockport-Port calcite 138kV Transmission Line	150	150	Solar	Photovoltaic	Not Started		0	0	0	0	6904.8
J1915	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Bay	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Almeda Junction-Shale 138kV Transmission Line	150	150	Solar	Photovoltaic	Not Started		0	0	0	0	7054.8
J1916	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Branch	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Newton 138 kv substation	100	100	Solar	Photovoltaic	Not Started		0	0	0	0	7154.8
J1917	Active	7/22/2021	11/1/2023	ITC Transmission	Livingston	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Madrid - Majestic 345 kv	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	7354.8
J1918	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Montcalm	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Nelson Road-Kenowa 345kV Transmission Line	132	132	Solar	Photovoltaic	Not Started		0	0	0	0	7486.8
J1919	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Ingham	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Oneida-Majestic 345 kv	132	132	Solar	Photovoltaic	Not Started		0	0	0	0	7618.8
J1920	Active	7/22/2021	11/1/2023	ITC Transmission	Leelanau	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Tuscola-Arrowhead 120kV Transmission Line	125	125	Solar	Photovoltaic	Not Started		0	0	0	0	7743.8
J1921	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Montcalm	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Deja - Derby Jct 138kV Transmission line	125	125	Solar	Photovoltaic	Not Started		0	0	0	0	7868.8
J1922	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Bay	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Cottage Grove-Karn 138 kv	150	150	Solar	Photovoltaic	Not Started		0	0	0	0	8018.8
J1923	Active	7/22/2021	11/1/2023	ITC Transmission	Huron	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Rapson 120 kv substation	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	8218.8
J1924	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Bay	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Cottage Grove-Seven Mile 138 kv	150	150	Solar	Photovoltaic	Not Started		0	0	0	0	8368.8
J1925	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Livingston	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Tihart-Latson 138 kv	100	100	Solar	Photovoltaic	Not Started		0	0	0	0	8468.8
J1939	Active	7/22/2021	11/1/2023	Michigan Electric Transmission Company LLC	Saginaw	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Layton-Cornell White 138 kv	125	125	Solar	Photovoltaic	Not Started		0	0	0	0	8593.8
J1940	Active	7/22/2021	11/1/2023	ITC Transmission	Monroe	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Monroe-Lallemor 345kV Transmission Line	200	200	Solar	Photovoltaic	Not Started		0	0	0	0	8793.8
J1942	Active	7/22/2021	11/1/2023	ITC Transmission	Monroe	MI	DPP-2021-Cycle	East (ITC)	Study Not Started	NRIS	Semville TP-Niles TP 12											

MICHIGAN PUBLIC SERVICE COMMISSION

Consumers Energy Company

Demonstration of Compliance with Act 142 Section 10i(1)

\$ in Millions

Case No: U-20889

Exhibit No.: A-9 (HJM-1)

Page: 1 of 1

Witness: HJMyers

Date: September 2020

Conventional Financing

	<u>2023</u>		<u>2024</u>		<u>2025</u>		<u>2026</u>		<u>2027</u>		<u>2028</u>		<u>2029</u>		<u>2030</u>		<u>2031</u>		
1 Balance	691.2	677.9	638.0	598.1	558.3	518.4	478.5	438.6	398.8	358.9	319.0	279.1	239.3	199.4	159.5	119.6	79.8	39.9	
2 Pre-tax Rate of Return	7.40%	<u>1.23%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>	<u>3.70%</u>
3 Return (Line 1 * Line 2)	8.5	25.1	23.6	22.1	20.7	19.2	17.7	16.2	14.8	13.3	11.8	10.3	8.9	7.4	5.9	4.4	3.0	1.5	
4 Depreciation	<u>13.3</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>	<u>39.9</u>
5 Revenue Requirements (L3 + L4)	21.8	65.0	63.5	62.0	60.5	59.1	57.6	56.1	54.6	53.2	51.7	50.2	48.7	47.3	45.8	44.3	42.8	41.4	

6 NPV of Line 5 7.40% **\$691.2**

Securitization Financing

	<u>2023</u>		<u>2024</u>		<u>2025</u>		<u>2026</u>		<u>2027</u>		<u>2028</u>		<u>2029</u>		<u>2030</u>		<u>2031</u>	
7 Revenue Requirements	0.0	0.0	85.1	49.5	47.5	49.1	47.9	49.1	47.9	49.3	47.7	49.1	47.9	49.3	47.7	49.0	48.0	0.0

8 NPV of Line 7 7.40% **\$565.2**

9 Amt in satisfaction of test (L6 - L8) **\$126.0**

Sources:

Line 1: 4/30/23 Balance from Company Witness Daniel Harry

Line 2: Pre-tax rate of return authorized in U-20134 was 7.40%.

Line 4: Depreciated through original retirement date.

Line 6: NPV = Net Present Value. NPV calculated by discounting revenue requirements semi-annually. Annual discount rate = 7.40%.

Line 7: Page 1 of Exhibit A-7 (SL-1) Column F (1.776% weighted average coupon) and \$750 thousand on-going expenses per annum

Schedule: D-1

MICHIGAN PUBLIC SERVICE COMMISSION
Consumers Energy Company
 Overall Rate of Return Summary
 For the Historical Year Ended December 31, 2019

Case No.: U-20963
 Exhibit No.: A-4 (JRC-22)
 Schedule: D-1
 Page 1 of 1
 Witness: JRCoker
 Date: March 2021

Line No	(a) Description	(b) Amount (\$000) {1}	Capital Structure			Weighted Cost			
			(c) Percent Permanent Capital	(d) Percent of Total Capital	(e) Cost Rate %	(f) Permanent Capital	(g) Total Cost %	(h) Conversion Factor	(i) Pre-Tax Return
1	Long Term Debt	6,515,833	46.57%	37.10%	3.99% {2}	1.86%	1.48%		1.48%
2	Preferred Stock	37,315	0.27%	0.21%	4.50% {3}	0.01%	0.01%	1.3391	0.01%
3	Common Equity	7,437,379	53.16%	42.35%	10.00% {4}	5.32%	4.24%	1.3391	5.67%
4	Permanent Capital	13,990,527							
5	Notes Payable	69,279		0.39%	2.49% {5}		0.01%		0.01%
6	Advanced Renewable Reg Liability	34,422		0.20%	2.49% {5}		0.00%		0.00%
7	Short Term Debt	103,701							
8	Deferred Federal Income Tax	3,358,180		19.12%	0.00%		0.00%		0.00%
9	Deferred JDITC - Long Term Debt	50,748		0.29%	3.99%		0.01%		0.01%
10	Deferred JDITC - Preferred Stock	291		0.00%	4.50%		0.00%	1.3391	0.00%
11	Deferred JDITC - Common Equity	57,925		0.33%	10.00%		0.03%	1.3391	0.04%
12	Total Deferred JDITC {6}	108,964							
13	Total	17,561,372					5.78%		7.23%

Notes

- {1} Amount reflects the 13-month average balance as of December 31, 2019
 {2} Exhibit No.: A-4 (JRC-23)
 {3} Exhibit No.: A-4 (JRC-25)
 {4} Exhibit No.: A-4 (JRC-26)
 {5} Exhibit No.: A-4 (JRC-24)
 {6} The total deferred JDITC balance on line 12 is allocated to lines 9 through 11 based on the percent of permanent capital in column (c)

Schedule D-1

MICHIGAN PUBLIC SERVICE COMMISSION
Consumers Energy Company
Overall Rate of Return Summary
for the Projected Year Ending December 31, 2022

Case No.: U-20963
Exhibit No.: A-14 (MRB-1)
Schedule: D-1
Page: 1 of 2
Witness: MRBleckman
Date: March 2021

Line No.	(a) Description	(b) Amount (\$000,000) (1)	(c) Capital Structure		(e) Cost Rate %	(g) Weighted Cost			
			Percent Permanent Capital (2)	Percent of Total Capital		Permanent Capital (7)	Total Cost % (8)	Conversion Factor (h)	Pre-Tax Return (9)
1									
2	Long-Term Debt	\$ 9,072	47.80%	39.34%	3.55% (3)	1.70%	1.40%	1.0000	1.40%
3									
4	Preferred Stock	37	0.20%	0.16%	4.50% (4)	0.01%	0.01%	1.3391	0.01%
5									
6	Common Shareholder's Equity	<u>9,870</u>	<u>52.00%</u>	42.80%	10.50% (5)	5.46%	4.49%	1.3391	6.02%
7									
8	Total Permanent Capital	\$ 18,979	<u>100.00%</u>						
9									
10	Short-Term Debt	200		0.87%	1.15% (6)		0.01%	1.0000	0.01%
11									
12	Deferred Income Taxes	3,751		16.27%	0.00%		0.00%	1.0000	0.00%
13									
14	<u>Investment Tax Credit</u>								
15	Long-Term Debt	62		0.27%	3.55%		0.01%	1.0000	0.01%
16	Preferred Stock	0		0.00%	4.50%		0.00%	1.3391	0.00%
17	Common Equity	68		0.30%	10.50%		0.03%	1.3391	0.04%
18									
19	Total	<u>\$ 23,060</u>		<u>100.00%</u>			<u>5.95%</u>		<u>7.48%</u>

(1) See Exhibit A-14 (MRB-2), Schedule D-1a, Page 1.

(2) Excludes Short-term Debt, Deferred Income Taxes, and Investment Tax Credit to calculate the rate of return for Investment Tax Credit purposes in accordance with Internal Revenue Service Income Tax Regulation Section 1.46-6.

(3) See Exhibit A-14 (MRB-4), Schedule D-2.

(4) See Exhibit A-14 (MRB-6), Schedule D-4.

(5) See Exhibit A-14 (TAW-1), Schedule D-5.

(6) See Exhibit A-14 (MRB-5), Schedule D-3, Page 1.

(7) Column (c) x column (e).

(8) Column (d) x column (e).

(9) Column (g) x column (h).

Schedule D-1

MICHIGAN PUBLIC SERVICE COMMISSION
Consumers Energy Company
 Overall Rate of Return Summary - Adjusted
 for the Projected Year Ending December 31, 2022

Case No.: U-20963
 Exhibit No.: A-14 (MRB-1)
 Schedule: D-1
 Page: 2 of 2
 Witness: MRBleckman
 Date: March 2021

Line No.	(a) Description	Adjusted (b) (c) 13-Month Avg. For Yr. Ended 2022		Unadjusted (e) (f) 13-Month Avg. For Yr. Ended 2023		Adjusted (g) (h) 13-Month Avg. For Yr. Ended 2023	
		Amount (\$000,000)	Percent Permanent Capital	Amount (\$000,000)	Percent Permanent Capital	Amount (\$000,000)	Percent Permanent Capital
1							
2	Long-Term Debt - Adjusted	\$ 9,563	49.12%	\$ 9,998 (4)	47.84%	\$ 10,829	49.83%
3							
4	Preferred Stock	37 (1)	0.19%	37 (4)	0.18%	37 (4)	0.17%
5							
6	Common Shareholder's Equity	9,870 (1)	50.69%	10,864 (4)	51.98%	10,864 (4)	50.00%
7							
8	Total Permanent Capital	\$ 19,470	100.00%	\$ 20,900	100.00%	\$ 21,731	100.00%
9							
10							
11							
12	Long-Term Debt	\$ 9,072 (1)				\$ 9,998 (4)	
13							
14	Add: Securitization Debt	187 (2)				528 (4)	
15	Add: Short-Term Debt	200 (1)				200 (1)	
16	Add: Leases	104 (3)				104 (3)	
17		\$ 491				\$ 831	
18							
19	Long-Term Debt - Adjusted	\$ 9,563				\$ 10,829	
20							

(1) See Exhibit A-14 (MRB-1), Schedule D-1, Page 1.
 (2) Projected Securitization debt balance for the 13-months ending December 2022.
 (3) Projected using the Lease balance at December 31, 2020.
 (4) Average projected balance for the 13 months ending December 31, 2023.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Application of **CONSUMERS ENERGY COMPANY** for Approval of an Integrated Resource Plan under MCL 460.6t, certain accounting approvals, and for other relief.

U-21090

ALJ Sally Wallace

PROOF OF SERVICE

On the date below, an electronic copy of **PUBLIC Direct Testimony of Douglas B. Jester on behalf of Michigan Environmental Council, Natural Resources Defense Council, and Sierra Club; and Exhibits MEC-1, MEC-10, MEC-12, MEC-13 and MEC-14** was served on the following:

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The statements above are true to the best of my knowledge, information and belief.

OLSON, BZDOK & HOWARD, P.C.
Counsel for MEC, NRDC, SC, CUB

Date: October 28, 2021

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