



A CMS Energy Company

December 20, 2017

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RE: Case No. U-18491 – In the Matter of the Application of Consumers Energy Company to Reset Avoided Capacity Costs.

Dear Ms. Kale:

Included in this electronic file, in the above captioned case, is **Consumers Energy Company's Application and Testimony and Exhibits of Thomas P. Clark**. This is a paperless filing and is therefore being filed only in a PDF format.

Sincerely,

Robert W. Beach

cc: Heather M. S. Durian, Esq., MPSC Staff

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
to Reset Avoided Capacity Costs)
_____)

Case No. U-18491

APPLICATION

Consumers Energy Company (“Consumers Energy” or the “Company”) requests the Michigan Public Service Commission (“MPSC” or the “Commission”) to approve the Company’s 10-year generation capacity position, which demonstrates that the Company has no capacity need over the next 10 years, and find that the Company’s avoided capacity cost shall be reset at the Midcontinent Independent System Operator, Inc. (“MISO”) Planning Resource Auction (“PRA”) price for all new Public Utility Regulatory Policies Act of 1978 (“PURPA”) Qualifying Facility (“QF”) offers to sell capacity to the Company and its customers. In support of this request, Consumers Energy states as follows:

1. Consumers Energy is, among other things, engaged as a public utility in the business of generating, purchasing, distributing, and selling electric energy to approximately 1.8 million retail customers in the State of Michigan. The retail electric system of Consumers Energy is operated as a single utility system, within which uniform rates are charged.

2. Consumers Energy’s retail electric business is subject to the jurisdiction of the Commission pursuant to certain provisions of 1939 Public Act (“PA”) 3, as amended by various acts, including 1982 PA 304 (“Act 304”), 2000 PA 141, and 2016 PA 341, MCL 460.1 *et seq.*; 1909 PA 106, as amended, MCL 460.551 *et seq.*; 1909 PA 300, as amended, MCL 462.2 *et seq.*; and 2008 PA 286, MCL 460.4a *et seq.*

3. In its May 31, 2017 Order in MPSC Case No. U-18090, the Commission found that “the utility’s obligation to purchase capacity from QFs” does not persist “if no additional capacity need is forecasted.” MPSC Case No. U-18090, May 31, 2017 Order, page 19. The Commission further approved a mechanism for determining the Company’s future capacity need and adjusting the Company’s avoided capacity cost when capacity is not needed. Specifically, the Commission indicated that “if no capacity is needed during the 10-year planning horizon, then Consumers shall make a filing so indicating, and the avoided cost for capacity shall be reset to the MISO PRA.” *Id.*

4. The Commission findings in the May 31, 2017 Order are consistent with the Federal Energy Regulatory Commission’s (“FERC”) decisions regarding the requirements of PURPA. In numerous orders, FERC has made clear that PURPA only requires that an electric utility purchase capacity from QFs when capacity costs can be avoided by the electric utility by making such a purchase. See, e.g., *City of Ketchikan, Alaska*, 94 FERC ¶ 61,293, 62,062 (2001) (“[A]n avoided cost rate need not include capacity unless the QF purchase will permit the purchasing utility to avoid building or buying future capacity.”); see also *Connecticut Light & Power Co.*, 70 FERC ¶ 61012, n 11 (1995) (“Thus, for example, capacity payments need be made only when capacity costs will be avoided.”). The requirement that a purchasing electric utility only pay for the capacity that it avoids by purchasing from a QF safeguards the Company and its customers from incurring unnecessary and duplicative costs.

5. Pursuant to the procedure established by the Commission in its May 31, 2017 Order in MPSC Case No. U-18090 and the requirements of PURPA, Consumers Energy is filing a 10 year capacity position with this Application. The Company’s capacity position includes an explanation of the Company’s Planning Reserve Margin Requirements, as determined with

MISO rules, as well as a description of Company owned electric generation resources, generation resources secured by the Company pursuant to Power Purchase Agreements and capacity contracts, and load reduction resources which include energy efficiency and demand response programs. Based on the current electric generation and load reduction resources available to the Company, the Company has determined that it has no need for additional capacity for the next 10 years.

6. Furthermore, because the Company has no capacity need for the next 10 years, the Company requests that the Commission reset the Company's avoided capacity cost at the MISO PRA price for all new QF offers to sell capacity. The resetting of the Company's avoided capacity cost in this manner will prevent the Company and its customers from incurring unnecessary and unreasonable capacity costs. Once the Company's avoided capacity cost has been reset to the MISO PRA price, the Company proposes that its capacity position be reexamined in the context of its 2018 Integrated Resource Plan.

7. While the Company's testimony and exhibits establish that the Company has no need for any additional capacity over the next 10 years, if the Commission were to determine otherwise, the Company requests that the Commission specifically identify the Company's remaining capacity obligation over the 10-year period and find that once the Company fulfills that capacity obligation, the Company's avoided capacity cost shall be reset at the MISO PRA price for any additional QF offers to sell capacity.

8. Consumers Energy is filing testimony and exhibits of Company witness Thomas P. Clark in conjunction with this Application. The accompanying testimony and exhibits of Company witness Clark are an integral part of this Application, and the relief described therein is incorporated by reference in this Application as if fully set forth herein.

9. Since the Company's request for relief will not raise rates or costs for customers, Consumers Energy respectfully requests the Commission to approve the relief requested in this Application on an *ex parte* basis without the time and expense of a public hearing.

10. Furthermore, if the Commission elects not to approve the Company's Application on an *ex parte* basis, the Company requests the Commission to initiate a contested case proceeding in an expedited manner due to the time sensitive nature of the Company's capacity position and lack of need for new QF purchases. Therefore, the Company requests the Commission to issue an order on the relief requested herein within 90 days of the filing of this Application.

WHEREFORE, Consumers Energy Company respectfully requests the Michigan Public Service Commission to grant the following relief:

(A) Approve the Company's 10-year capacity position and specifically find that the Company has no capacity need over the next 10 years;

(B) Approve the resetting of the Company's avoided capacity cost to the MISO PRA price for all new QF offers to sell capacity to the Company;

(C) Specifically identify the Company's total capacity need, if such a need is determined by the Commission, and find that once the Company fulfills that need, the Company's avoided capacity cost shall be reset at the MISO PRA price for any additional QF offers to sell capacity

(D) Determine that the relief requested herein should be granted *ex parte* without the time and expense of a public hearing;

(E) Issue a final order on the relief requested herein within 90 days of the filing of this Application; and

(F) Grant Consumers Energy such other and further relief as may be lawful and appropriate.

Respectfully submitted,

CONSUMERS ENERGY COMPANY

Dated: December 20, 2017

By: _____
Timothy J. Sparks, Vice President
Electric Grid Integration

Robert W. Beach (P73112)
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STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
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_____)

Case No. U-18491

VERIFICATION

STATE OF MICHIGAN)
) SS
COUNTY OF JACKSON)

Timothy J. Sparks, being first duly sworn, deposes and says that he is the Vice President of Electric Grid Integration of Consumers Energy Company; that he has executed the foregoing Application for, and on behalf of, Consumers Energy Company; that he has read the foregoing Application and is familiar with the contents thereof; that the facts contained therein are true, to the best of his knowledge and belief; and that he is duly authorized to execute such Application on behalf of Consumers Energy Company.

Timothy J. Sparks, Vice President
Electric Grid Integration

Subscribed and sworn to before me this 20th day of December, 2017.

Melissa K. Harris, Notary Public
State of Michigan, County of Jackson
My Commission Expires: 06/11/20
Acting in the County of Jackson

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
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Case No. U-18491

DIRECT TESTIMONY
OF
THOMAS P. CLARK
ON BEHALF OF
CONSUMERS ENERGY COMPANY

December 2017

THOMAS P. CLARK
DIRECT TESTIMONY

1 Q. Please state your name and business address.

2 A. My name is Thomas P. Clark, and my business address is 1945 West Parnall Road,
3 Jackson, Michigan 49201.

4 Q. By whom are you employed?

5 A. I am employed by Consumers Energy Company (“Consumers Energy” or the
6 “Company”).

7 Q. In what capacity are you employed?

8 A. I am the Director of Merchant Operations and Resource Planning.

9 **Qualifications**

10 Q. Please describe your educational background.

11 A. I received the degree of Bachelor of Science in Engineering from Western Michigan
12 University in 2004. Since 2010, I have been a Registered Professional Engineer in the
13 state of Michigan. In December 2016, I received the degree of Masters of Business
14 Administration from the Ross School of Business at the University of Michigan Ann
15 Arbor.

16 Q. Please describe your business experience.

17 A. In August 2004, I joined Consumers Energy Company (“Consumers Energy” or the
18 “Company”) as an Electric System Owner. In 2005, I accepted a position as an Engineer
19 in Transactions and Resource Planning responsible for administration of the Resource
20 Conservation Plan and the Qualified Facility Reduced Dispatch Agreements. In this role,
21 I also provided assistance in proposal evaluation and the administration of contracts. In
22 early 2009, I took on responsibilities associated with the Company’s Renewable Energy
23 Plan (“RE Plan”), including the calculation of the Transfer Price associated with

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1 renewable energy and capacity and renewable energy credit (“REC”) tracking and
2 forecasting. In June of 2013, I was assigned to the Smart Energy Department where I
3 was responsible for the development and implementation of demand response programs
4 associated with the Company’s deployment of Advanced Metering Infrastructure. In
5 March 2015, I became the manager of the Company’s Resource Planning department
6 responsible for all of the Company’s short-, mid-, and long-term electric generation
7 resource planning, including the development of the Company’s integrated resource
8 plans. In August 2017, I accepted my current role as the Director of Merchant
9 Operations and Resource Planning. In this role, I have assumed responsibility over the
10 Company’s Real-Time and Day-Ahead MISO Market interactions in addition to the
11 Company Resource Planning activities.

12 Q. Have you previously presented testimony before the Michigan Public Service
13 Commission (“MPSC” or the “Commission”)?

14 A. Yes. I provided testimony in:

- 15 • Case No. U-15675-R, the Company’s 2009 Power Supply Cost Recovery
16 (“PSCR”) Reconciliation regarding the portion of RE Plan costs to be
17 recovered in the Company’s PSCR Reconciliation for 2009;
- 18 • Case No. U-16300, the Company’s 2009 Renewable Cost Reconciliation
19 regarding renewable energy costs incurred in 2009;
- 20 • Case No. U-16543, the Company’s RE Plan Amendment, regarding renewable
21 energy purchase agreements and the portion of RE Plan costs forecast to be
22 recovered as PSCR costs;
- 23 • Case No. U-16045-R, the Company’s 2010 PSCR Reconciliation regarding
24 the portion of RE Plan costs to be recovered in the Company’s PSCR
25 Reconciliation for 2010;
- 26 • Case No. U-16301, the Company’s 2010 Renewable Cost Reconciliation
27 regarding renewable energy costs incurred in 2010;

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- 1 • Case No. U-16581, the Company’s Biennial RE Plan Review, regarding
2 renewable energy purchase agreements and the portion of RE Plan costs
3 forecast to be recovered as PSCR costs;
- 4 • Case No. U-16432-R, the Company’s 2011 PSCR Reconciliation regarding
5 the portion of RE Plan costs to be recovered in the Company’s PSCR
6 Reconciliation for 2011;
- 7 • Case No. U-16655, the Company’s 2011 Renewable Cost Reconciliation
8 regarding renewable energy costs incurred in 2011;
- 9 • Case No. U-17301, the Company’s 2013 Biennial RE Plan Review, regarding
10 renewable energy purchase agreements, the portion of RE Plan costs forecast
11 to be recovered as PSCR costs, the Company’s expected compliance
12 obligation, and REC forecast;
- 13 • Case No. U-17321, the Company’s 2012 Renewable Cost Reconciliation
14 regarding renewable energy costs incurred in 2012;
- 15 • Case No. U-18250, regarding the Company’s electric generation resource
16 planning process and its plan to meet customer demand requirements given
17 the buyout of the Palisades Power Purchase Agreement; and
- 18 • Case No. U-18322, regarding the benefit/cost analysis of the Company’s J.H.
19 Karn (“Karn”) Unit 1, Karn Unit 2, J.H. Campbell (“Campbell”) Unit 1, and
20 Campbell Unit 2 coal fueled generation facilities.

21 Q. What is the purpose of your direct testimony?

22 A. In its May 31, 2017 Order in Case No. U-18090, on page 19, the Commission indicated
23 that “if no capacity is needed during the 10-year planning horizon, then Consumers shall
24 make a filing so indicating, and the avoided cost for capacity shall be reset to the MISO
25 PRA.” The Commission also specifically rejected a “claim that the utility’s obligation to
26 purchase capacity from QFs persists, even if no additional capacity need is forecasted.”
27 Based on these findings, my testimony demonstrates that the Company has no need for
28 new capacity over the 10-year planning horizon and supports the Company’s request for
29 the avoided capacity cost to be set at the Midcontinent Independent System Operator, Inc.
30 (“MISO”) Planning Resource Auction (“PRA”) price for all new Public Utility

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1 Regulatory Policies Act of 1978 (“PURPA”) Qualifying Facility (“QF”) offers to sell
2 capacity to the Company and its customers.

3 Q. Are you sponsoring any exhibits?

4 A. Yes. I am sponsoring:

- 5 • Exhibit A-1 (TPC-1) Planning Reserve Margin Requirements and
6 Planning Resources to be Acquired (UCAP MW);
- 7 • Exhibit A-2 (TPC-2) Demand Response – Capacity Resources;
- 8 • Exhibit A-3 (TPC-3) Company Owned Electric Generation Resources
9 (Confidential);
- 10 • Exhibit A-4 (TPC-4) Generation Resources Under PPA or Other
11 Capacity Contract (Confidential); and
- 12 • Exhibit A-5 (TPC-5) Capacity and Load Changes from Case No.
13 U-18090 to Current (Confidential).

14 Q. Were these exhibits prepared by you or under your direction and supervision?

15 A. Yes.

16 Q. Please describe the Company’s capacity position.

17 A. The Company does not have a need for additional capacity for the next 10 years.
18 Existing resources and programs (e.g. energy efficiency, demand response,
19 Company-owned generation, Power Purchase Agreements (“PPAs”)) combined with
20 previously communicated planned resources (e.g. new wind included in the Company’s
21 pending RE Plan filing) enable the Company to provide sufficient supply to meet the
22 customer demand plus reserve margin requirements (Planning Reserve Margin
23 Requirement (“PRMR”)) required by MISO through the 10-year period. Exhibit A-1
24 (TPC-1), line 36, shows the level of capacity surplus or shortfall expected for Planning
25 Years 2018 through 2028.

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1 Q. Please describe the peak demand assumed in the Company's 10-year capacity position.

2 A. The forecasted peak demand shown in Exhibit A-1 (TPC-1), line 1, includes servicing
3 demand associated with the following:

- 4 • Bundled service;
- 5 • Demand otherwise avoided through energy efficiency programs;
- 6 • Demand otherwise avoided through the Time of Use ("TOU") demand
7 response programs; and
- 8 • Transmission losses.

9 Adjustments associated with capacity avoided through energy efficiency and
10 TOU demand response programs are shown in Exhibit A-1 (TPC-1) on line 2. The
11 Company's PRMR is further adjusted to reflect coincidence of peak demand during
12 periods when MISO experiences its peak demand. The Company's forecast of peak
13 bundled service demand (including transmission losses) during the period that MISO
14 experiences its peak for the 2018 through 2028 Planning Years is shown in Exhibit A-1
15 (TPC-1) on line 5. The average transmission loss factor for the local balancing authority
16 in which the Company operates is 3.5%. The total forecasted PRMR, after all necessary
17 adjustments, is shown in Exhibit A-1 (TPC-1) on line 11.

18 Q. Please describe the forecasted growth in peak demand.

19 A. The Company uses regression analysis based on the predicted level of electric deliveries
20 to forecast peak demand. Weather-normal peak demand grew at a 1.6% Compound
21 Annual Growth Rate from 2003 to 2007, much of this trend was reversed during the 2007
22 to 2009 recession, when weather-normal peak demand retracted by 4.3%. Looking
23 forward, peak demand is expected to be nearly flat. Peak load is expected to decrease by

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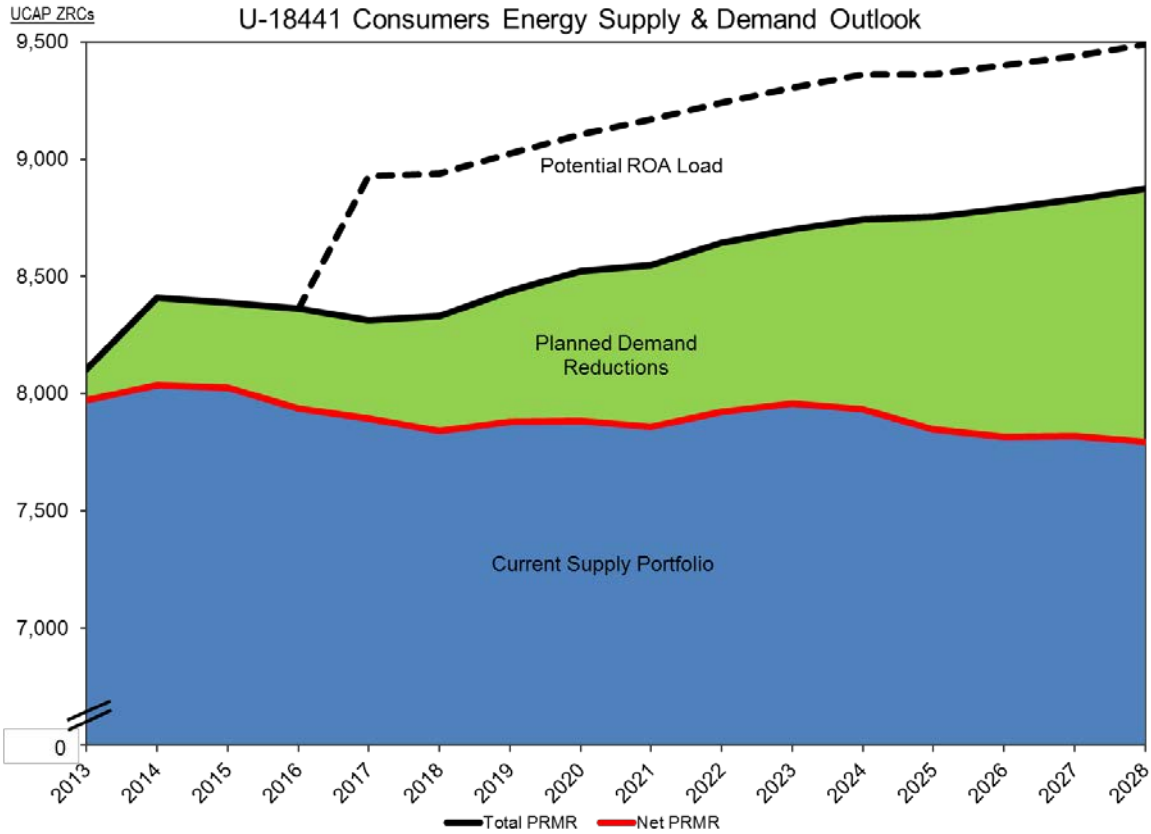
1 0.9% from 2017 to 2022, increase 1.3% from 2022 to 2024, and decrease about 2.0%
2 from 2024 to 2028.

3 Q. Please describe how the Company expects its supply portfolio to change to meet the
4 future needs of its customers?

5 A. The Company expects its supply portfolio to change to meet customers' future needs as
6 shown in Figure 1. Some key aspects reflected in Figure 1 include:

- 7 • Continuation and expansion of the Company's energy efficiency programs
8 and demand response resources to help reduce peak demand, as shown in the
9 green and blue areas;
- 10 • Continued operation of existing resources including the Campbell and Karn
11 coal-fired generating units; the Ludington Pumped Storage Plant; the Zeeland
12 Generating Plant; the Jackson Generating Plant; the Cross Winds Energy
13 Park; and the Lake Winds Energy Park;
- 14 • Power supply contracts with Midland Cogeneration Venture Limited
15 Partnership ("MCV") and other non-utility generators, a key part of the
16 overall plan to provide reliable service to customers;
- 17 • Wind additions to meet the 2016 PA 342 ("Act 342") Renewable Energy
18 Credit Portfolio Standard ("RPS") of 15% and in support of the 35% state
19 goal; and
- 20 • An Amendment ("Amendment No. 2") to the Company's existing PPA with
21 T.E.S. Filer City Station Limited Partnership ("Filter City" or the
22 "Partnership"), facilitating the conversion of a coal-fueled power plant to a
23 natural gas fueled power plant.

1 **Figure 1: Consumers Energy Supply Portfolio**



2

3 Q. Please describe the Company-owned generation in the Company’s 10-year capacity
 4 position.

5 A. Consumers Energy currently owns, operates, and manages 5,766 MW of installed
 6 capacity, which is equivalent to 5,212 Zonal Resource Credits (“ZRCs”) (assuming
 7 2017/2018 Equivalent Forced Outage Rate demand (“EFORD”) values), all located within
 8 Michigan and within MISO Zone 7. The total capacity associated with these resources is
 9 expected to increase over the next 10 years as a result of unit updates.

10 A summary of the Company’s forecast for its owned resources – including
 11 resource type, installed capacity, and unforced capacity – is provided in Exhibit A-1
 12 (TPC-1) (by category) and Confidential Exhibit A-3 (TPC-3) (by unit).

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1 Q. What assumptions has the Company made regarding the continued operation of Campbell
2 Unit 1, Campbell Unit 2, Karn Unit 1, and Karn Unit 2?

3 A. The Company's capacity plan currently assumes that all four of these coal-fired
4 generating units will continue to operate through MISO Planning Year 2030 (May 31,
5 2031).

6 Q. Why has the Company assumed continued operation of Campbell Unit 1, Campbell
7 Unit 2, Karn Unit 1, and Karn Unit 2 through May 31, 2031?

8 A. As discussed in detail throughout the Company's current electric rate case, Case No.
9 U-18322, it is necessary to perform a comprehensive analysis of the continued operation
10 of these units against the appropriate replacement options in an Integrated Resource Plan
11 ("IRP") before any decision regarding early retirement can be made. Furthermore, as
12 detailed in Case No. U-18322, the Company's current analysis indicates continued
13 operation of the subject generating units is near break-even with the market value of
14 energy and capacity. It is premature to assume that continued operation of these units is
15 not in the best interest of customers. The IRP will be used to make that determination at
16 which point the Company will have identified the cost of replacement resources, which
17 can be compared to the avoided costs under PURPA, to ensure the most prudent
18 resources are utilized to fulfill the need created by early retirement of one or more of
19 these units.

20 Q. Please describe the changes in the projected capacity credits from existing
21 Company-owned generation.

22 A. There are very few material changes made to the Company's owned generation.

23 1. Discontinued operation of the Company's small combustion turbine peaker
24 fleet for the 2019 planning year (Gaylord, Straits, and Campbell Unit A);

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- 1 2. Upgrades in Units 1 and 3 of the Ludington Pumped Storage (“Ludington”)
2 plant consistent with the upgrades experienced on Units 2, 4, and 5. Unit 6
3 upgrade is currently underway and is expected to be in operation for the 2018
4 planning year;
- 5 3. Improved EFORd at Ludington associated with better performance from the
6 overhauled units. This forecast assumes that EFORd ultimately returns to
7 historical averages for Ludington of 3% to 4%; and
- 8 4. Improved EFORd at Karn Unit 3 and Karn Unit 4. These units had poor
9 performance in the 2015 operating year. As a result, the amount of capacity
10 credit was significantly impaired. Through targeted investment, and the
11 resulting improvement in reliable operations, this forecast assumes that
12 EFORd ultimately returns to historical averages of 20% to 25% for these
13 generating units.

14 Q. Please describe the existing and new demand response and energy efficiency resources in
15 the Company’s 10-year capacity position.

16 A. Consumers Energy offers a suite of demand-side management programs targeting
17 residential, commercial, and industrial customer classes to deliver significant peak load
18 reductions. Existing programs offered by the Company that are not netted against load
19 and are certified by MISO as a capacity resource include:

- 20 • Peak Power Savers® - Air Conditioning (“AC”) Cycling Program;
- 21 • Intensive Primary Tariff;
- 22 • Commercial & Industrial Demand Response (“C&I DR”); and
- 23 • Interruptible Service Provision (“Rate GI”)

24 Over the 2018 through 2028 period, the Company is expecting to maintain the
25 trajectory for these programs as approved in the Company’s most recent electric rate
26 case, reaching a demand response level of nearly 650 ZRCs by Planning Year 2023. The
27 Company anticipates maintaining that level of demand response through Planning Year
28 2028. The Company continues to evaluate and learn how best to meet customer interest
29 and has not yet forecasted new demand response programs to add to upcoming Planning

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1 Years. The capacity from demand response programs is shown in Exhibit A-1 (TPC-1),
2 lines 21 through 23 and Exhibit A-2 (TPC-2), which provides additional details regarding
3 specific MWs and ZRCs by program.

4 The expected energy savings delivered by these programs are used as a reduction
5 to the Company's expected peak demand. The total peak demand reduction expected
6 from these programs can be found in Exhibit A-1 (TPC-1), line 2. The majority of the
7 peak demand reduction associated with these programs is derived from the 1.5% energy
8 savings target assumed for the energy efficiency program. Based on a 1.5% energy
9 savings target, the peak demand is expected to be reduced nearly 912 MWs by Planning
10 Year 2028. This level of energy efficiency was approved in Case No. U-17771 amended
11 plan and is pending approval in Case No. U-18261.

12 Q. How did the Company decide that the 1.5% energy efficiency/energy waste reduction
13 goal was reasonable?

14 A. In 2016, the Company began working with GDS Associates to identify the level of
15 potential demand-side resources (energy efficiency and demand response) available in its
16 service territory. The results of these studies were encouraging. The energy efficiency
17 potential study indicated that Consumers Energy could reasonably achieve an average
18 energy savings of 1.48% per year for 10 years. Similarly, the demand response potential
19 study indicated the Company could reduce its system peak by 941 MW (10.8% of system
20 peak) by 2026.

21 Q. Has the Company shared the results of these studies with the MPSC and the public?

22 A. Yes. In March 2017, the Company presented the results of its potential studies as part of
23 the IRP Process workgroups. These studies were also shared with other members of the

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1 workgroups in an effort to collaboratively identify a reasonable level of demand-side
2 resources for Michigan.¹

3 Q. Are the findings in the energy efficiency and demand response potential studies prepared
4 by Consumers Energy consistent with those identified as part of the MPSC IRP
5 workgroups?

6 A. Yes. On August 11, 2017, the MPSC presented the results of the statewide energy
7 efficiency potential study. The study was based on feedback from various stakeholders in
8 the workgroups. The results of the study suggested the state could reduce energy usage
9 by 1.44% per year over 10 years, which is reasonably close to the Company's study that
10 showed 1.48% per year. Likewise, the MPSC presented its statewide demand response
11 potential study later that fall. The statewide demand response potential study suggested
12 that the state could reduce peak demand up to 9.3% by 2026, which is a little lower than
13 the Company's estimate of 10.8% by 2026. Although the demand response potential in
14 the Company's service territory appears higher than the state, both studies align well with
15 the Company's estimate.

16 Q. Has the Company implemented either energy efficiency or demand response programs?

17 A. Yes. Beginning in 2017 the Company aggressively started promoting both its energy
18 efficiency and demand response programs. Although the Company has been promoting
19 energy efficiency programs since 2009, it increased investments in energy efficiency in
20 2017 to address a potential shortfall in energy and demand deliveries in the absence of
21 the Palisades Nuclear Plant in 2018. Preliminary results indicate the Company has

¹ The potential studies can be found under the Energy Waste Reduction or Demand Response sections of the MPSC website at: <http://www.michigan.gov/mpsc/0,4639,7-159-80741---,00.html>

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1 delivered energy savings of 1.47% through November and will likely exceed the 1.50%
2 level by year-end. Similarly, the Company has enrolled approximately 44,000 residential
3 customers in its AC Peak Cycling and Peak TOU programs and 121 business customers
4 at 146 locations in its business programs at the end of November 2017. The combined
5 result of the residential and business program enrollments is over 100 MWs.

6 Q. Are there any indications of the ability to increase demand response programs and
7 maintain those increased levels?

8 A. Yes. The Company's C&I DR program had 50 MW under contract for the 2017 demand
9 response season. The Company has 74 MW of demand response under contract for the
10 2018 demand response season and has a wait list for the 2019 program.

11 Q. Please describe all new Company-owned generation resources in the 10-year capacity
12 position.

13 A. New utility-owned generation planned for 2018-2028 period includes expansion of the
14 Cross Winds Energy Park and further investment in renewable resources in accordance
15 with the Company's RE Plan. Exhibit A-1 (TPC-1), lines 12 through 20 include new and
16 upgraded generation sources.

17 Q. What is the status of Cross Winds Energy Park Phase II and Phase III?

18 A. The Company is expanding on the Cross Winds Energy Park by building Cross Winds
19 Energy Park, Phase II ("Cross Winds II") and Cross Winds Energy Park, Phase III
20 ("Cross Winds III"). As approved in Case No. U-15805, construction began in 2017 on
21 Cross Winds II, which will be a 44 MW, 19 turbine wind facility. Cross Winds II
22 construction is substantially complete and is scheduled to begin commercial operation on
23 January 2, 2018. In Case No. U-18345, the Commission approved the Company's

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1 request to accelerate construction of Cross Winds III from 2022 to 2019. Cross Winds III
2 will add an additional 76 MW with commercial operation planned to commence in
3 2020. The construction contracts associated with Cross Winds II and III were approved
4 by the Commission in Case No. U-15805.

5 Q. Please describe the further investment in renewable resources in accordance with the
6 Company's RE Plan as filed in Case No. U-18231.

7 A. The Company's RE Plan contains four renewable additions:

- 8 1. A 6 MW expansion of the Company's Solar Garden's initiative by Planning
9 Year 2020;
- 10 2. The addition of 525 MWs of new wind generation by Planning Year 2021;
- 11 3. \$2.3 million investment in Research and Development for the installation of
12 urban distributed rooftop solar by Planning Year 2021; and
- 13 4. The addition of 100 MWs of new utility scale solar generation by Planning
14 Year 2025.

15 Q. Please discuss the Company's Solar Gardens Program.

16 A. On May 14, 2015, in Case No. U-17752, the Commission approved the Company's
17 request to install up to 10 MW of community solar energy. At present, the Company has
18 a solar facility located at Grand Valley State University and a second solar facility
19 located at Western Michigan University, which totals 4 MW of solar energy
20 installed. The Company is in the process of conducting marketing and customer research
21 to identify complementary program designs – such as urban community solar – and
22 advance its understanding of customer interests under the Solar Gardens Program.

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1 Q. Please provide an overview of the Company's proposal to build 525 MW of wind
2 generation.

3 A. To further support Consumers Energy's compliance with a RPS of 15%, the Company
4 issued a Request for Proposals for new wind generation. As currently being considered
5 in Case No. U-18231, the Company is planning for up to 525 MW of new wind facilities
6 to support meeting the 15% RPS through the end of the plan period in 2029. The timing
7 of the addition of the planned wind projects by Planning Year 2020 assumes 100%
8 Production Tax Credits are available to the facilities. The Company has completed due
9 diligence reviews on the proposals received, as well as economic evaluations on the
10 projects. A short-list of in-state wind projects is being considered.

11 Q. Please describe the research and development investment in urban solar.

12 A. The Company continues to invest in research and development of renewable energy
13 sources and is requesting \$2.3M in Research and Development capital funding for the
14 installation of 0.5 MW of urban distributed rooftop solar to advance the Company's
15 understanding of the costs, processes, and requirements of installing additional solar
16 within the distribution system.

17 Q. Please describe the 100 MW of utility scale solar generation.

18 A. At this time, the Company is not actively pursuing development of solar projects. The
19 RE Plan identifies these projects for Planning Years 2024 and 2025. Given the long lead
20 time and potential for modification to the RE Plan between now and the initiation of
21 development of 100 MWs of utility scale solar, the Company has not included the
22 capacity associated with the installation of 100 MWs of solar in its 10-year capacity
23 position.

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1 Q. Please describe the existing generation capacity contracts in the Company's 10-year
2 capacity position.

3 A. Exhibit A-1 (TPC-1), lines 24-34 summarize the PPA and other capacity contracts
4 expected to be relied upon for Planning Years 2018 through 2028. Furthermore,
5 Confidential Exhibit A-4 (TPC-4) details the Company's capacity contracts. This Exhibit
6 specifies the unit(s) or pool of generation and the location. In developing these exhibits,
7 the Company has assumed: (i) that existing PURPA QF suppliers will continue their
8 contractual relationships with the Company with new PPAs based on the Company's
9 avoided costs; (ii) the approval of Amendment No. 2 to the Filer City PPA as requested
10 in Case No. U-18392; and (iii) that the Company will exercise its bargained for
11 contractual right in the MCV PPA to extend that PPA for an additional five years at a
12 reduced capacity rate.

13 Q. Please discuss the Company's assumption regarding its existing QF PPAs.

14 A. The Company has several PURPA-based PPAs in place with QFs that will terminate
15 during the time period from 2018 to 2028. However, the Company has forecasted that
16 these existing contracts will be replaced with new PURPA-based agreements at the rates
17 established in Case No. U-18090. Obligations to contract are projected to remain
18 throughout the 10-year planning period. The Company's assumption in this regard is
19 based on the Commission's November 21, 2017 Order in Case No. U-18418 addressing
20 IRP Parameters which, on page 11, stated as follows:

21 "The Commission agrees that presuming no changes to PURPA or
22 a utility's obligations under that law is reasonable, and has so
23 reflected by adding the assumption that existing PURPA contracts
24 would be renewed..."

25 The Commission further stated on page 74 of its November 21, 2017 Order that:

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1 “While the Commission has not elected to require assumptions
2 regarding expanding PURPA contracts at this time, the
3 Commission has added a requirement to assume that existing
4 PURPA contracts are renewed.”

5 Q. Please discuss the current status of Amendment No. 2 to the Filer City
6 PPA.

7 A. On December 8, 2017, the Administrative Law Judge (“ALJ”) in Case No. U-18392
8 recommended approval of Amendment No. 2 to the Filer City PPA. In reaching that
9 recommendation, the ALJ specifically found that: (i) it is inappropriate and unnecessary
10 in this matter to consider Amendment No. 2 costs relative to U-18090 avoided costs; (ii)
11 Amendment No. 2 capacity and energy prices are reasonable and prudent and comply
12 with the Commission’s Code of Conduct; (iii) Amendment No. 2 would not be
13 discriminatory to other PURPA QFs; and (iv) Amendment No. 2 would increase Lower
14 Michigan’s generation capacity and result in substantial savings to Consumers Energy
15 customers. In addition to the recommendation of the ALJ, it should be noted that no
16 party contested approval of Amendment No. 2 in Initial or Reply Briefs. Furthermore,
17 the Partnership has made no indication to the Company that it cannot deliver consistent
18 with the Converted Plant Initial Delivery Date options provided for within Amendment
19 No. 2.

20 Q. Please describe the Converted Plant Initial Delivery Date options provided for within
21 Amendment No. 2.

22 A. Amendment No. 2 to the Filer City PPA allows for the Converted Plant to begin
23 deliveries in several years. Specifically, the Converted Plant Initial Delivery can occur
24 on June 1 of 2018 through 2022. As a result of delays in initial deliveries, the contract
25 reduces the capacity payment provided to the Partnership. The reduced capacity payment

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1 ensures that customers are at least held harmless for any delay in the initial deliveries
2 from the Converted Plant.

3 Q. Please describe the Company's unilateral right under the existing MCV PPA to continue
4 to purchase capacity provided by MCV through the 10-year planning period.

5 A. Page 24, Paragraph 19 of the Amended and Restated 2008 MCV PPA contains the
6 following language:

7 "19. Purchase Option/Contract Extension

8
9 "Beginning December 1, 2023, and continuing through March 15,
10 2024, Consumers shall have the option to: (i) purchase the MC-
11 Facility at the then fair market value as determined by an appraisal
12 mutually acceptable to the Parties, or (ii) extend this Agreement
13 for an additional five-year term at a Capacity Price of \$5 per
14 megawatt hour. In the event that Consumers exercises the
15 foregoing purchase option, the effective date of any such exercise
16 shall be no earlier than March 16, 2025, and the timing and means
17 of payment will be contained in a purchase agreement negotiated
18 between the Parties. In the event that Consumers exercises the
19 foregoing extension option, the effective date of any such exercise
20 shall be no earlier than March 16, 2025."

21 The above provision represents a bargain for contractual right which was approved by the
22 Commission in Case No. U-15320. As such, it is appropriate for the Company to include
23 this capacity in its outlook until the dates identified in this provision have been reached
24 and a decision has been made regarding the facility. Furthermore, the PPA extension
25 option makes economic sense for customers when compared to avoided cost rates. The
26 capacity payment provided for in the PPA extension option is approximately
27 \$120,000/ZRC-year which is substantially less than the avoided capacity cost of
28 \$140,505/ZRC-year as determined in Case No. U-18090.

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1 Q. Please describe the existing Forward ZRC contracts in the Company's 10-year capacity
2 position.

3 A. Consumers Energy has assumed that only existing approved bilateral ZRC purchases will
4 be relied upon throughout the 10-year planning period. These amounts are detailed in
5 Confidential Exhibit A-4 (TPC-4), line 45 (bi-lateral ZRC purchases).

6 Q. How does the Company's current 10-year capacity position compare to the 10-year
7 capacity position presented in Case No. U-18090?

8 A. The 10-year capacity position provided in Case No. U-18090 was based on information
9 available in September of 2016. Since that time, the Company has had significant
10 changes in its bundled load projections, changed assumptions regarding new contracts
11 with existing PURPA facilities, and adjustments to demand response and energy
12 efficiency program levels. A summary of the changes between the projections of load
13 and capacity is provided in Confidential Exhibit A-5 (TPC-5).

14 Q. Please describe Confidential Exhibit A-5 (TPC-5).

15 A. Confidential Exhibit A-5 (TPC-5) is separated into two categories. The first category
16 (line 1 – line 26), the "Capacity" section of the exhibit, shows the ZRCs that the
17 Company was expecting to have available from generation and supply side resources at
18 the initial filing date in Case No. U-18090, the specific changes that have occurred to
19 those resources between the Case No. U-18090 filing and this filing, and the resulting
20 total number of ZRCs that the Company is expecting to have available from generation
21 and supply side resources which was used in the development of the 10-year capacity
22 position reported in Exhibit A-1 (TPC-1). Note that in the Capacity section positive
23 numbers indicate an expected increase in ZRCs from a resource and negative numbers

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1 indicate an expected decrease in ZRCs from a resource. Negative values will cause the
2 Company's net capacity position to worsen and positive numbers will cause the
3 Company's capacity position to improve. The second category (line 27 through line 32),
4 the "Load" section of the exhibit, shows the number of ZRCs that the Company was
5 expecting to have to meet with generation and supply side resources, referred to as the
6 PRMR, at the initial filing date in Case No. U-18090, the specific changes that have
7 occurred to the PRMR between the Case No. U-18090 filing and this filing, and the
8 resulting PRMR that was used in the development of the 10-year capacity position
9 reported in Exhibit A-1 (TPC-1).

10 Q. Please describe the changes identified in Confidential Exhibit A-5 (TPC-5).

11 A. Line 2 identifies a sum of all the changes to the Company's owned capacity resources.
12 This is a sum of line 3 through line 12. These changes are primarily explained by
13 changes in the assumed EFORD for each of the identified generators. The exceptions are
14 line 9 through line 11.

- 15 1. **Line 9** - Peaker Extension: This resource represents the decision to extend the
16 life of the Company's existing combustion turbine peaker fleet by one year
17 compared to the original Case No. U-18090 filing. These are low cost
18 capacity resources which deliver 36 ZRCs identified at approximately 50% of
19 Cost of New Entry or \$45,000 / ZRC-year. These units are at the end of their
20 life and continued operation is considered annually based on need and cost to
21 continue operations;
- 22 2. **Line 10** – Cross Winds: This resource represents all phases of the Company's
23 Cross Winds Energy Park. The increase in ZRC from this resource is
24 attributed to the additions of Cross Winds Phase II and Cross Winds Phase III.
25 As discussed above, these additional Phases are under development and have
26 been approved by the Commission; and
- 27 3. **Line 11** – RPS Units: This resource represents the additional wind
28 development associated with the Company's Renewable Energy Plan
29 discussed above.

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1 In addition, line 13 represents changes in the expected ZRCs that the Company
2 will receive in accordance with the Palisades PPA. The ZRCs delivered under that
3 agreement are adjusted annually to reflect current plant operations. In Planning Year
4 2021 the Company was showing credit for the Palisades PPA, but while developing the
5 Palisades PPA Buyout Replacement Plan the Company determined that those ZRCs
6 could not be counted on for Planning Year 2021 because the current PPA does not
7 continue through the end of Planning Year 2021 (May 31, 2022).

8 Line 14 shows the reduction in ZRCs expected from the Company's PPA with
9 MCV. This reduction represents changes to MCVs EFORD that impact the number of
10 ZRCs delivered under that contract.

11 Line 15 shows the reductions in ZRCs that will be received under the various
12 agreements that the Company has as a result of the 2008 Renewable Energy Portfolio
13 Standard. These reductions are due to unit performance.

14 Line 16 is the sum of line 17 through line 18. Line 17 represents the additional
15 ZRCs that the Company will receive under Amendment No. 2 to the Filer City PPA
16 discussed above. The Company currently receives approximately 59 ZRCs from the Filer
17 City PPA. The conversion of the facility under Amendment No. 2 increases the ZRCs to
18 approximately 217 ZRCs. The increases identified in Planning Year 2019 through
19 Planning Year 2024 represents the incremental increase due to the conversion. The
20 increases identified in Planning Year 2025 and beyond represent the extension of the
21 PPA.

22 Line 18 represents a material change in the assumptions regarding existing
23 PURPA QF PPAs with generators that are less than 20 MWs. In the initial filing in Case

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1 No. U-18090, the Company did not assume continued receipt of ZRCs from any PURPA
2 QF facilities beyond the initial term of the existing PPA. The Company now reflects the
3 ZRCs from existing PURPA QFs that are less than 20 MWs beyond the termination of
4 their current PPAs. As discussed above, this is consistent with the Commission's
5 direction in its November 21, 2017 Order in Case No. U-18418. This line identifies the
6 impact of that change in assumption.

7 Line 19 captures the impact of a change in assumption regarding contract
8 terminations and receipt of ZRCs. In the initial filing in Case No. U-18090, the Company
9 assumed that a contract that continued over the peak summer months could be counted on
10 to deliver ZRCs for that Planning Year. Upon further consideration, it was determined
11 that this assumption was incorrect. ZRCs can only be relied upon if the contract
12 continues through the entire Planning Year.

13 Line 20 is a sum of line 21 through line 24 and represents the aggregate change in
14 demand response programs. The Company manages demand response programs as a
15 portfolio of resources and adjusts plans to deliver the most cost effective demand
16 response for customers. As a result, there have been significant changes to the individual
17 demand response program assumptions.

18 Line 21 identified reductions in ZRCs expected from the Company's Peak Power
19 Savers AC cycling program. These reductions are primarily due to a reduction in the
20 planning value used for each AC unit under the Company's control. The reduction in
21 planning value is a result of actual load shed realized in 2017 and updated potential
22 studies.

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1 Line 22 represents the successful registration with MISO of the Company's
2 Energy Intensive Primary customer rate as a resource. Uncertainty regarding the
3 Company's ability to register this program had prevented the Company from assuming
4 these ZRCs would be available at the time of filing the Case No. U-18090 capacity
5 position.

6 Line 23 represents the ZRCs expected from the Company's C&I DR program. At
7 the time of filing Case No. U-18090, the Company was planning on 40 MWs from this
8 program through the entire 10-year planning horizon. This program was approved to
9 expand by 110 MWs in the Company's electric rate case, Case No. U-17990. In that
10 case, the Company identified plans to expand the program to 150 MWs (or nearly 170
11 ZRCs). The success of the C&I DR program has led the Company to reevaluate the mix
12 of its programs. For instance, the Company intends to increase the C&I DR program
13 demand savings by 110 MWs to offset an equal reduction in the demand savings from its
14 residential Peak TOU program.. The net result is an increase in C&I DR of 281 ZRCs by
15 Planning Year 2023.

16 Line 24 identifies increases in the Company's Interruptible Tariff. These
17 increases are due to unanticipated participation increases. 50 MWs of participation
18 increase occurred for Planning Year 2017 and demand from customers for greater
19 participation has led the Company to seek program adjustments in its currently pending
20 electric rate case (Case No. U-18322) which has allowed the Company to secure an
21 additional 25 MWs of participation once approval is achieved. This 75 MW increase in
22 Rate GI delivers an additional 86 ZRCs.

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1 Line 25 identifies the 180 ZRCs acquired through a reverse capacity auction to fill
2 the Company's need for Planning Year 2017. That need is now irrelevant because those
3 ZRCs had to be available from June 1, 2017 through June 1, 2018.

4 Line 28 identifies changes in the Company's peak demand forecast. This forecast
5 is updated at least once per year and resulted in a reduction in the expected peak load.

6 Line 29 is a sum of line 30 and line 31.

7 Line 30 represents the Company's plans to increase energy efficiency from 1% of
8 sales to 1.5% of sales as discussed above.

9 Line 31 represents the adjusted customer acquisition plans for the Company's
10 residential peak TOU program based on customer enrollment and feedback in 2017.

11 Q. Has the Company made any recent filings which demonstrate the Company's capacity
12 position?

13 A. Yes. The Company recently provided its capacity position in the State Reliability
14 Mechanism ("SRM") proceeding, Case No. U-18441 on December 1, 2017. In that
15 filing, the Company demonstrated that it has no need for additional capacity for the next
16 four years. The Company also provided a capacity position in its 2018 PSCR Plan,
17 which was filed September 29, 2017. The Company's 2018 PSCR Plan demonstrates
18 that the Company has no capacity need for the next five years. The recent filings are
19 consistent with the Company's capacity position as provided in this filing.

20 Q. What relief is the Company seeking in this proceeding?

21 A. As demonstrated in the provided testimony and exhibits, the Company has no need for
22 new capacity over the 10-year planning horizon. Therefore, the Company's avoided
23 capacity cost should be set at the MISO PRA price for all new PURPA QF offers to sell

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1 capacity to the Company and its customers. While the Company has established in this
2 filing that it does not have a capacity need over the next 10 years, if the Commission
3 determines otherwise, the Company requests that the Commission specifically identify
4 the Company's capacity purchase obligation and find that once the Company fulfills that
5 obligation, the Company's avoided capacity cost shall be reset at the MISO PRA price
6 for any additional QF offers to sell capacity.

7 Q. If the Commission resets the Company's avoided capacity costs to the MISO PRA price
8 in this proceeding, where does the Company propose that the Commission next examine
9 the Company's capacity position?

10 A. If the Commission resets the Company's avoided capacity costs to the MISO PRA price
11 based on a finding that the Company has no capacity need for the next 10 years, the
12 Company proposes that its capacity position be reexamined in the context of the
13 Company's 2018 IRP filing. .

14 Q. Does this complete your direct testimony at this time?

15 A. Yes, it does.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
to Reset Avoided Capacity Costs)
_____)

Case No. U-18491

EXHIBITS
OF
THOMAS P. CLARK
ON BEHALF OF
CONSUMERS ENERGY COMPANY

December 2017

MICHIGAN PUBLIC SERVICE COMMISSION
 Consumers Energy Company

Planning Reserve Margin Requirements and Planning Resources to be Acquired (UCAP MW)

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Line	PY 2018-2019	PY 2019-2020	PY 2020-2021	PY 2021-2022	PY 2022-2023	PY 2023-2024	PY 2024-2025	PY 2025-2026	PY 2026-2027	PY 2027-2028	PY 2028-2029
1	Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW	8,043	8,148	8,237	8,260	8,347	8,400	8,450	8,460	8,494	8,534
2	Internal Demand Response Programs that are applied as an adjustment to the Peak forecast, MW	472	541	618	666	697	716	783	875	942	1,044
3	Adjusted Forecasted Bundled (or AES) Non-Coincident Peak Demand, MW (line 1 - line 2)	7,571	7,607	7,619	7,595	7,651	7,684	7,666	7,584	7,552	7,535
4	Load Diversity Factor coincident to MISO Factor, %	1	1	1	1	95.54%	95.54%	95.54%	95.54%	95.54%	95.54%
5	Adjusted Forecasted Bundled (or AES) Coincident Peak Demand, MW (line 3 x line 4)	7,233	7,268	7,280	7,256	7,310	7,341	7,325	7,246	7,215	7,199
6	Transmission Losses, %	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
7	Adjusted Total Peak Demand, MW (line 5/ (1+ line 6))	6,988	7,022	7,034	7,011	7,062	7,093	7,077	7,001	6,971	6,976
8	Applied Transmission Losses, MW (line 6 x line 7)	245	246	246	245	247	248	248	245	244	243
9	Adjusted Total Peak Demand, MW (same as line 7)	6,988	7,022	7,034	7,011	7,062	7,093	7,077	7,001	6,971	6,955
10	Planning Reserve Margin % UCAP Basis	8.40%	8.40%	8.30%	8.30%	8.40%	8.40%	8.30%	8.30%	8.30%	8.30%
11	Total Planning Reserve Margin (expected reserves), ZRC ((line 8 + line 9) x (1 + line 10))	7,841	7,878	7,884	7,858	7,924	7,958	7,933	7,848	7,814	7,819
12	Company Owned, In-State, Non-Intermittent, ZRC	5,124	5,190	5,263	5,283	5,304	5,304	5,304	5,304	5,304	5,304
13	Company Owned, Out-of-State, Non-Intermittent, ZRC	0	0	0	0	0	0	0	0	0	0
14	Company Owned, In-State, Non-Intermittent (BTMG), ZRC	17	17	17	17	17	17	17	17	17	17
15	Company Owned, Out-of-State, Non-Intermittent (BTMG), ZRC	0	0	0	0	0	0	0	0	0	0
16	Company Owned, In-State, Intermittent, ZRC	60	60	99	154	154	154	154	154	154	154
17	Company Owned, Out-of-State, Intermittent, ZRC	0	0	0	0	0	0	0	0	0	0
18	Company Owned, In-State, Intermittent (BTMG), ZRC	11	11	12	12	12	12	12	12	12	12
19	Company Owned, Out-of-State, Intermittent (BTMG), ZRC	0	0	0	0	0	0	0	0	0	0
20	Total Company Owned Generation, ZRC (sum of lines 12-19)	5,212	5,278	5,391	5,466	5,487	5,487	5,487	5,487	5,487	5,487
21	Load Modifying Resources, Treated as Capacity, MW	270	339	428	504	549	579	579	579	579	579
22	Applied Transmission Losses, MW (line 21 x line 6)	9	12	15	18	19	20	20	20	20	20
23	Total Qualified Demand Response Resources including PRM _{UCAP} , ZRC ((line 21 + line 22) x (1 + line 10))	302	380	479	565	616	649	649	649	649	649
24	PPA, In-State, Intermittent Resource, ZRC	67	67	66	66	66	65	65	65	65	64
25	PPA, Out-of-State, Intermittent Resource, ZRC	0	0	0	0	0	0	0	0	0	0
26	PPA, In-State, Intermittent (BTMG), ZRC	2	1	1	1	0	0	0	0	0	0
27	PPA, Out-of-State, Intermittent (BTMG), ZRC	0	0	0	0	0	0	0	0	0	0
28	PPA, In-State, Non-Intermittent Resource, ZRC	2,359	2,517	2,517	1,753	1,763	1,763	1,763	1,738	1,741	1,708
29	PPA, Out-of-State, Non-Intermittent Resource, ZRC	0	0	0	0	0	0	0	0	0	0
30	PPA, In-State, Non-Intermittent (BTMG), ZRC	39	39	39	39	30	30	30	26	22	19
31	PPA, Out-of-State, Non-Intermittent (BTMG), ZRC	0	0	0	0	0	0	0	0	0	0
32	Other Forward Capacity Contract, ZRC - In-State	20	20	20	0	0	0	0	0	0	0
33	Other Forward Capacity Contract, ZRC - Out-of-State	0	0	0	0	0	0	0	0	0	0
34	Total PPA, ZRC (sum of lines 24-33)	2,487	2,644	2,644	1,859	1,859	1,858	1,858	1,829	1,829	1,792
35	Total Planning Resources, ZRC (line 20 + line 23 + line 34)	8,001	8,303	8,514	7,890	7,962	7,994	7,994	7,965	7,965	7,928
36	UCAP Surplus/(Shortfall), ZRC (line 35- line 11)	161	424	630	32	38	36	61	117	150	109

^[1] The Company modified Line 9 to be equal to Line 7 (rather than Line 5 as originally proposed by Staff). Furthermore, the Company modified Staff's formulas in Line 7 to be Line 5/(1+Line 6), and Line 8 to be Line 6 times Line 7.
^[2] The Company modified these lines to include breakdowns of owned resources which are classified as behind-the-meter-generation (BTMG), for both intermittent and non-intermittent resources, for consistency with power purchase agreement (PPA) breakouts.
^[3] The Company modified these lines to break down power purchase agreements into categories based on intermittency and BTMG.
^[4] Details that are not expressly broken out in this exhibit, such as which resources are PURPA and PA 295, are shown in Exhibit 6.

MICHIGAN PUBLIC SERVICE COMMISSION
 Consumers Energy Company

Demand Response - Capacity Resources

Line	(a)	(b)	(c)	(d)	(e)
		Demand Response Program Name	Demand Response Program (MW)	Credit Transmission Losses and PRM UCAP (MW)	Total ZRC per Program Name
1		PY 2018-UCAP	Peak Power Savers (AC Cycling)	24.1	27.0
2			Rate EIP	48.3	54.2
3			C&I DR	60.0	67.3
4			Rate GI	137.2	153.9
5					
6					
7					
8					
		Total Demand Response - Capacity Resources PY 2018-2019 (ZRC)			302.4
9		PY 2019-UCAP	Peak Power Savers (AC Cycling)	43.5	48.8
10			Rate EIP	48.3	54.2
11			C&I DR	110.0	123.4
12			Rate GI	137.2	153.9
13					
14					
15					
16					
		Total Demand Response - Capacity Resources PY 2019-2020 (ZRC)			380.3
17		PY 2020-UCAP	Peak Power Savers (AC Cycling)	62.0	69.5
18			Rate EIP	48.3	54.1
19			C&I DR	180.0	201.8
20			Rate GI	137.2	153.8
21					
22					
23					
24					
		Total Demand Response - Capacity Resources PY 2020-2021 (ZRC)			479.2
25		PY 2021-UCAP	Peak Power Savers (AC Cycling)	78.8	88.3
26			Rate EIP	48.3	54.1
27			C&I DR	240.0	269.0
28			Rate GI	137.2	153.8
29					
30					
31					
32					
		Total Demand Response - Capacity Resources PY 2021-2022 (ZRC)			565.2
33		PY 2022-UCAP	Peak Power Savers (AC Cycling)	94	105
34			Rate EIP	48	54
35			C&I DR	270	303
36			Rate GI	137	154
37					
38					
39					
40					
		Total Demand Response - Capacity Resources PY 2022-2023 (ZRC)			616
41		PY 2023-UCAP	Peak Power Savers (AC Cycling)	103	116
42			Rate EIP	48	54
43			C&I DR	290	325
44			Rate GI	137	154
45					
46					
47					
48					
		Total Demand Response - Capacity Resources PY 2023-2024 (ZRC)			649
49		PY 2024-UCAP	Peak Power Savers (AC Cycling)	103	116
50			Rate EIP	48	54
51			C&I DR	290	325
52			Rate GI	137	154
53					
54					
55					
56					
		Total Demand Response - Capacity Resources PY 2024-2025 (ZRC)			649
57		PY 2025-UCAP	Peak Power Savers (AC Cycling)	103	116
58			Rate EIP	48	54
59			C&I DR	290	325
60			Rate GI	137	154
61					
62					
63					
64					
		Total Demand Response - Capacity Resources PY 2025-2026 (ZRC)			649
65		PY 2026-UCAP	Peak Power Savers (AC Cycling)	103	116
66			Rate EIP	48	54
67			C&I DR	290	325
68			Rate GI	137	154
69					
70					
71					
72					
		Total Demand Response - Capacity Resources PY 2026-2027 (ZRC)			649
73		PY 2027-UCAP	Peak Power Savers (AC Cycling)	103	116
74			Rate EIP	48	54
75			C&I DR	290	325
76			Rate GI	137	154
77					
78					
79					
80					
		Total Demand Response - Capacity Resources PY 2027-2028 (ZRC)			649
81		PY 2028-UCAP	Peak Power Savers (AC Cycling)	103	116
82			Rate EIP	48	54
83			C&I DR	290	325
84			Rate GI	137	154
85					
86					
87					
88					
		Total Demand Response - Capacity Resources PY 2028-2029 (ZRC)			649

A-3 (TPC-3)

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A-4 (TPC-4)

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A-5 (TPC-5)

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