



A CMS Energy Company

September 17, 2018

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RE: Case No. U-20165 – In the Matter of the Application of Consumers Energy Company for Approval of an Integrated Resource Plan under MCL 460.6t and for other relief.

Dear Ms. Kale:

Enclosed for electronic filing in the above-captioned case, please find the **Consumers Energy Company's Application for Leave to Appeal the Administrative Law Judge's September 10, 2018 Ruling.**

This is a paperless filing and is therefore being filed only in PDF. I have included a Proof of Service showing electronic service upon the parties.

Sincerely,

Robert W. Beach

cc: Hon. Sharon L. Feldman, Administrative Law Judge
Parties per Attachment 1 to Proof of Service

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 and for other relief.)
_____)

Case No. U-20165

CONSUMERS ENERGY COMPANY'S
APPLICATION FOR LEAVE TO APPEAL
THE ADMINISTRATIVE LAW JUDGE'S SEPTEMBER 10, 2018 RULING

I. INTRODUCTION

On June 15, 2018, Consumers Energy Company (“Consumers Energy” or the “Company”) filed the first ever Integrated Resource Plan (“IRP”) under MCL 460.6t. The Company’s IRP recommended a “Proposed Course of Action” (the “Company’s PCA” or “PCA”) for meeting Consumers Energy’s customers’ energy and capacity needs through 2040. The PCA proposes a dramatic change in the way the Company’ procures capacity moving forward. To take advantage of declining costs and better align capacity procurement with the timing of a capacity need, the Company’s PCA proposes to predominantly pursue modular solar generation resource additions and use competitive bidding to address all future capacity needs. To effectuate the PCA and recognize the Company’s plan to meet capacity needs with competitively bid solar generation, the Company presented evidence proposing: (a) a competitive bidding process for all capacity needs going forward; (b) revising the avoided cost available to Qualifying Facilities (“QFs”) under the Public Utilities Regulatory Policies Act (“PURPA”) based on those competitive bids; (c) a three-year capacity planning forecast; and (d) contract term lengths for QFs which align with the Company’s actual needs. Each of these

proposals are central to the Company satisfying the burden that its plan be the “most reasonable and prudent” as required by the law. MCL 460.6t(8).

On September 10, 2018, the Administrative Law Judge (“ALJ”) presiding over this matter, Sharron L. Feldman, granted a motion to strike all of the testimony addressing issues (a) through (d) cited above (the “ALJ’s Ruling” or the “Ruling”). The Ruling struck a substantial portion of the Company’s IRP filing, precluding the Michigan Public Service Commission (“MPSC” or the “Commission”) from even considering key elements of the Company’s PCA¹. The Ruling also directed the Company to refile revisions not seeking approval of the PURPA-related issues by September 17, 2018. Pursuant to Rule 792.10433 of the rules of practice and procedure before the Commission, Consumers Energy files this Application for Leave to Appeal the ALJ’s Ruling (“Application”). The Commission should reject the ALJ’s Ruling and allow all of the evidence struck by the Ruling to remain in the record for consideration and evaluation before a final order.

II. THE COMMISSION SHOULD GRANT THE COMPANY’S APPLICATION FOR LEAVE TO APPEAL

Rule 433 of the Commission’s Rules of Practice and Procedure provides that a party may appeal an ALJ’s ruling to the Commission. Mich Admin Code R 792.10433. This rule states the criteria used by the Commission when reviewing an Application for Leave to Appeal:

- “(2) The commission will grant an application and review the presiding officer's ruling if any of the following provisions apply:
 - (a) A decision on the ruling before submission of the full case to the commission for final decision will materially advance a timely resolution of the proceeding.
 - (b) A decision on the ruling before submission of the full case to the commission for final decision will prevent substantial harm to the appellant or the public-at-large.

¹ Attached to this application as Exhibit A is all of the testimony struck by the ALJ’s Ruling, as proposed in the Joint Intervenor’s Motion to Strike. Please note that the page numbers are different than those provided in the Company’s Initial Filing.

(c) A decision on the ruling before submission of the full case to the commission for final decision is consistent with other criteria that the commission may establish by order.” Mich Admin Code R 792.10433(2).

The Commission should grant the Company’s Application because by doing so, the Commission: (i) will materially advance a timely resolution of the proceeding and will prevent substantial harm to the public-at-large and (ii) will prevent substantial harm to the Company and the public-at-large. Furthermore, the Commission should grant the Company’s Application because it is consistent with other criteria that the Commission has established by order.

The Ruling failed to appropriately address the basis upon which the Environmental Law and Policy Center (“ELPC”), the Ecology Center, and Vote Solar (collectively “Joint Intervenors”) sought to strike the Company’s PURPA avoided cost testimony and appropriately apply the law. The Ruling ignored the Commission’s direction to the Company in Case No. U-18090 to address avoided cost issues in this IRP. The Company’s PURPA avoided costs proposals should be considered in this proceeding because they are relevant to the capacity and energy issues being addressed in IRP, integrally related to the Company’s other proposals in this case, and consistent with the Commission’s direction to consider avoided costs in an IRP case. Without the evidence struck by the ALJ, it is impossible to evaluate the Company’s PCA. And the Company cannot reshape its testimony to recognize that PURPA-related issues will not be addressed in this proceeding. The PCA requires an examination of these issues.

III. SUMMARY OF ARGUMENT

As set forth in the sections below, Consumers Energy PURPA avoided cost and competitive bidding proposals should not be stricken because they are relevant to, and firmly within, the scope of this IRP proceeding conducted pursuant to MCL 460.6t. The Company’s

proposals are also consistent with the Commission's prior orders concerning the consideration of PURPA avoided costs in IRP proceedings.

The Company's PCA proposes a dramatic change in the way the Company procures capacity moving forward which takes advantage of declining costs and better aligns capacity procurement with the timing of a capacity need. The Company's proposals, which make up its PCA, do not seek to re-litigate Case No. U-18090 as it applies to: (i) existing QFs with PURPA-based PPAs that expire prior to the conclusion of this IRP; (ii) the 150 MW that the Commission has required to be purchased from certain QFs at the full avoided cost rate; and (iii) any QF at or below 20 MW that wishes to accept compensation for capacity at the Midcontinent Independent System Operator, Inc. ("MISO") Planning Resource Auction ("PRA") rate. The Commission's orders in Case No. U-18090 have indicated that the facilities that fall into these three categories should receive compensation based on the Case No. U-18090 avoided cost rates. Therefore, there is a clear demarcation between what the Commission has approved in Case No. U-18090 and what the Company has proposed here. What the Company's PURPA avoided cost and competitive bidding proposals seek to accomplish in this IRP is a change to the PURPA avoided cost structure on a going forward basis so that the Company's PCA may be implemented.

If the ALJ's Ruling stands, the Company will not be able to implement its PCA absent its competitive bidding proposal. The record evidence remaining after the ALJ's Ruling proposes that the Company retire D. E. Karn ("Karn") Units 1 and 2 in 2023 and begin adding incremental solar generation to its portfolio. But it does not include any evidence explaining that the solar additions would be done through an independently run competitive bidding process to take advantage of competition and declining costs. And there is no evidence explaining that if the

Commission utilizes a 10-year capacity outlook and applies the avoided costs set in Case No. U-18090 to the Company's PCA, it will have significant unfavorable consequences both for customers and the Company. The Company's proposals must remain in the case so that the Commission can fully consider and approve the most reasonable and prudent means of meeting the energy and capacity needs of the Company's customers.

Furthermore, given the integrated nature of the Company's PCA, it is not feasible for the Company to file revised testimony, as directed by the ALJ. Ruling, pages 38-39. The Company's PURPA avoided cost and competitive bidding proposals are directly related to its plan for adding solar generation and its plan to retire Karn Units 1 and 2 early. The Company cannot go forward with its plan unless its PURPA avoided cost and competitive bidding proposals are considered. The Commission's adoption of the ALJ's Ruling would cause the Company to significantly modify its initial filing; thus causing the potential need for the Company to withdraw and refile its case.

The Commission should not adopt the ALJ's Ruling because it restricts the Commission's access to a full and complete record in this IRP proceeding. Since this is the first IRP proceeding conducted pursuant to MCL 460.6t, the Commission's decisions regarding the scope of this proceeding will undoubtedly have an impact on all future IRP filings. In determining the most reasonable and prudent means of meeting future energy and capacity needs, it is important that the Commission allow for the consideration of all energy and capacity issues which may impact a plan to meet future energy and capacity needs. This includes the consideration of the Company's PURPA avoided cost and competitive bidding proposals which are relevant to and within the scope of MCL 460.6t. Instead of striking the Company's proposals

this preliminary stage, the Commission should allow the Company's proposals to remain in this case so that the Commission may consider a full and complete record.

IV. PROCEDURAL HISTORY

The ALJ's Ruling concerns proceedings in Case No. U-18090 and the Company's proposals in this IRP proceeding. The following provides an overview of Case No. U-18090 and the Company's filing and proceedings in Case No. U-20165.

A. Case No. U-18090

The Commission commenced Case No. U-18090 with its May 3, 2016 Order, which directed each Michigan-regulated public utility to provide "avoided cost calculations using: (1) the hybrid proxy plant method proposed in the [Public Utility Regulatory Policies Act of 1978 ('PURPA')] report; (2) the transfer price method developed under 2008 PA 295; (3) another method, if any, that the company wishes to propose; and (4) and [sic] proposed standard rate tariffs, including applicable design capacity." Case No. U-18089 *et seq.*, May 3, 2016 Order, pages 3-4. Consumers Energy made the required filing on June 17, 2016.

Following contested case proceedings, the Commission issued an Order in Case No. U-18090 on May 31, 2017 ("May 31 Order"), which adopted the MPSC Staff's ("Staff") hybrid proxy unit methodology for the determination of the Company's avoided costs. Utilizing this methodology, capacity payments made by the Company to QFs are based on a Natural Gas Combustion Turbine ("NGCT") proxy unit. Additionally, QFs have the option to choose an energy payment based on actual or forecasted Locational Marginal Pricing ("LMP") plus Investment Cost Attributable to Energy ("ICE") or the variable cost of a Natural Gas Combined Cycle ("NGCC") proxy unit plus an ICE. May 31 Order, pages 5-6. Whether or not the Company must make these capacity payments to QFs depends, in part, on whether or not the

Company has a capacity “need” during a Commission-specified planning period. The May 31 Order, therefore, also approved a mechanism for determining the Company’s future capacity need and adjusting the Company’s avoided capacity cost when capacity is not needed, indicating 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.” May 31 Order, pages 18-19.

As part of the Commission’s May 31 Order, the Commission also addressed a Staff proposal to reexamine the Company’s avoided costs every two years. The Commission found that:

“...given the rapid changes to the energy landscape, and pursuant to MCL 460.6v(3), a biennial review of PURPA avoided costs is appropriate and that for purposes of Section 6v(1) this proceeding should be considered the initial five-year review for Consumers.” May 31 Order, pages 28-29.

Additionally, in the May 31 Order, the Commission reopened the record to consider avoided cost input issues and then subsequently reopened the record a second time in its July 31, 2017 Order to further consider input issues. See May 31 Order, pages 19-20; see also MPSC Case No. U-18090, July 31, 2017 Order, 30-31. On November 21, 2017, the Commission issued an Order in the second reopened proceeding (“November 21 Order”) approving avoided cost inputs and calculations for energy and capacity. Importantly, in that Order, the Commission instructed Consumers Energy to address PURPA in IRP filings:

“Going forward, the Commission believes that PURPA avoided costs should be integrated with capacity demonstration and IRP proceedings in order to more accurately assess capacity needs. The IRP proceedings are conducive to updating avoided costs, because the Commission will already be evaluating, in detail, utility-specific plans for any incremental generation or purchases along with their associated costs.” November 21 Order, page 33.

Following the filing of rehearing petitions, the Commission issued its February 22, 2018 Order (“February 22 Order”), which approved revised avoided capacity rates to correct errors in the avoided cost calculations. The Order further stated that “to allay any concerns that the company may find itself paying the full avoided capacity payment and becoming awash in unneeded QF capacity, the Commission finds it appropriate to limit payment of the full avoided capacity cost to the first 150 MWs of new QF capacity in the queue.” February 22 Order, page 13. The Commission reopened the proceeding a third time and required that, “[b]y March 1, 2018, Consumers Energy Company shall file its final Standard Offer tariff and draft power purchase agreement in this docket.” February 22 Order, page 17. The third reopened proceeding is currently awaiting a final order from the Commission.

B. Case No. U-20165

1. Consumers Energy’s IRP Filing

On June 15, 2018, the Company filed an Application in this docket pursuant to MCL 460.6t. In relevant part, MCL 460.6t provides that an IRP shall present:

“a 5-year, 10-year, and 15-year projection of the utility’s load obligations and a plan to meet those obligations, to meet the utility’s requirements to provide generation reliability, including meeting planning reserve margin and local clearing requirements determined by the commission or the appropriate independent system operator, and to meet all applicable state and federal reliability and environmental regulations over the ensuing term of the plan.” MCL 460.6t(3).

The statute further provides that an IRP should include numerous components, including, but not limited to, the following:

“(b) The type of generation technology proposed for a generation facility contained in the plan and the proposed capacity of the generation facility, including projected fuel costs under various reasonable scenarios.

“(c) Projected energy purchased or produced by the electric utility from a renewable energy resource.

“(g) Projected energy and capacity purchased or produced by the electric utility from a cogeneration resource.

“(i) Data regarding the utility's current generation portfolio, including the age, capacity factor, licensing status, and remaining estimated time of operation for each facility in the portfolio.

“(j) Plans for meeting current and future capacity needs with the cost estimates for all proposed construction and major investments, including any transmission or distribution infrastructure that would be required to support the proposed construction or investment, and power purchase agreements.

“(k) An analysis of the cost, capacity factor, and viability of all reasonable options available to meet projected energy and capacity needs, including, but not limited to, existing electric generation facilities in this state.” 460.6t(5).

In addition, MCL 460.6t(8) provides that the Commission shall approve a proposed IRP if the Commission determines that the IRP represents “the most reasonable and prudent means of meeting the electric utility’s energy and capacity needs.” To make such a determination, the Commission must consider whether the proposed IRP appropriately balances the following factors:

“(i) Resource adequacy and capacity to serve anticipated peak electric load, applicable planning reserve margin, and local clearing requirement.

“(ii) Compliance with applicable state and federal environmental regulations.

“(iii) Competitive pricing.

“(iv) Reliability.

“(v) Commodity price risks.

“(vi) Diversity of generation supply.

“(vii) Whether the proposed levels of peak load reduction and energy waste reduction are reasonable and cost effective. Exceeding the renewable energy resources and energy waste reduction goal in section 1 of the clean and renewable energy and energy waste reduction act, 2008 PA 295, MCL 460.1001, by a utility shall not, in and of itself, be grounds for determining that the proposed levels of peak load reduction, renewable energy, and energy waste reduction are not reasonable and cost effective.”
MCL 460.6t(8)

In light of these statutory requirements, the Company developed an IRP which assessed its existing and future capacity resource portfolio with respect to the capacity requirements of the Company’s customers through 2040. This assessment not only included generation resources that are owned by the Company, but also included 55 long-term PURPA-based and non-PURPA-based PPAs which the Company is a party to (see direct testimony of Company witness Keith G. Troyer, pages 5 through 9) as well as the Company’s obligations to purchase capacity and energy from PURPA QFs in the future². The Company’s testimony in support of its IRP explains that, in the process of developing this IRP and addressing the above requirements of MCL 460.6t, the Company determined that the avoided cost rates determined in Case No. U-18090 did not reflect the Company’s actual avoided costs and also determined that the capacity forecasting methodology and PPA term length approved in Case No. U-18090 does not provide a reasonable means for capacity planning.

The Company’s PCA predominantly relies on demand-side and solar resources for new sources of generation. At page 12 of his direct testimony, Company witness Troyer explains that the Company’s IRP PCA demonstrates that the natural gas plant proxy avoided cost

² On page 10 of his direct testimony, Company witness Troyer explained that: “The Company generally has an obligation to enter into contracts for energy and capacity with QFs up to 20 MW in size that are capable of delivering energy and capacity to the Company and that do not have access to the market.”

methodology from Case No. U-18090 “is not reflective of the next generating unit that the Company would bring online” and that “[a]voided costs should be determined based on the costs the electric utility would actually avoid by purchasing energy and/or capacity from a QF.” Mr. Troyer further explained that “the Company’s actual avoided costs are lower than those rates approved by the Commission in Case No. U-18090” and addressed the negative impact on customers if Case No. U-18090 continues to be used subsequent to this IRP. Company witness Troyer’s direct testimony, page 13.

Mr. Troyer explains that the Company has recently built and contracted with three wind generating plants at prices between \$45/MWh and \$46/MWh which serves as a reasonable representation of the Company’s avoided costs. Company witness Troyer’s direct testimony, page 13. Furthermore, Mr. Troyer explains that, at the beginning of 2018, Consumers Energy had PPAs in place to purchase 123.9 MW from 30 facilities that likely meet the requirements of a QF less than 20 MW in size, and the Commission determined that the Company must purchase from these facilities indefinitely. Company witness Troyer’s direct testimony, page 13; see May 31 Order, page 18. Utilizing the methodology from Case No. U-18090, and the assumption that the Company must continue to pay these facilities, **the Company’s customers would pay approximately \$56.7 million annually at an average cost of \$70.38/MWh over a 20-year contract length**, which is substantially higher than the cost of the three wind projects. Company witness Troyer’s direct testimony, page 13.

Additionally, Mr. Troyer explains that the Company has received increased interest from QFs based on the Commission’s orders in Case No. U-18090 in the form of interconnection requests and requests for a PURPA-based PPAs. From May 31, 2017 until May 31, 2018, the Company has received 398 interconnection requests for 1.8 GW of generation ranging in size

from greater than 0.15 MW to 20 MW. Company witness Troyer's direct testimony, page 14. The added cost of 1.8 GW of PURPA-based payments to the projects that have requested interconnection would be approximately **\$263.3 million annually at an average cost of \$98.40/MWh over a 20-year contract length**, which is substantially higher than the cost of the three wind farm projects discussed above. Company witness Troyer's direct testimony, pages 14-15. To date, the Company has also been contacted by 15 parties interested in establishing a PURPA-based PPA for 260 projects with a total nameplate capacity of 1.2 GW. Company witness Troyer's direct testimony, page 15. The added cost of 1.2 GW of PURPA-based capacity payments would be approximately **\$175.6 million annually at an average cost of \$99.69/MWh over a 20-year contract length**, which again is substantially higher than the cost of the three wind farm projects discussed above. Company witness Troyer's direct testimony, page 15. Company witness Thomas P. Clark also presents concerns related to the avoided cost rates in Case No. U-18090 and the implementation of the Company's PCA. With respect to the proposed retirement of Karn Units 1 and 2, Mr. Clark explains that "[i]t is critical to understand that the marginal economics associated with the proposed early retirement decision for Karn Units 1 and 2 mean that, to ensure customer savings are realized, the backfill must occur in the manner proposed by the Company." Company witness Clark's direct testimony, page 33. Mr. Clark further explains that "if the Commission were to approve the Company's plan for early retirement, but requires backfill for the associated lost capacity with PURPA QF capacity at the rates identified in Case No. U-18090, the savings identified will not be realized and the Company would not propose to retire Karn Units 1 and 2 in 2023." Company witness Clark's direct testimony, page 33.

As the Company's IRP shows a 5-year, 10-year, and 15-year projection of the utility's load obligations and a plan to meet those obligations, the Company also presented testimony which addresses the 10-year capacity forecast for determining PURPA capacity obligations, as approved in Case No. U-18090. At page 30 of his direct testimony, Mr. Troyer explains that the 10-year capacity forecast approved in Case No. U-18090 does not align with the IRP cost approval mechanism which establishes a three-year timeframe for prior approval of supply side proposals. Mr. Troyer explains that "[t]o ensure similar treatment for new PURPA contracts and new non-PURPA supply, the capacity demonstration requirements should align to the same period of time for which the Company is seeking approval of costs associated with new resources as part of its IRP." Company witness Troyer's direct testimony, pages 30-31.

Mr. Troyer also explains that the Company anticipates future declines in the cost of solar. Company witness Troyer's direct testimony, page 31. Therefore, "it would not be reasonable to hold a solicitation to procure small, modular resources for supply 10 years in the future, like the 10-year capacity demonstration ultimately requires of the Company, because doing so would not allow customers to realize all of the cost savings that are projected for future resources." Mr. Troyer further explains that the current Commission-approved PURPA capacity planning construct and contract term length requires purchases even when the Company may not have a need as follows:

"Lastly, the capacity demonstration process established in the Commission's November 21, 2018 Order in Case No. U-18090, implies that if there is a capacity need in a single year over the next 10 years, the Company has an obligation to sign a 20-year contract with a QF at the full capacity avoided cost rate. This process results in the purchase of 19 years of surplus capacity to address a single year issue which could have been resolved through other, more cost effective mechanisms such as the MISO PRA or a reverse capacity auction. Forcing the Company to take a 20-year commitment for a single year's need is not a cost effective method

to secure resources to meet future customer demand.” Company witness Troyer’s direct testimony, page 31.

For those reasons, the Company is proposing solutions to the current PURPA construct which better align that construct with the requirements of an IRP and the Company’s PCA. At page 15 of his direct testimony, Mr. Troyer explains that the Company’s PCA in this IRP deviates from the Company’s historical approach to acquire new supply side resources, such as the building or purchasing of a natural gas plant, in that the PCA proposes to build modular, renewable additions along with maximizing energy waste reduction and demand response programs. Mr. Troyer further explains that “Realizing the PCA’s benefits of risk mitigation and cost competitiveness requires that the Commission approve a new method for determining avoided costs and determining the Company’s capacity needs or sufficiency.” The Company therefore is proposing a competitive bidding process for all capacity needs going forward (i.e., PURPA and non-PURPA needs), a three-year capacity planning forecast which appropriately aligns with the requirements of MCL 460.6t, and contract term lengths which align with the Company’s actual needs.

Specifically, the Company is proposing to utilize a competitive solicitation process in advance of future IRP filings to select any new supply-side capacity resources. Company witness Troyer’s direct testimony, page 17-27. The resulting cost of the new capacity resources from this competitive solicitation process will be used as the basis for determining future avoided costs as the proposals selected will establish a capacity clearing price and energy price based on the highest cost proposal selected as part of the competitive solicitation. With respect to the capacity forecast that will be used to determine the Company’s PURPA obligations, the Company is proposing to utilize a three-year capacity forecast, consistent with the cost approval period provided in MCL 460.6t(11). See Company witness Troyer’s direct testimony,

pages 27-35. When the Company has no capacity need, or after the Company's capacity needs are fully met, the Company proposes that its avoided capacity costs be set at the most recent MISO PRA rate.

With respect to the term length for PURPA-based PPAs, the Company proposes to have different contract terms based on whether or not a capacity need exists and whether the QF chooses to receive a rate based on the time of delivery or a forecast energy price. See Company witness Troyer's direct testimony, pages 35-36. For QFs that request the MISO PRA rate and the actual LMP energy rates at time of delivery when the Company does not have a capacity need, the contract term length should not exceed 15 years, because the Company's customers are exposed to market changes. For QFs that request forecasted energy market prices when no capacity need exists, the contract term length should not exceed five years, due to the volatility of market price forecasts as well as other inputs that can significantly influence energy prices – like the cost of natural gas. For QFs that are awarded contracts as part of the competitive solicitation process, the maximum contract term length will be established in each solicitation.

The Company is also proposing changes to the structure of the PURPA Standard Offer due to the impact that the Company's proposed changes to avoided cost rates and contract term will have on the Standard Offer Tariff. See Company witness Troyer's direct testimony, pages 39-41. Additionally, the Company proposes to reduce the size of projects eligible for the Standard Offer Tariff from 2 MW to 150 kW. Company witness Troyer's direct testimony, page 40. This is because Standard Offer Tariff rates are most appropriate for small developers and customers that lack the experience and resources needed for larger forays into the electricity generation business. The current Standard Offer Tariff size of 2 MWs extends to developers who have significant experience and resources that do not need to have their contracting

facilitated through a Standard Offer Tariff. If the Standard Offer program is limited to generators that do not exceed 150 kW, as proposed by the Company, the Company is proposing to offer program participants the full avoided capacity and energy rates regardless of the Company's capacity need.

In addition to the Company's PURPA avoided cost proposals, as outlined above, Company witness Richard T. Blumenstock presented an overview of the Company's entire IRP filing, including the Company's PURPA avoided cost proposals. See, e.g., Blumenstock Direct Testimony, page 17. Company witness Michael A. Torrey also provided policy testimony concerning the Company's PURPA proposals. See Company witness Torrey's Direct Testimony, pages 7-9. Among other things, Mr. Torrey reiterated that using a 10-year capacity forecast for determining the Company's PURPA obligations would prevent the Company's implementing its PCA as follows:

“As explained by Company witness Troyer, there are currently over 1.2 GWs of QF projects interested in selling capacity to the Company at the current avoided cost. Were the Commission to use a 10-year capacity sufficiency outlook and determine that a need exists because the Company does not have an order approving capacity additions in the years beyond the three for which the Company plans to run a competitive bid and present in an IRP, PURPA would require the Company to purchase from those QFs once those QFs created a legally enforceable obligation with the Company. That would not only increase customer rates now, it would negate the PCA's planned advantage of leveraging decreasing technology costs and attempting to match supply and demand on a closer-term basis. Where a Commission order approving capacity projects is necessary in order to deem a projected capacity need filled, a 10-year capacity sufficiency outlook would prevent a utility from proposing a strategy to fill needs on an incremental basis. It would essentially require a utility to propose a significant capital investment for a large base load generating plant to fill future capacity needs-and that is exactly what the PCA is avoiding.” Torrey Direct Testimony, page 9.

In short, the Company's PCA proposes to completely change how the Company procures capacity—it contemplates leveraging the decreasing costs of renewable resources and opening up the procurement to competitive bidding on a rolling three-year basis. In order for those proposals to work—in order to actually leverage the savings made possible by such an approach—the PCA requests that the Commission address the Company's avoided cost, the standard offer contracts, length of contracts, and the capacity need outlook.

2. Joint Intervenors' Motion To Strike And ALJ's Ruling

On August 15, 2018, Joint Intervenors filed a Motion to Strike Testimony of Company Witnesses Blumenstock, Clark, Troyer, and Torrey. Specifically, ELPC sought to strike all testimony discussing the interplay of PURPA with the Company's IRP proceeding and the Company's competitive bidding proposal for all resources. In its Motion, the Joint Intervenors allege that: (i) the Company's testimony is “not relevant to this statutory IRP proceeding and is outside the scope of this proceeding” and (ii) “the inclusion of these [PURPA] issues and testimony would confuse the issues and be a waste of time and is therefore subject to exclusion under Michigan Rule of Evidence 403.”

On August 29, 2018, Consumers Energy filed its Response in Opposition to the Joint Intervenors Motion to Strike. The Company contended that its proposals related to avoided cost rates under PURPA should not be stricken because they are relevant to and firmly within the scope of this IRP proceeding conducted pursuant to MCL 460.6t and consistent with the Commission's prior orders concerning the consideration of PURPA avoided costs in IRP proceedings. The Company's position was supported by the Commission Staff, the Attorney General, and the Association for Businesses Advocating Tariff Equity (“ABATE”).

After conducting oral argument of the Joint Intervenor's Motion, on September 10, 2018, the ALJ issued a Ruling Addressing Motion to Strike Testimony. The ALJ granted the Joint Intervenor's Motion to Strike, and found that: (i) MCL 460.6t "does not encompass a determination of the PURPA avoided cost methodology and other parameters"; (ii) the Commission has not "determined that this IRP review case is an appropriate forum to reconsider the Commission's evolving avoided cost determinations in Case No. U-18090"; (iii) "the Company's arguments do not overcome the need to provide in this case a reasonable opportunity to conduct the legislatively-mandated review of the Company's plans"; and (iv) "other arguments presented by Consumers Energy, including the benefit to customers from revising the avoided cost methodology, are not persuasive in light of the statutory scope of the proceeding, the applicable time constraints, and the burden to the parties of litigating the same costs and tariff in two forums."

The ALJ's Ruling further addressed "the situation presented in this case created by Consumers Energy's incorporation of its proposed avoided cost relief as a key element of its IRP." The ALJ provided the Company with one week to present revised testimony showing its preferred avoided cost scenarios as options it intends to pursue in the future. The ALJ did not discuss or acknowledge the impact of removing competitive bidding of all resources from the Company's PCA.

V. ARGUMENT

The ALJ's Ruling improperly frames the issues presented in the Joint Intervenor's Motion to Strike. Citing R 790.10415(5) and R 790.10421(n), on page 14 the Ruling suggests that the Joint Intervenor's Motion to Strike "is addressed to the ALJ's authority to regulate the course of the proceedings to ensure a just and expeditious determination of the issues presented."

The ALJ's Ruling also cites R 790.10493(2), which provides that the Commission's rules "shall be liberally construed to secure a just, economical, and expeditious determination of the issues presented." These procedural rules, however, are not at issue. The Joint Intervenors' Motion to Strike focuses on the evidentiary standard of relevance and the scope of MCL 460.6t. It is through this standard that the Company's PURPA avoided cost and competitive bidding proposals should be considered. This is especially true in light of MCL 460.6t's requirement that an approved plan must be the "most reasonable and prudent." MCL 460.67(8). The Ruling prevents the Company from presenting evidence that bears directly on whether or not the PCA is reasonable and prudent. In fact, it excludes testimony that explains why the PCA **would not be** reasonable and prudent without addressing PURPA on a go-forward basis.

The Commission should reverse the ALJ's September 10, 2018 Ruling and find that the Company's PURPA avoided cost and competitive bidding proposals should be fully considered in this case. In granting the Joint Intervenors Motion to Strike, the Ruling failed to properly consider the arguments raised the Joint Intervenors in their Motion to Strike and apply the applicable law. The ALJ's Ruling also failed to appropriately consider the Commission's orders in Case No. U-18090 and the Commission's direction that PURPA avoided cost issues should be addressed in the IRP.

A. The ALJ's Ruling Failed To Properly Consider The Issues Presented In The Joint Intervenors' Motion To Strike And The Applicable Law

The Joint Intervenors' Motion to Strike pertains to: (i) whether or not the Company's PURPA avoided cost and competitive bidding proposals are relevant to and within the statutory scope of MCL 460.6t; and (ii) whether or not the inclusion of these proposals in this case would confuse issues or waste time pursuant to Michigan Rules of Evidence ("MRE") 403. See Joint Intervenors' Motion to Strike, page 1. On these issues, the Joint Intervenors and ALJ have failed

to establish a sufficient basis to strike the Company's PURPA avoided cost and competitive bidding proposals in this IRP case. Furthermore, even if the Joint Intervenors' Motion to Strike was based on the ALJ and Commission's authority to regulate the course of this proceeding to ensure a just and expeditious determination of the issues presented, the exclusion of the Company's PURPA avoided cost and competitive bidding proposals is not warranted because these proposals are relevant to and within the scope of this proceeding. Indeed, without such testimony, the Company's PCA cannot be found the "most reasonable and prudent" as required by the law. The Commission should, therefore, reject the ALJ's Ruling and allow all evidence struck by the ruling to be entered into the record.

1. Relevance And The Statutory Scope Of MCL 460.6t

a. The Company's PURPA Avoided Cost Proposals Are Relevant To And Within The Scope Of This IRP Proceeding.

MRE 401 provides that relevant evidence "means evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." In interpreting MRE 401, courts have found that the definition of "relevant evidence" is composed of two components: the evidence must be both (1) material and (2) probative. *People v Sabin*, 463 Mich 43, 57; 614 NW2d 888 (2000). The materiality requirement derives from MRE 401's direction that relevant evidence must be "of consequence to the determination of the action," while the probative value requirement derives from MRE 401's direction that relevant evidence must tend to make the existence of a material fact "more probable or less probable than it would be without the evidence." *Id.*

Additionally, "[m]ateriality looks to the relation between the propositions for which the evidence is offered and the issues in the case." *People v Mills*, 450 Mich 61, 67; 537 NW2d 909,

913-14 (1995), [other citations omitted]. It should also be noted that “a material fact need not be an element of a crime or cause of action or defense but it must, at least, be ‘in issue’ in the sense that it is within the range of litigated matters in controversy.” *Hardrick v Auto Club Ins Ass’n*, 294 Mich App 651, 667; 819 NW2d 28, 37 (2011) (quoting *People v Brooks*, 453 Mich 511, 518; 557 NW2d 106 (1996), quoting *People v Mills*, 450 Mich 61, 68; 537 NW2d 909 (1995), quoting *United States v Dunn*, 805 F-2d 1275, 1281 (CA 6, 1986) (internal editing marks omitted).

The Commission’s Rules of Practice and Procedure are intended to be consistent with the rules of evidence but provide a more liberal standard for admissibility. R 792.10427 provides that regulatory hearings must adhere to the rules of evidence as far as practicable, “but the commission may admit and give probative effect to evidence of a type commonly relied upon by reasonably prudent persons in the conduct of their affairs.” The Commission has further found that “[a]dministrative law generally favors liberal interpretation of the rules of evidence and frowns upon the exclusion of any evidence which may be relevant.” MPSC Case No. U-4293, December 21, 1973, page 43.

The testimony provided by the Company in this proceeding is “relevant” under MRE 401 and the Company’s PURPA avoided cost and competitive bidding proposals are within the scope of the matters to be considered in an IRP conducted pursuant to MCL 460.6t. Among other things, the legal requirements of an IRP, include: (i) “a 5-year, 10-year, and 15-year projection of the utility’s load obligations and a plan to meet those obligations”; (ii) “an analysis of the cost, capacity factor, and viability of all reasonable options available to meet projected energy and capacity needs”; (iii) “data regarding the utility’s current generation portfolio”; (iv) “plans for meeting current and future capacity needs with cost estimates for all proposed construction and

major investments”; and (v) a determination of “the most reasonable and prudent means of meeting the energy and capacity needs,” which includes consideration of “resource adequacy and capacity” and “competitive pricing.” See MCL 460.6t(3), (5), and (8). PURPA obligates the Company to purchase energy and capacity from QFs pursuant to a rate methodology set by a state regulatory authority. See 18 CFR § 292.303; see also Federal Energy Regulatory Commission (“FERC”). *Indep Energy Producers Ass’n Inc v Ca. Pub Utilities Comm*, 36 F3d 848, 856 (CA, 1994). Consistent with that obligation, the Company has numerous PURPA-based PPAs in its existing generating portfolio and may be required to purchase additional amounts of energy and capacity from QFs in the future based on its needs.

The Company’s PURPA avoided cost proposals in this case focus on the cost of PURPA-based PPAs and the manner in which the Company is required to purchase energy and capacity from QFs.³ These issues will have a significant impact on the Company’s resource adequacy and capacity position, and whether or not the Company’s IRP results in competitive pricing. These issues will also have a significant impact on “the cost, capacity factor, and viability of all reasonable options available to meet projected energy and capacity needs,” the “data regarding the utility’s current generation portfolio,” and the “plans for meeting current and future capacity needs.” Thus, the Company’s proposals are of consequence to the matters statutorily required to be considered and have sufficient probative force. It is simply not possible to consider the Company’s plans to meet customer energy and capacity needs for the next 5, 10, and 15 years without considering the Company’s current and potential future PURPA energy and

³ As explained below, the Company is not seeking to challenge the avoided cost rate structure established in Case No. U-18090 as it applies to: (i) existing QFs with PURPA-based PPAs that expire prior to the conclusion of this IRP; (ii) the 150 MW that the Commission has required to be purchased from certain QFs at the full avoided cost rate; and (iii) any QF at or below 20 MW that wishes to accept compensation for capacity at the MISO PRA rate. What the Company’s PURPA avoided cost and competitive bidding proposals seek to accomplish in this IRP is a change to the PURPA avoided cost structure on a going forward basis

capacity obligations. Especially when considered in light of the Company's proposal, which relies heavily upon solar generation competitively bid out to developers—including QF developers.

As with all proposals in an “integrated” plan, the PURPA avoided cost issues are also directly tied to the Company's other proposals in this case. Through this proceeding, the Company is proposing a PCA for meeting customers' capacity and energy needs over the next 20 years. Meeting those needs includes consideration of QF generation and PURPA avoided costs. In order to take advantage of declining costs and better align capacity procurement with the timing of a capacity need, the Company's PCA proposes to predominantly pursue modular solar generation resource additions and use competitive bidding **to address all future capacity needs**. As explained in the Company's testimony, to realize the PCA's benefits of risk mitigation and cost competitiveness, it requires that the Commission approve a competitive bidding method for determining avoided costs and a three-year forecast for determining the Company's capacity needs or sufficiency. Company witness Troyer's Direct Testimony, page 15, 16-35. If the Commission were to not address the Company's PURPA avoided cost and competitive bidding proposals, it would require the Company to potentially purchase capacity from QFs 10 years prior to a capacity need occurring and at a rate based on a natural gas plant the Company does not intend to build. Company witness Troyer's Direct Testimony, page 31. This not only results in high costs to customers, but effectively prevents the Company from executing its PCA. The Company's PURPA avoided cost proposals are integral to the consideration of the Company's PCA, and therefore relevant to this case.

The Company's testimony in this proceeding is relevant to, and within the scope of, this case. These proposals should not be stricken from this case because they are necessary to

develop a full and complete record and also integral in the implementation of the Company's PCA.

b. MCL 460.6t And Other Sections Of 2016 PA 341 ("PA 341") Do Not Prohibit The Consideration Of PURPA Avoided Cost Issues In An IRP Proceeding.

While the ALJ's Ruling did not directly address the relevance of the Company's PURPA avoided cost and competitive bidding proposals, the Ruling did address MCL 460.6t and the interplay between MCL 460.6t and other sections of PA 341. Beginning on page 16, the Ruling avers that MCL 460.6t does not contemplate that avoided cost methodologies and related parameters and tariffs will be determined in this IRP case.⁴ However, the Ruling fails to provide an analysis of the Company's specific proposals in relation to the requirements of MCL 460.6(t) to support this conclusion. Instead, the ALJ's Ruling cites to the text of the statute and states that "[n]othing in the ambitious scope of review provided for in section 6t calls for a determination of the company's avoided cost methodology, parameters, or tariff provisions." Ruling, page 22. This conclusory statement does not establish that the Company's proposals are irrelevant to or beyond the scope of this proceeding. While the text of a statute does not explicitly use the words "avoided cost methodology, parameters, or tariff provisions," it does concern capacity and energy issues which, as explained above, are inseparable from the Company's PURPA avoided cost and competitive bidding proposals.

⁴ The September 10, 2018 Ruling repeatedly lists "tariffs" as an issue raised by the Company. The issue of "tariffs" also came up several times during oral argument. However, it should be noted that the Company is not proposing to substantially change the structure and terms of the PURPA Standard Offer Tariff and Contract in this IRP proceeding. The Company's proposed changes to the PURPA Standard Offer are due to the impact that the Company's proposed changes to avoided cost rates and contract term will have on the Standard Offer Tariff. See Company witness Troyer's direct testimony, page 40. If the avoided cost construct is changed to a competitive bidding structure, the Standard Offer must also be updated so it does not reflect the outdated natural gas proxy unit structure and is usable subsequent to the completion of this proceeding. Beyond these updates, the Company does not propose other changes to the Standard Offer Tariff or Contract.

In this case, the Company is presenting PURPA avoided cost and competitive bidding proposals related to the purchase of energy and capacity in an IRP proceeding specifically designed to analyze the Company's energy and capacity needs over the next 5, 10, and 15 years, as required by the statute. The Company's proposals are also fundamentally tied to (in fact, they are "integrated" with) the Company's PCA which predominately relies on solar generation resources procured through a competitive bidding process. The fact that certain words that are related to the Company's proposals are not found in MCL 460.6t does not provide a basis to strike the Company's testimony. As opposed to the Ruling's interpretation of MCL 460.6t, the Commission should find that the Company's PURPA avoided cost and competitive bidding proposals should be fully considered in this case because they are relevant to and within the scope of this proceeding.

MCL 460.6t's failure to mention PURPA or "avoided costs" does not render those issues irrelevant to this proceeding. Indeed, there are numerous instances where the Commission has considered and granted approvals of issues which were directly related to the subject matter of a proceeding but not explicitly enumerated in the statute governing a proceeding. For instance, MCL 460.6j, which provides for Power Supply Cost Recovery ("PSCR") proceedings, does not specifically list "electric transmission costs" in the text of the statute but the Commission has routinely addressed and approved the recovery of electric transmission costs in PSCR proceedings. See, *e.g.*, Case No. U-18142, February 5, 2018 Order, pages 7-9. The Court of Appeals has found that the Commission's decision to approve transmission costs in the PSCR is "within the PSC's broad ratemaking authority" and "consistent with the language of Act 304 in general and MCL 460.6j in particular." *In re Application of Detroit Edison Co*, 276 Mich App 216, 229; 740 NW2d 685 (2007), *aff'd in part, rev'd on other grounds, In re Detroit Edison Co*,

483 Mich 993, 764 NW2d 272 (2009). Moreover, MCL 460.6a(1), which governs electric general rate case proceedings, does not specifically reference the approval of the cost of a new generating plant but the Commission has approved the recovery of the initial investment costs and ongoing expenses for new generating plants in numerous prior electric general rate case proceedings. See, *e.g.*, Case No. U-17735, November 19, 2015 Order, page 136. The Ruling’s analysis of MCL 460.6t fails to justify the exclusion of PURPA avoided cost issues from this IRP case in light of these routine actions taken by the Commission.

The Ruling, also reasons that MCL 460.6v of PA 341 “speaks directly to avoided cost determinations,” and notes that in enacting PA 341, the legislature amended the Certificate of Necessity statute, MCL 460.6s to be consolidated with IRP proceedings but did not do the same for MCL 460.6v. Furthermore, the ALJ’s Ruling notes that MCL 460.6t and 460.6s provide for expedited appeals not provided for in other determinations required under PA 341. Ruling, pages 24-25. While these points are true, nothing in MCL 460.6t or MCL 460.6v precludes the Commission’s ability or authority to consider PURPA avoided cost issues in an IRP along with all other capacity and energy issues.

Although MCL 460.6v requires contested cases at least every five years to “reevaluate the procedures and rates schedules including avoided cost rates” as previously set by the Commission, it does not restrict the **forum** where this contested case proceeding could occur. See MCL 460.6v(1). Nor does it restrict the **frequency** of these contested case proceedings so long as they occur “at least every five years.”⁵ Indeed, doing so could prejudice utilities, customers, and developers. When there is a change in facts and circumstances—whether it be a change resulting in no capacity need, a change in how capacity is procured, a change in costs, or

⁵ The minimum frequency of avoided cost reviews pursuant to MCL 460.6v aligns with MCL 460.6t which requires utilities to file IRP proceedings at a minimum of once every five years. See MCL 460.6t(20).

a change in the generating technology used by the utility—nothing should prevent a utility from seeking Commission review of such issues. The lack of restriction as to the forum in which MCL 460.6v avoided cost proceedings can occur and the Commission’s ability to conduct these cases more frequently than every five years provides the Commission with sufficient authority and discretion to consider the Company’s PURPA avoided cost proposals in this IRP.

Furthermore, it should be noted that the FERC regulations and orders delegate to the Commission the authority to determine the manner and method in which avoided cost rates are set so long as those rates give effect to FERC’s own regulations implementing PURPA. See USC § 824a-3(f)(1); see also *FERC v. Mississippi*, 456 US 742, 751; 102 S Ct 2126 (1982); see also *Idaho Wind Partners 1, LLC*, 143 FERC ¶ 61,248 at 10 (2013)(“We agree with Idaho Power and PacifiCorp that state regulatory authorities largely determine what specific methodology is used to calculate these avoided costs. Such methodology, however, must be in accordance with the Commission’s parameters for such rates.”) The Ruling’s argument, which suggests that MCL 460.6v inhibits the Commission’s ability to consider avoided cost issues in an IRP, restricts the Commission’s authority as to the manner in which it can review PURPA avoided cost proposals and set avoided cost rates. This interpretation is contrary to FERC’s regulations and orders which provide the Commission with latitude as to how avoided cost rates are set, including setting avoided costs rates in the context of an IRP case. This interpretation is also contrary to the language in subsection (1) of MCL 460.6v, which provides that the statute does not “supersede[] the provisions of PURPA or the Federal Energy Regulatory Commission’s regulations and orders implementing PURPA.” MCL 460.6v(1).

Additionally, as pointed out in the ALJ’s Ruling, the MPSC’s Rules of Practice and Procedure provide for the consolidation of interrelated matters into one contested case

proceeding. Specifically, R 790.10415(5) allows the Commission or presiding officer to order proceedings consolidated for hearing on any or all matters at issue in the proceedings if consolidation will promote the just, economical, and expeditious determination of the issues presented. Thus, even if the Legislature had contemplated that separate proceedings under MCL 460.6t and MCL 460.6v were necessary, which the Company does not agree, the Commission would be within its authority to combine the PURPA avoided cost issues and other energy and capacity issues to be considered in this case so as to promote the just, economical, and expeditious determination of the issues addressed in an IRP. Such a result is not just within the Commission's authority but it is necessary given the interrelated nature of PURPA avoided costs issues and the other energy and capacity issues to be considered in an IRP.

2. Consumers Energy's PURPA Avoided Cost Proposals Will Not Confuse Issues Or Waste Time.

The Ruling does not specifically identify MRE 403 as a reason for striking the Company's PURPA avoided cost proposals. The Joint Intervenors' Motion to Strike, however, asserted that the Company's PURPA avoided cost proposals would confuse issues and waste time and therefore these proposals should be excluded pursuant to MRE 403. The Commission should reject the ALJ's Ruling to the extent that it is based on MRE 403. MRE 403 provides for an extraordinary remedy which is not applicable to the circumstances presented here and should not be used to limit the Company's evidentiary presentation.

MRE 403 provides that "[a]lthough relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence." MRE 403 is modeled after Federal Rules of Evidence Rule 403 ("FRE 403"). The Michigan Supreme Court has found that, when state evidentiary rules are

modeled after federal rules, it is appropriate to look to federal precedent for guidance.⁶ *People v Barrera*, 451 Mich 261, 267; 547 NW2d 280(1996). Federal courts have found that FRE 403 provides “an ‘extraordinary remedy’... whose ‘major function... is limited to excluding matter of scant or cumulative probative force, dragged in by the heels for the sake of its prejudicial effect’” and carries a “‘strong presumption in favor of admissibility.’” *United States v Grant*, 256 F3d 1146; 1155 (11th Cir 2001), quoting *United States v Utter*, 97 F3d 509; 514-15 (11th Cir 1996), quoting *United States v Cross*, 928 F2d 1030; 1048 (11th Cir 1991), quoting *United States v Church*, 955 F2d 688; 703 (11th Cir 1992)).

In interpreting MRE 403 and FRE 403, courts have found that consideration must be given to the impact of the evidence on the trier of fact, not the opponent of the party seeking to introduce the evidence. Indeed, “Rule 403 does not exclude evidence because it is strongly persuasive or compellingly relevant—the rule only applies when it is likely that the jury will be moved by a piece of evidence in a manner that is somehow unfair or inappropriate.” *In re Air Crash Disaster*, 86 F3d 498; 538 (6th Cir 1996). It has further been found that “[e]vidence is not unfairly prejudicial merely because it damages a party’s case. Rather, undue prejudice refers to ‘an undue tendency to move the tribunal to decide on an improper basis.’” *People v Buie*, 298 Mich App 50, 73; 825 NW2d 361 (2012) (quoting *People v Vasher*, 449 Mich 494, 502; 537 NW2d 168 (1995)). With respect to evidence which may cause confusion of the issues, a trial court’s refusal to admit relevant evidence was upheld when “it would tend to create more confusion than enlightenment in the minds of the jury.” *Hamling v United States*, 418 US 87, 127; 94 S Ct 2887, 2912; 41 L Ed 2d 590 (1974).

⁶ FRE 403 provides that “[t]he court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.”

Contrary to the Joint Intervenors' claim, the testimony related to the Company's PURPA avoided cost and competitive bidding proposals will not confuse issues in this IRP proceeding. As explained above, in interpreting MRE 403, courts have looked to the impact of relevant evidence on the trier of fact, rather than the impact on an opponent's case. Both the ALJ and the Commission are well equipped to review and decide the Company's PURPA avoided cost proposals in this case. The ALJ presiding over this matter is the same ALJ that presided over the third reopened proceeding in Case No. U-18090 and therefore has experience in proceedings which have addressed PURPA. Furthermore, the Commission has the technical expertise to evaluate the Company's proposals in this case and has the authority to implement PURPA in Michigan.

Even if MRE 403 did apply to the impact on cases presented by opposing parties, which the Company does not agree, there is still no basis to establish that the Company's proposals confuse issues in this IRP to such an extent that they should be stricken. As an initial matter, the Company's Application and supporting testimony was filed on June 15, 2018, approximately four months prior to the filing date for Staff and Intervenor testimony on October 12, 2018. Between the date when the Company's case is filed and the filing of Staff and Intervenor testimony, the Joint Intervenors have the ability to submit discovery aimed at more fully understanding the Company's proposals. This period of time is sufficient to resolve any confusion related to the Company's proposals.

It should also be noted that all parties that participated in Case No. U-18090, with the exception of Ada Cogeneration Limited Partnership and Michigan Power Limited Partnership, have been granted intervention in this proceeding.⁷ 1 TR 9-10. Given these parties'

⁷ The following parties have participated in Case No. U-18090: Consumers Energy, Staff, Ada Cogeneration Limited Partnership, Michigan Power Limited Partnership, Michigan Environmental Council, Great Lakes

involvement in the consideration of avoided cost issues in Case No. U-18090, and the Commission's indication in its November 21 Order that "IRP proceedings are conducive to updating avoided costs," there is little risk that these parties will be confused by the Company's proposals here. It should further be pointed out that parties participating cited the Company's PURPA avoided cost proposals as a reason for their participation in this proceeding. See, *e.g.*, Petition of Cypress Creek Renewables, LLC for Leave to Intervene, pages 2-3, paragraphs 4-5. There is simply no basis to suggest that the Company's PURPA avoided cost proposals would create confusion of the issues.

The consideration of the Company's PURPA avoided cost and competitive bidding proposals will also not waste time. These proposals are integrally related to the other capacity and energy issues that are to be decided in an IRP. Without the full consideration of the Company's proposals in this IRP, the Company will not be able to implement its PCA. The record evidence remaining after the ALJ's Ruling proposes that the Company retire I it does not include any evidence explaining that the solar additions would be done through an independently run competitive bidding process to take advantage of competition and declining costs. There is no evidence explaining that if the Commission utilizes a 10-year capacity outlook and applies the avoided costs set in Case No. U-18090 to the Company's PCA, it will have significant unfavorable consequences both for customers and the Company. Based on the above, the Commission should find that there is no basis to strike the Company's testimony pursuant to MRE 403. The Joint Intervenor's Motion to Strike does not justify the use of MRE 403 which is an "extraordinary remedy" with a "strong presumption in favor of admissibility."

Renewable Energy Association, IPPC, Cadillac Renewable Energy, LLC, Genesee Power Station Limited Partnership, Grayling Generating Station Limited Partnership, T.E.S. Filer City Station Limited Partnership, Environmental Law and Policy Center, the Ecology Center, the Solar Energy Industries Association, Vote Solar, and Cypress Creek. 1 TR 6-7, 12; 4 TR 336 Reopened.

B. The ALJ's Ruling Failed To Appropriately Consider The Commission's Orders Regarding Consideration Of PURPA Avoided Costs And Other Related Issues.

The ALJ's Ruling also concluded that the Commission "has not expressly provided for the avoided cost methodology, other parameters, and tariff provisions to be determined in this course of an IRP review." Ruling, page 25. The Company believes that this conclusion is incorrect. The Ruling's analysis dismisses the interplay between the IRP and PURPA, and how the Company's PCA in the IRP brings about new facts and circumstances that directly impacts and necessitates a review of PURPA avoided costs, and related issues, in this proceeding.

1. The Commission Has Appropriately Determined That IRP Proceedings Should Consider PURPA Avoided Cost Related Issues.

Pages 25-30 of the Ruling summarize the Company's avoided cost proceeding in Case No. U-18090. The Summary, however, does not appropriately consider the Commission's determinations regarding consideration of PURPA avoided costs, and related issues, in the IRP proceeding.

In its May 3, 2016 Order, the Commission commenced an avoided cost proceeding for Consumers Energy in Case No. U-18090. Following contested case proceedings, the Commission issued the May 31 Order, which adopted the Staff hybrid proxy unit methodology for the determination of the Company's avoided costs based on a NGCT and an NGCC. May 31 Order, pages 5-6. The May 31 Order also approved a mechanism for determining the Company's future capacity need and adjusting the Company's avoided capacity cost when capacity is not needed, indicating 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." May 31 Order, pages 18-19. Thus, based on the facts and

circumstances of over a year ago, the Commission set the methodology used for determining avoided costs, as well as establishing a 10-year planning horizon to consider the Company's capacity need.

Since its Initial Order establishing an avoided cost methodology, the Commission has reopened Case No. U-18090 to consider many issues, including: the inputs into the methodology to determine avoided costs; the appropriate forecasted natural gas prices, including transportation costs, on a real and nominal basis, and to also further consider variable Operating and Maintenance costs as part of the total energy payment on a levelized basis; and the terms of the Standard Offer Contract. See July 31 Order, November 21 Order, and February 22 Order. None of these reopened proceedings reexamine the avoided cost methodology, standard offer contract length, or the 10-year planning horizon, because these issues were previously determined.

In the November 21 Order approving avoided cost inputs and calculations for energy and capacity, the Commission again discussed the method for the Company to reset its avoided cost capacity rate to the MISO PRA price. The Commission altered the method for resetting the avoided capacity rate, indicating that "if Consumers' capacity requirements are met over the subsequent 10 years, the Company may make a filing so demonstrating and, after Commission approval, the capacity rate will be reset to the MISO PRA." November 21 Order, page 31. The Commission further found that:

"Going forward, the Commission believes that PURPA avoided costs should be integrated with capacity demonstration and IRP proceedings in order to more accurately assess capacity needs. The IRP proceedings are conducive to updating avoided costs, because the Commission will already be evaluating, in detail, utility-specific plans for any incremental generation or purchases along with their associated costs." November 21 Order, page 33. (Emphasis added).

Pursuant to the option presented in the Commission’s May 31 Order, the Company filed an Application on December 20, 2017 in Case No. U-18491, with supporting testimony and exhibits, showing that it has no capacity need over the 10-year planning horizon, and requesting that the Commission reset the Company’s avoided capacity cost at the MISO PRA price for all new QF offers to sell capacity. The Commission has not yet taken action to address the Company’s Application in Case No. U-18491 and that docket currently remains open.

The Company believes that the Commission has yet to take action of its capacity position due to the fact that the Company is undergoing an IRP. As previously discussed, Public Act 341 of 2016—which was not yet law when U-18090 was opened— included several amendments and additions to existing law addressing electric reliability. Chief among those provisions was the addition of Section 6t, which, in part, requires electric utilities to file an “integrated resource plan that provides a 5-year, 10-year, and 15-year projection of the utility’s load obligations and a plan to meet those obligations, to meet the utility’s requirements to provide generation reliability, including meeting planning reserve margin and local clearing requirements determined by the commission or the appropriate independent system operator, and to meet all applicable state and federal reliability and environmental regulations over the ensuing term of the plan.” MCL 460.6t(3). Based on a host of factors relevant to capacity planning, the Commission must determine whether the utility’s IRP “represents the most reasonable and prudent means **of meeting the electric utility’s energy and capacity needs.**” MCL 460.6t(8) (emphasis added). As the Commission has previously recognized, the IRP is a critical component to capacity planning. The Commission stated:

“In many jurisdictions around the country, regulated electric utilities use IRP to identify and evaluate options for meeting electricity needs over a specified time period. Modeling tools are used to help evaluate a combination of supply-side and demand-

side resources under different scenarios and assumptions related to load growth, fuel prices, emissions, and other variables.

“As part of comprehensive energy policy reform, Act 341 establishes a new IRP framework for electric utilities whose rates are regulated by the Commission. The IRP provisions are an important component of the new energy law, which is expected to increase affordability for customers, improve the reliability of electricity, and help protect the environment.” MPSC Case No. U-18418, July 31, 2017 Opinion and Order, pages 1-2.

The discussion in these orders shows that Commission’s intent to review issues of capacity, taking into consideration the impact of PURPA avoided costs, as well as examining and updating avoided costs in this IRP proceeding.

Further, subsequent to the issuance of the Commission’s November 21 Order, the Commission further affirmed its openness to considering utility avoided costs in the context of an IRP proceeding in its February 22, 2018 Order and Notice of Opportunity to Comment. In that Order, the Commission found that “[g]iven that costs that are avoided consist of both supply and demand side options, an IRP may be the proper proceeding to evaluate avoided costs **based on an actual plan.**” MPSC Case No. U-20095, February 22, 2018 Order and Notice of Opportunity to Comment, page 5. The Commission further requested comment on the following IRP-related questions:

“Should the need for capacity over a 10-year period be determined in an IRP? If so, how should the capacity requirement be established? Should capacity need be evaluated for each year or incrementally (i.e., 2019-2021; 2022-2024)?

“Going forward, should the Commission consider a competitive process for the procurement of QF capacity, based on the utility’s capacity need, as determined by the IRP? Should the competitive process be used solely to allocate available capacity, or should it also be used to determine avoided cost payments to QFs?

“Should the IRP process be used to update avoided energy and capacity payments based on the blended cost of the plan (e.g., energy efficiency, demand response, fossil generation, renewables, market purchases), or some other method that ensures an accurate representation of a utility’s actual avoided costs and non-discriminatory treatment of QFs?” MPSC Case No. U-20095, February 22, 2018 Order and Notice of Opportunity to Comment, page 5.

These orders demonstrate a willingness by the Commission to consider PURPA avoided costs in an IRP proceeding. The ALJ’s Ruling struck from evidence all of the Company’s testimony addressing the issues mentioned in the above orders. As the Commission has indicated that it believes these issues are related, it would be unreasonable to limit the Company’s ability to raise PURPA avoided cost issues in this case, especially when raised in the context of its PCA.

2. The Commission’s Order Approving A Biennial Avoided Cost Review Does Not Limit The Review Of Avoided Costs.

The Ruling also reasons that the Commission’s biennial cost review contemplated that avoided costs would be reviewed in a future avoided cost proceeding – not the IRP. See Ruling, pages 30-31. However, the Commission’s approval of a biennial avoided cost review in Case No. U-18090 does not support limiting the Company’s evidentiary presentation in this case. Nor does the biennial review of avoided costs preclude the Company from proposing updates to its avoided costs in the context of an IRP proceeding.

In Case No. U-18090, as part of the Commission’s May 31 Order, the Commission addressed Staff’s proposal to reexamine the Company’s avoided costs every two years. In that case, Staff witness Julie K. Baldwin testified as follows:

- “Q. Do you have a recommendation for how often the Commission should review Consumers Energy’s avoided cost calculation and Standard Offer tariff?
- “A. Yes. I am recommending Commission review of Consumers Energy’s avoided cost and Standard Offer tariff on a biennial basis.

“Q. Please explain.

“A. §292.302 (2) (b) of the PURPA Regulations requires regulated utilities like Consumers Energy to make avoided cost data available to the Commission not less often than every two years. Staff recommends that the Commission review the utility’s avoided cost data and calculations and update the Standard Offer tariff, if necessary, during these biennial, contested case proceedings. Case No. U-18090, 2 TR 137-138.

Consistent with this recommendation, Staff’s PURPA Technical Advisory Committee’s *Report on the Continued Appropriateness of the Commission’s Implementation of PURPA* further stated that:

“Staff recommends that modifying the overall avoided cost methodology can be accomplished through an initial process focusing on the methodology. This process will likely be a one-time event unless there is a compelling reason for revising the avoided cost calculation methodology. Section 292.302 of the federal regulations implementing PURPA, entitled ‘Availability of Electric Utility System Cost Data,’ requires utilities to file avoided cost data with the state regulatory authority every two years. 18 CFR 292.302(b).

“Going forward, a biennial process that is aligned with the utility data reporting requirements could be used to refresh the avoided cost calculation.” Case No. U-18090 Exhibit S-5, pages 7-8 (footnote omitted.)

Based on this testimony and exhibit, the Commission specifically adopted Staff’s proposal as follows:

“The Commission agrees that, given the rapid changes to the energy landscape, and pursuant to MCL 460.6v(3), a biennial review of PURPA avoided costs is appropriate and that for purposes of Section 6v(1) this proceeding should be considered the initial five-year review for Consumers.” May 31 Order, pages 28-29.

As a preliminary matter, the Company maintains that the record which the Commission based its decision on in its May 31 Order was closed before PA 341, which included

MCL 460.6t, was signed into law.⁸ PA 341 was enacted after Staff's testimony proposing a biennial review of avoided costs was presented and the record in the original proceeding in Case No. U-18090 was closed after an evidential hearing on December 8, 2016. Therefore, although the Commission approved a biennial review of avoided costs in the May 31 Order, the Commission's approval was based on a record which did not consider the impact of the new IRP law and did not preclude consideration of avoided costs in an IRP.

The Ruling discounts the timing of enactment of MCL 460.6t by noting that the Commission indicated that the next avoided cost review would be in two years. Ruling, page 30. As support, the ALJ's Ruling cited the Commission's November 21, 2017 order, page 4, and the MPSC's February 22, 2017 Order, page 3, which summarized the May 31 Order indicating that the next review of Consumers Energy's avoided costs should be conducted in two years. While the Company agrees that the MPSC indicated it would review avoided costs in a biennial filing, nothing in the Commission's language suggested that the Commission intended avoided costs to be reviewed in a biennial filing and not the IRP. (And in fact, as already discussed, the Commission's November 21, 2017 Order indicated that the IRP is "conducive to updating avoided costs.")

The Commission's discussion regarding the biennial review of the Company's avoided costs imposed no specific limitations on the Company with respect to whether or not a review of avoided costs could be reviewed earlier than in two years or in an IRP proceeding. Moreover, the Commission's statement does not specify what date the referenced two-year filing is in relation to. A reasonable interpretation of the Commission's November 21 Order is that a review of the Company's avoided costs could occur two years from the beginning of the last avoided

⁸ PA 341 was not signed by the Governor of Michigan and filed with the Secretary of State until December 21, 2016 and did not become effective until April 20, 2017.

cost review in Case No. U-18090, which was initiated on May 3, 2016. This aligns with the filing of the Company's IRP on June 15, 2018. Interpreting the Commission's statement in this manner is reasonable because if the Company were required to wait two years after a final order is ultimately issued in Case No. U-18090 to file an avoided cost review, the Company would be left with stale avoided cost rates which could be four years old, or older, by the time a subsequent case is completed. This defeats the purpose of the biennial cost review.⁹ During that time, the Company's customers would potentially be subjected to new PURPA-based PPAs at rates which do not represent the Company's avoided costs. This unreasonable outcome can be avoided by reviewing the Company's PURPA avoided cost proposals in conjunction with a full review of the Company's plan—an "actual plan" as contemplated by the Commission's February 22, 2018 Order U-20095—to meet its customers' future energy and capacity needs.

Moreover, the IRP review would be rendered meaningless absent reviewing the Company's PURPA avoided cost proposals in the context of the IRP proceeding. An IRP allows the Company to conduct resource planning and "integrate" all issues in one docket—as opposed to litigating one-off issues in scattered dockets that all impact each other. The solution is to conduct a PURPA avoided cost review in conjunction with an IRP, as the Company has proposed. If the Company were forced to ignore the issues related to PURPA avoided costs in this proceeding, it would result in a plan to meet the Company's 5, 10, and 15-year energy and capacity obligations which is incomplete and could never be executed.

For example, the Company's planned glide path of new solar resources, which incrementally acquires new resources in advance of the actual capacity need beginning in 2030 (see pages 34 through 50 of Mr. Clark's direct testimony), could never be executed because the

⁹ This is especially true when viewed through the lens of the Company's PCA, which relies on competitively bidding projects and adding smaller amounts of capacity on a yearly basis to continually take advantage of declining costs.

current PURPA avoided cost construct could require the Company to purchase all capacity from QFs 10 years in advance of a need actually occurring. This is not only extremely difficult to manage from a capacity planning perspective but also fails to deliver the customer value provided by competitive bidding and adding capacity in smaller amounts on a yearly basis. Yet after the ALJ's Ruling, the proposal to incrementally add solar remains, while the evidence proposing how to avoid losing all customer value does not. The ALJ's Ruling also impacts the proposed retirement of Karn Units 1 and 2. Company witness Clark explains that if the backfill for retiring Karn Units 1 and 2 were based on the avoided cost rates identified in Case No. U-18090, the savings related to retiring these units "will not be realized and the Company would not propose to retire Karn Units 1 and 2 in 2023." Company witness Clark's direct testimony, page 33. If the Ruling withstands, the record includes a proposal to retire Karn 1 and 2, but not all the evidence relevant to making sure such retirements are beneficial to customers. The Commission will lack all the information necessary to analyze the Company's proposal. The PURPA avoided cost construct has a substantial impact on the Company's ability to provide energy and capacity to its customers and therefore, the Company's PURPA avoided cost proposals should not be removed from this IRP case.

3. The Commission May Review And Reconsider PURPA Avoided Cost Related Issues In This IRP Proceeding.

The Ruling suggested that Consumers Energy views this case as an opportunity to re-litigate its dissatisfaction with the Commission's decisions to date in Case No. U-18090. Ruling, page 15. This suggestion is further based on the contention that some of the arguments raised by the Company were previously raised with the Commission. Ruling, page 34. The Company is not attempting to re-litigate U-18090. The Company's proposals in the IRP are

meant to address capacity procurement moving forward. And it is based on facts and circumstances vastly different from those contained in Case No. U-18090's record.

Stated simply, the Company's PCA in the IRP presents facts and circumstances never previously considered by the Commission or contemplated in the Commission's previous order. The Company's PCA presents a compelling reason for revising the avoided cost calculation methodology, and the Commission has the ability to review and reconsider issues in an IRP proceeding.

Because ratemaking is a legislative function, the facts and circumstances of each proceeding are to be considered. Consumers Energy recognizes that the Commission is not required to completely re-litigate issues that it has already decided in earlier cases. *Pennwalt Corp v Public Service Comm*, 166 Mich App 1, 9; 420 NW2d 156 (1988). However, the Court's decision in *Pennwalt* makes clear that a party must show new evidence or demonstrate a change in circumstances to raise issues previously decided by the Commission:

“Since ratemaking is a legislative, rather than a judicial, function, the administrative determination made by the commission in setting rates is not “adjudicatory in nature,” as required by Senior Accountants. Thus, res judicata and collateral estoppel cannot apply in the pure sense. However, this does not mean that the question of the reasonableness of the costs of the wastewater treatment facility had to be completely relitigated in case number U-6949. The precise question was litigated in case number U-6488, where the commission found the costs to be reasonable. **To have the same proofs, exhibits, and testimony repeated would be a waste of the commission's resources. Rather, we feel that placing the burden on plaintiff to establish by new evidence or by evidence of a change in circumstances that the costs were unreasonable adequately balances the competing considerations of administrative economy and allowing plaintiff the chance to challenge the rate increase.**” *Id.* at 9 (emphasis added.)

The courts have consistently applied these principles since *Pennwalt* indicating that “issues fully decided in earlier PSC proceedings need not be ‘completely re-litigated’ in later proceedings unless the party wishing to do so establishes by new evidence or a showing of changed circumstances that the earlier result is unreasonable.” *In re Application of Consumers Energy Company for Rate Increase*, 291 Mich App 106, 122; 804 NW2d 574 (2010).

In the IRP, the Company has developed a PCA that represents the most reasonable and prudent means of meeting the Company’s energy and capacity needs through 2040. Meeting those needs includes consideration of current and future generation, which by its very nature includes QF generation and PURPA avoided costs. In order to take advantage of declining costs and better align capacity procurement with the timing of a capacity need, the Company’s PCA proposes to predominantly pursue modular solar generation resource additions and use competitive bidding to address all future capacity needs. The facts and circumstances of the Company’s PCA was never contemplated in the Company’s avoided cost proceeding. This is a compelling reason for revising the avoided cost calculation methodology, and the Commission has the ability to review and reconsider PURPA Avoided Cost Related Issues in the IRP proceeding. Indeed, as previously discussed, the Commission has already indicated a desire to do so.

Moreover, it is important to note that, in proposing its PCA, the Company is not seeking to challenge the avoided cost rate structure established in Case No. U-18090 as it applies to: (i) existing QFs with PURPA-based PPAs that expire prior to the conclusion of this IRP; (ii) the 150 MW that the Commission has required to be purchased from certain QFs at the full avoided cost rate; and (iii) any QF at or below 20 MW that wishes to accept compensation for capacity at the MISO PRA rate. The Commission’s orders in Case No. U-18090 have made clear that the

facilities that fall into these three categories should receive compensation based on the Case No. U-18090 avoided cost rates.

In its May 31 Order, the Commission found that “existing QFs with expiring contracts should have their contracts renewed at the full avoided cost rate, whether or not the company forecasts a capacity shortfall over the planning horizon.” May 31 Order, page 18. The Commission also found that QFs could receive compensation for capacity based on the MISO PRA when the Company projects no capacity need. May 31 Order, pages 18-19. In its November 22 Order, the Commission found it was “appropriate to limit payment of the full [Case No. U-18090] avoided capacity cost to the first 150 MWs of new QF capacity in the queue.” **The Company is not seeking to challenge these determinations in the IRP.** The Company submits that QFs that fall into each of the three categories above should receive compensation based on the Case No. U-18090 avoided cost methodology. Therefore, there is a clear demarcation between what the Commission has approved in Case No. U-18090 and what the Company has proposed here.

What the Company’s PURPA avoided cost and competitive bidding proposals seek to accomplish in this IRP is a change to the PURPA avoided cost structure on a going forward basis (i.e., effective as of the approval of the Company’s IRP). As explained throughout this Application, this change is necessary due to a change in circumstances and because it allows the implementation of the Company’s PCA, which represents the most reasonable and prudent plan of meeting energy and capacity needs.

C. It Was Appropriate For The Company To Integrate PURPA Avoided Costs And Competitive Bidding Proposals Into Its PCA

The final discussion presented in the ALJ’s Ruling addresses “[h]ow to address the situation presented in this case created by Consumers Energy’s incorporation of its proposed

avoided cost relief as a key element of its IRP.” Ruling, page 16. On page 37 of her Ruling, the ALJ suggests that the Company should not have made its PURPA avoided cost proposal the “lynchpin of its IRP” and suggests that “attempting to force consideration of the avoided cost method in its plan by failing to provide a status-quo alternative is objectionable.” The ALJ further found that, while the Company should not be “permitted to seek revision of its avoided cost rates, related parameters, and tariff in this case” the Company could revise its testimony by September 17, 2018 to “present its preferred and alternative preferred avoided cost methods, parameters, and tariff language as options the utility may pursue.”¹⁰

The Company’s PCA—which is an actual plan for meeting customers’ capacity and energy needs—proposed a new way of procuring capacity and demonstrated that the next avoided generating unit will be a solar development. Under those circumstances, there is nothing “objectionable” about including PURPA avoided cost and competitive bidding proposals in the Company’s filing. The Company’s PCA is supported by the provisions of MCL 460.6t. As explained in the prior sections of this Application, the Company’s PCA, which includes PURPA avoided cost and competitive bidding proposals, is consistent with MCL 460.6t which integrates the review of the Company’s energy and capacity needs and the resources that will be relied on by the Company to meet those needs. The Company submits that its proposals are not “objectionable,” especially in light of the Commission’s finding in its November 21 Order in Case No. U-18090 that “IRP proceedings are conducive to updating avoided costs,” November 21 Order, page 33. Given the law and the Commission’s direction in Case No. U-18090, it was appropriate for the Company to present its PCA in the manner that it did.

¹⁰ As explained in Footnote 4 in this Application, the Company is not proposing to substantially change the structure and terms of the PURPA Standard Offer Tariff and Contract in this IRP proceeding.

Additionally, the Ruling disregards that the Company addressed the “status-quo” in its IRP filing. The Company provided a “baseline capacity position outlook” as part of its IRP filing which represents the “status-quo.” Among other things, this outlook considered the impact of Case No. U-18090 by including: (i) continued purchases from existing facilities which the Company currently has PURPA contracts with, as required by the Commission’s May 31 Order, and (ii) the addition of 150 MW of new PURPA capacity, as required by the Commission’s February 22 Order. Company witness Troyer’s Direct Testimony, pages 5-7.

While the Company included the impact of Case No. U-18090 in its baseline capacity position outlook, the Company did not include the early retirement of Karn Units 1 and 2 or the increased build of solar generation on a yearly basis, as proposed in the PCA. See Company witness Blumenstock’s Direct Testimony, pages 26-28. This is because the savings related to the early retirement of Karn Units 1 and 2 would not be realized if the backfill plan for replacing these units were based on Case No. U-18090 avoided cost rates. Company witness Clark’s Direct Testimony, page 33. Therefore, the Company would not retire these units early. Furthermore, the Company explained that a 10-year capacity outlook, as approved in Case No. U-18090, would prevent the Company from proposing a strategy to fill needs on an incremental basis,” as would be required with the proposed ramp up of solar generation. Company witness Torrey’s Direct Testimony, page 9. Thus, the avoided cost methodology approved in Case No. U-18090 would “require a utility to propose a significant capital investment for a large base load generating plant to fill future capacity needs.” Company witness Torrey’s Direct Testimony, page 9. The ALJ’s Ruling struck all of this testimony—so if the case were to proceed to an order, the Commission would not have this information when evaluating whether the Company’s plan was the “most reasonable and prudent.” MCL 460.6t(8).

The Company has developed a PCA for meeting customers' capacity and energy needs over the next 20 years. Meeting those needs includes consideration of current and future generation, which by its very nature includes QF generation and PURPA avoided costs. In order to take advantage of declining costs and better align capacity procurement with the timing of a capacity need, the Company's PCA proposes to predominantly pursue modular solar generation resource additions and use competitive bidding to address all future capacity needs. To realize the PCA's benefits of risk mitigation and cost competitiveness, it requests that the Commission approve a competitive bidding method for determining avoided costs and a three-year forecast for determining the Company's capacity needs or sufficiency. Absent consideration of avoided costs as part of the PCA, the Company potentially could be required to purchase capacity from QFs 10 years prior to a capacity need occurring and at a rate based on a natural gas plant the Company does not intend to build. This would effectively prevent the Company from executing its PCA.

Thus, since the Company's PCA is consistent with the scope of MCL 460.6t, which provides for an integrated review of energy and capacity issues, the Commission's direction in Case No. U-18090 that "IRPs are conducive to updating avoided cost," and provides the most reasonable and prudent means of meeting the energy and capacity needs of customers, the Company's PCA is not "objectionable," as the Ruling suggests. The Company's PCA is appropriately fully integrated to address a change in circumstances and to allow for the successful implementation of a resource plan.

D. It Is Not Feasible For The Company To File Revised Testimony

Given the integrated nature of the Company's PCA, it is not feasible for the Company to file revised testimony to "present its preferred and alternative preferred avoided cost methods,

parameters, and tariff language as options the utility may pursue.” Ruling, pages 38-39. As explained above, the Company’s PURPA avoided cost and competitive bidding proposals are directly related to its plan for adding solar generation and its plan to retire Karn Units 1 and 2 early. The Company cannot go forward with its plan unless its PURPA avoided cost and competitive bidding proposals are considered. Indeed, the Company submits that without having the opportunity to address these issues, the Company’s PCA as submitted **cannot** meet MCL 460.6t(8)’s “most reasonable and prudent” standard.

Moreover, the ALJ’s direction for the Company to revise its testimony would constitute a modification of the Company’s IRP. MCL 460.6t(7) provides that:

“Up to 150 days after an electric utility makes its initial filing, the electric utility may file to update its cost estimates if those cost estimates have materially changed. **A utility shall not modify any other aspect of the initial filing unless the utility withdraws and refiles the application.**” (Emphasis added.)

The ALJ’s Ruling significantly alters the Company’s PCA for meeting customers’ capacity and energy needs over the next 20 years – including its proposal to predominantly pursue modular solar generation resource additions and use competitive bidding to address all future capacity needs. Attempting to file revised testimony as suggested by the Ruling is simply not possible. It would cause the Company to significantly modify its initial filing; thus causing the potential need for the Company to withdraw and refile its case.

VI. REQUEST FOR RELIEF

Consumers Energy’s PURPA avoided cost and competitive bidding proposals should not be stricken because they are relevant to, and firmly within, the scope of this IRP proceeding conducted pursuant to MCL 460.6t. The Company’s proposals are also consistent with the

Commission's prior orders concerning the consideration of PURPA avoided costs in IRP proceedings.

The Company's PCA proposes a dramatic change in the way the Company procures capacity moving forward which takes advantage of declining costs and better aligns capacity procurement with the timing of a capacity need. However, the Company is not seeking to re-litigate Case No. U-18090 as it applies to: (i) existing QFs with PURPA-based PPAs that expire prior to the conclusion of this IRP; (ii) the 150 MW that the Commission has required to be purchased from certain QFs at the full avoided cost rate; and (iii) any QF at or below 20 MW that wishes to accept compensation for capacity at the MISO PRA rate.

If the ALJ's Ruling stands, the Company's will not be able to implement its PCA because it will be incomplete and the record would contain a proposal with no evidence addressing the downsides. Also, given the integrated nature of the Company's PCA, it is not feasible for the Company to file revised testimony, as directed by the ALJ. The Commission's adoption of the ALJ's Ruling would cause the Company to significantly modify its initial filing; thus causing the potential need for the Company to withdraw and refile its case.

The Commission should not adopt the ALJ's Ruling because it restricts the Commission's access to a full and complete record in this IRP proceeding. Instead of striking the Company's proposals at this preliminary stage, the Commission should allow these proposals to remain in this case so that the Commission may consider a full and complete record.

WHEREFORE, Consumers Energy Company respectfully requests the Michigan Public Service Commission to reject the Administrative Law Judge's September 10, 2018 Ruling in its entirety.

Respectfully submitted,

CONSUMERS ENERGY COMPANY

Dated: September 17, 2018

By: _____
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EXHIBIT A

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)	Case No. U-20165
under MCL 460.6t and for other relief.)	
-)	

DIRECT TESTIMONY

OF

RICHARD T. BLUMENSTOCK

ON BEHALF OF

CONSUMERS ENERGY COMPANY

RICHARD T. BLUMENSTOCK
DIRECT TESTIMONY

1 Q. Please state your name and business address.

2 A. My name is Richard T. Blumenstock, and my business address is 1945 West Parnall
3 Road, 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. What is your position with Consumers Energy?

8 A. I am currently the Executive Director of Electric Supply. I began employment at the
9 Company in May of 1994 in the electric transmission planning area where I performed
10 planning studies on the Company’s distribution and transmission systems. In April of
11 2002, I was assigned to the electric operations area where I oversaw engineering
12 operations for the distribution and transmission systems. In August of 2009, I was
13 assigned to the fuel supply area where I oversaw the Company’s purchasing and transport
14 functions for fuel for electric generation. In June of 2011, I was assigned to the Electric
15 Sourcing & Transactions Department where I assumed the position of Director of Electric
16 Sourcing & Transactions. In July of 2017, I assumed the position of Executive Director
17 of Electric Supply.

18 Q. What are your responsibilities as Executive Director of Electric Supply?

19 A. My responsibilities as Executive Director of Electric Supply include management of the
20 Company’s:

- 21 • purchasing and transport functions for fuel for electric generation;
- 22 • interaction in the Midcontinent Independent System Operator Inc.’s (“MISO”)
23 markets;
- 24 • wholesale settlements and transactions functions;

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- Power Supply Cost Recovery (“PSCR”) activities; and
- planning for electric supply necessary to satisfy customers’ energy and capacity needs.

Q. What is your formal educational experience?

A. I received a Bachelor’s of Science degree in 1992 and a Master’s of Science degree in 1994, both in Electrical Engineering from Michigan Technological University.

Q. Have you previously testified before the Michigan Public Service Commission (“MPSC” or the “Commission”)?

A. Yes, I provided testimony in the following MPSC cases:

- MPSC Case No. U-16045-R: Reconciliation of PSCR Costs and Revenues for the Calendar Year 2010;
- MPSC Case No. U-16432-R: Reconciliation of PSCR Costs and Revenues for the Calendar Year 2011;
- MPSC Case No. U-16890: Approval of a PSCR Plan and for Authorization of Monthly PSCR Factors for the Year 2012;
- MPSC Case No. U-16890-R: Reconciliation of PSCR Costs and Revenues for the Calendar Year 2012;
- MPSC Case No. U-17429: Approval of a Certificate of Necessity for the Thetford Generating Plant pursuant to MCL 460.6s and for related accounting and ratemaking authorizations;
- MPSC Case No. U-17317: Approval of a PSCR Plan and for Authorization of Monthly PSCR Factors for the Year 2014;
- MPSC Case No. U-17317-R: Reconciliation of PSCR Costs and Revenues for the Calendar Year 2014;
- MPSC Case No. U-17752: Authority to amend its Renewable Energy Plan (“REP”) approved in Case Nos. U-15805, U-16543, U-16581, and U-17301;
- MPSC Case No. U-17678: Approval of a PSCR Plan and for Authorization of Monthly PSCR Factors for the Year 2015;
- MPSC Case No. U-17678-R: Reconciliation of PSCR Costs and Revenues for the Calendar Year 2015;

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- MPSC Case No. U-18250: Application of Consumers Energy for a financing order approving the securitization of qualified costs and related approvals associated with the early termination of the Palisades Nuclear Energy Plant (“Palisades”) Power Purchase Agreement; and
- MPSC Case No. U-20134: Application of Consumers Energy for authority to increase its rates for the generation and distribution of electricity and for other relief.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to provide an overview of the Company’s Integrated Resource Plan (“IRP”) filing. Specifically, my direct testimony includes:

- i. An overview of the filing;
- ii. A summary of the study design of the IRP;
- iii. An overview of the study process used to complete the IRP;
- iv. A description of the results of the IRP; and
- v. A summary of what approval is being requested in the IRP.

Q. What is the Company seeking approval for in this IRP?

A. The Company is seeking approval of this IRP, including cost recovery for investments and resources that will be utilized to meet customers’ energy and capacity needs in the three years following Commission approval. The investments and resources are a part of the Company’s Proposed Course of Action (“PCA”). The PCA is a key outcome of the IRP representing the Company’s plan for meeting customers’ capacity needs over the next 20 years.

The Company currently shows no need for capacity in the next three years. This is the reason a Request for Proposal (“RFP”) was not issued before this IRP. The PCA calls for continued operation of J.H. Campbell (“Campbell”) Units 1 and 2 through 2031, and the retirement of D.E. Karn (“Karn”) Units 1 and 2 in 2023. The backfill plan for

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1 Karn Units 1 and 2 consists of additional Energy Waste Reduction (“EWR”),
2 Conservation Voltage Reduction (“CVR”), and Demand Response (“DR”) resources
3 above levels currently planned today, and leveraging available solar generation necessary
4 to meet capacity needs later in the capacity outlook. In the later portion of the 20-year
5 outlook, a large Power Purchase Agreement (“PPA”) terminates in 2030 and the
6 Company expects to retire the remainder of its coal-fueled and oil-fueled generating units
7 in 2031 and 2040, all in accordance with their design lives. The plan for backfilling the
8 resulting capacity needs is continued investment in EWR, CVR, and DR resources, as
9 well as investment in solar generation and battery technology.

10 The Company’s PCA embodies a true “Clean and Lean” approach to resource
11 planning. Retirement of Karn Units 1 and 2 in 2023 and having no coal generation by
12 2040 supports the Company’s clean approach. So, too, does the Company’s intention to
13 backfill the resulting capacity needs which occur during the period of time covered by
14 this IRP with demand-side management resources, solar generation, and battery
15 technology. Regarding the lean approach, the Company is taking this opportunity to shift
16 from large, baseload generating plants to modular resources that are better able to reliably
17 balance capacity needs with supply. Achieving this balance with modular resources will
18 allow the Company to better serve our commitment to keeping bills affordable, limiting
19 risk to customers, and transitioning to a cleaner resource portfolio. The Company
20 believes that a clean and lean approach is the most reasonable and prudent way to meet
21 energy and capacity needs over the long term.

22 Because the PCA recommends the retirement of Karn Units 1 and 2 in 2023
23 before the end of their design lives and before the remaining book balance would be

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1 recovered through traditional depreciation rates, the Company is seeking approval of a
 2 regulatory asset for the remaining book balance and costs of removal for those units. The
 3 Company is also proposing to move to a competitive bid process for procurement of
 4 capacity based on a three-year outlook for capacity sufficiency determination—~~which~~
 5 ~~means that it is proposing a new methodology for determining Public Utility Regulatory~~
 6 ~~Policies Act of 1978 (“PURPA”) avoided cost rates, as well as determining the~~
 7 ~~Company’s capacity needs or sufficiency for purposes of PURPA. Because this~~
 8 ~~methodology entails a competitive bid framework for procuring capacity,~~ the Company is
 9 also seeking approval of a proposed Financial Compensation Mechanism (“FCM”) on
 10 PPAs.

11 The PCA is an integrated proposal that ties the evolution of the Company’s
 12 resource portfolio to numerous proposals presented in this case (i.e., recovery of Karn
 13 Units 1 and 2 remaining book balance, ~~new methodology for determining avoided costs~~
 14 ~~pursuant to PURPA~~, and a FCM for PPAs) which are necessary to make that resource
 15 portfolio evolution successful. Since the Company’s PCA is a fully integrated proposal
 16 with numerous components, modification to or rejection of a proposal made in the PCA
 17 impacts the PCA’s viability and the Company’s willingness to execute on the remaining
 18 portions of the PCA not modified or rejected. As such, the Company reserves the right to
 19 abandon or amend its PCA if the Commission rejects any of the Company’s proposals
 20 presented in this IRP.

21 Q. Have you prepared any exhibits in conjunction with your direct testimony?

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

23 Exhibit A-1 (RTB-1) IRP Filing Requirements Checklist; and

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| 2019 Exhibit A-2 (RTB-2) Consumers Energy IRP Report.

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1 Q. Were these exhibits prepared by you or under your supervision?

2 A. Yes.

3 **SECTION I: IRP OVERVIEW**

4 Q. Why has the Company filed this IRP?

5 A. On December 21, 2016, Governor Rick Snyder signed into law Public Act 341 of 2016
6 (“Act 341”), amending Public Act 3 of 1939. Effective April 20, 2017, Act 341 updated
7 Michigan’s energy laws for Certificate of Necessity (“CON”) filings, and established an
8 IRP process and framework for electric utilities whose rates are regulated by the
9 Commission. Specifically, Section 6t(1) of Act 341 requires an electric utility to file an
10 IRP with the Commission no later than April 20, 2019. The Commission subsequently
11 issued an order in Case No. U-15896 *et al*, which directed the Company to file its IRP by
12 June 15, 2018.

13 In response, the Company assessed its capacity resource portfolio in light of
14 capacity needs, reliability, cost, environmental requirements, environmental goals,
15 diversity, and risk. The assessment also sought to provide customers with more options
16 for sustainable and renewable resources, a consistent theme heard from stakeholders. In
17 doing so, the Company has provided a comprehensive IRP that, after input, modeling,
18 and analysis, represents the most reasonable and prudent course of action to reliably meet
19 customer capacity and energy needs now and in the future.

20 Q. Please provide an overview of statutory framework and filing requirements for IRPs.

21 A. Section 6t(1) of Act 341 required the Commission, within 120 days of the effective date
22 of the act and at least every five years thereafter, to commence a proceeding that, among
23 other things, establishes modeling scenarios and assumptions that each electric utility

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1 should include, in addition to the Company's own scenarios and assumptions, in
2 developing its IRP.

3 On July 31, 2017, the Commission initiated Case No. U-18418 to implement the
4 provisions of Section 6t(1) of Act 341. In its Order, the Commission directed the MPSC
5 Staff to file a proposal to establish parameters related to the IRP process in the docket no
6 later than August 31, 2017. The Order scheduled three public hearings in
7 September 2017 and gave opportunity for written comments from any interested source
8 to be submitted to the docket through October 20, 2017. The Commission approved
9 Michigan Integrated Resource Planning Parameters on November 21, 2017, which
10 included scenarios, assumptions, and sensitivities that must be included in each utility's
11 IRP.

12 In addition, Section 6t(3) of Act 341 required the Commission to issue an order
13 establishing filing requirements, including application forms, instructions, and filing
14 deadlines for an IRP filed by an electric utility whose rates are regulated by the
15 Commission. On October 11, 2017, the MPSC issued an order in Case No. U-15896 *et al*
16 requesting comments on draft IRP filing requirements and on draft alternative proposal
17 filing requirements applicable in IRP cases and CON cases to comply with Sections 6t
18 and 6s of Act 341. The Commission issued an Order on December 20, 2017 in that
19 proceeding which adopted final filing requirements.

20 Q. Does this IRP filing meet the Commission's requirements?

21 A. Yes. This filing meets the Commission's Michigan Resource Planning Parameters, as
22 approved in Case No. U-18418. Specifically, the scenarios, sensitivities, and
23 assumptions required by the Commission are included in this IRP, as supported by

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1 Company witness Sara T. Walz. The Company's filing also meets the requirements in
 2 Section 6t of Act 341, as well as the requirements in the Commission's IRP filing
 3 requirements, as approved in Case No. U-15896, *et al.* Exhibit A-1 (RTB-1) details each
 4 IRP filing requirement and the corresponding location of responsive information in the
 5 Company's filing. It should be noted that this exhibit is intended to direct a reviewer of
 6 the Company's filing to information filed by the Company which addresses a certain
 7 filing requirement and does not provide an exhaustive list of all information which may
 8 be applicable to a certain filing requirement. .

9 Q. Please provide an overview of the witnesses and the topics they will present evidence in
 10 support of this IRP filing.

11 A. Company witness Thomas P. Clark describes the planning and modeling process for the
 12 IRP, the PCA, and the early retirement and continued operation decisions of Karn Units
 13 1 and 2 and Campbell Units 1 and 2 (collectively the "Medium 4") coal-fueled generating
 14 units. Mr. Clark also describes the risk assessment methodology utilized, ~~and provides~~
 15 ~~support for a methodology for determining avoided cost rates.~~

16 Company witness Charles F. Adkins, a consultant from ABB Advisor Services
 17 ("ABB"), presents an independent retirement analysis of the Medium 4.

18 Ms. Walz describes and supports the scenarios and sensitivities used to develop
 19 the IRP, to assess the Medium 4 early-retirement cases, and meet the requirements of the
 20 Commission's Order (Case No. U-18418) on IRP Modeling Parameters. Ms. Walz also
 21 provides details regarding cost and economic support for plans resulting from the PCA.

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1 Company witness Melissa Haugh, a consultant from Pace Global, provides an
2 independent assessment of the data and modeling process, and the risk assessment
3 methodology associated with the IRP process.

4 Company witness Norman J. Kapala presents the existing electric generating
5 assets under the Company's control and operation and the estimated cost to operate and
6 maintain the Medium 4 as proposed in the PCA. Additionally, he describes the
7 separation costs related to (i) the proposed early retirement of Karn Units 1 and 2, and
8 (ii) the actions that will commence within three years after a final order in this
9 proceeding.

10 Company witness Eugène M. Breuring provides detail about how the forecast of
11 electric sales, maximum demand, and system output is developed, including the process
12 used to account for EWR and DR. He also supports the reasonableness of the electric
13 sales forecast used in this IRP.

14 Company witness Donald A. Lynd describes engagement efforts with local
15 transmission owner, Michigan Electric Transmission Company ("METC"), and the
16 reasonableness of the studies conducted by METC on the Company's behalf.

17 Company witness Brian D. Gallaway describes the Company's current fuel
18 procurement practices, supply arrangements, and costs associated with existing
19 generating facilities. Mr. Gallaway also discusses the fossil fuel price forecasts used in
20 the IRP process, as well as the expected fuel type, supply, costs, and contractual
21 agreements associated with the PCA.

22 Company witness Teresa E. Hatcher compares the current REP assumptions to
23 those in the PCA and discusses the consistency between the IRP and the REP. The

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1 comparison describes the renewable energy assumptions specific to utility-scale wind and
2 solar resources utilized in the IRP processes. Ms. Hatcher also discusses the Renewable
3 Portfolio Standards (“RPS”) and renewable energy goals related to Public Act 342 of
4 2016. Additionally, she describes customer interest in renewables and energy saving
5 resources to meet sustainability goals.

6 Company witness Scott D. Thomas describes the practicality and execution risk
7 surrounding the development of the renewables specified in the PCA. Mr. Thomas also
8 describes the modeling assumptions developed for gas-fueled technologies.

9 Company witness Carolee K. Smith explains the Production Tax Credit for wind
10 resources and the Investment Tax Credit for solar resources.

11 Company witness Patrick C. Ennis discusses the Company’s existing and
12 proposed demand-side management programs and describes the DR assumptions utilized
13 in the IRP process. In addition, Mr. Ennis explains the levels of DR included as part of
14 the PCA, describes the costs associated with DR programs that will commence within
15 three years after a final order in this proceeding for which the Company is seeking
16 Commission approval for cost recovery as provided by Section 6t of Act 341.

17 Company witness Robert L. Fratto, a consultant from GDS Associates (“GDS”),
18 supports the approach taken to determine the allocation of the Company’s DR level
19 associated with the MPSC Statewide Demand Response Potential Study (2017), and the
20 development of the high and low size and pricing of DR resources. Additionally,
21 Mr. Fratto discusses the reasonableness of cost assumptions and levels of potential for
22 DR beyond the Company’s existing plans.

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1 Company witness Theodore A. Ykimoff discusses the Company's existing EWR
2 programs and describes the EWR assumptions utilized in the IRP process. Further,
3 Mr. Ykimoff explains the costs and cost recovery involved in achieving the levels of
4 EWR as described in the PCA that will commence within three years after a final order in
5 this proceeding for which the Company is seeking Commission approval for cost
6 recovery as provided by Section 6t of Act 341.

7 Company witness Richard F. Spellman, a consultant from GDS, supports the
8 approach used to develop the recent Michigan Lower Peninsula Electric Energy
9 Efficiency Potential Study ("Statewide Study"), and also explains the projected potential
10 electricity savings and program implementation costs for the Company's service territory
11 under the various scenarios examined in that study. Furthermore, Mr. Spellman discusses
12 new learnings gained since the original Statewide Study was completed in August 2017.

13 Company witness Mark A. Ortiz discusses the Company's CVR program and
14 describes the assumptions used in the IRP process. Mr. Ortiz explains the customer
15 benefits from an electric distribution and supply-side perspective, and how the
16 Company's grid modernization efforts are leveraged to realize these benefits.
17 Additionally, he describes the costs associated with CVR that will commence within
18 three years after a final order in this proceeding for which the Company is seeking
19 Commission approval for cost recovery, as provided by Section 6t of Act 341.

20 Company witness Heather A. Breining describes the environmental regulations
21 with which the Company's electric generating fleet must comply, the cost of compliance
22 with those regulations, as well as the timing and justification for the investments made to

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1 ensure environmental regulatory compliance and the best plan for Michigan. In addition,
2 she discusses the Company's recently announced Clean Energy Goal.

3 Company witness Heidi J. Myers explains the financial assumptions used in the
4 IRP model, and provides an estimate of the impact of the PCA and an alternate plan on
5 average customer rates and incremental revenue requirements. Ms. Myers also discusses
6 the regulatory asset necessary for the Company to retire Karn Units 1 and 2 before the
7 end of their design lives (2031) and recover the remaining book balance and costs of
8 removal for those units.

9 Company witness Cari K. Hurt describes the remaining book balance associated
10 with the Medium 4, and the depreciation impacts for the early retirement of Karn Units
11 1 and 2 using the depreciation schedule and rate currently approved by the MPSC, and
12 using accelerated depreciation.

13 Company witness Todd A. Wehner explains the rate impacts for securitizing the
14 requested regulatory asset for the remaining book balance and costs of removal for Karn
15 Units 1 and 2. Mr. Wehner explains that the Company is not seeking approval of
16 securitization at this time.

17 Company witness Michael A. Torrey provides testimony providing a policy
18 perspective in support of the Company's proposed FCM for PPAs.

19 Company witness Sri Maddipati explains the Company's proposed FCM which
20 provides an incentive for executing PPAs, as authorized by Section 6t(15) of Act 341.

21 Company witness Keith G. Troyer explains the existing contractual agreements
22 for capacity and energy, and the assumptions associated with these contracts. ~~Mr. Troyer~~

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~~1 also provides a PURPA policy perspective and a proposed methodology for~~
~~2 determination of capacity need and avoided cost rates.~~

31 Q. Has the Company developed a report to supplement this IRP filing?

42 A. Yes. I am sponsoring the Company's IRP report, which appears as Exhibit A-2 (RTB-2).

53 The Company's IRP report meets the Commission's filing requirements and provides,
 64 among other things, the Company's analysis and decisions in selecting its PCA and
 75 resource evolution strategy.

86 **SECTION II: IRP DESIGN**

97 Q. What planning objectives did the Company set as it performed this IRP?

108 A. Section 6t of Act 341 requires the Commission to approve an IRP if it determines the
 119 plan represents the most reasonable and prudent means of meeting the electric utility's
 1210 energy and capacity needs. To make this determination, the Commission shall consider
 1311 whether the plan appropriately balances all of the following factors:

1412 i. Resource adequacy and capacity sufficient in quantity to serve anticipated
 1513 peak electric load plus applicable Planning Reserve Margin Requirement¹
 1614 ("PRMR") and Local Clearing Requirement² ("LCR");

1715 ii. Compliance with applicable state and federal environmental regulations;

1816 iii. Competitive pricing;

1917 iv. Reliability;

2018 v. Commodity price risks;

2119 vi. Diversity of generation supply; and

2220 vii. Whether the proposed levels of peak load reduction and EWR are reasonable
 2321 and cost effective.

¹PRMRs represent the amount of resource capacity that must be procured by a Load Serving Entity to meet the "1-in-10" loss-of-load reliability standard.

²LCR represents the amount of resource capacity that must be cleared in a particular Local Resource Zone in order to meet the "1-in-10" loss-of-load reliability standard.

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1 In the context of the Commission's definition of what constitutes the standard for
2 the most reasonable and prudent plan, the Company examined its own planning
3 objectives. The Company's planning objectives are based upon its commitment to
4 People, Planet, and Prosperity. The Commission's and Company's planning objectives
5 are well aligned and, when taken together, result in the best plan for Michigan.

6 From a *People* perspective, the Company must recognize and address the impact
7 the PCA has on communities, employees, and customers. The Company has full
8 intention to respect and care for employees and communities affected by any changes to
9 its resource portfolio. This includes finding employment for Company personnel
10 displaced by unit retirements when possible and helping communities to reimagine the
11 local economic landscape.

12 Reliability is also central to the Company's *People* commitment. Providing
13 sufficient capacity to serve anticipated peak electric load plus applicable PRMR and LCR
14 results in reliable energy supply (Commission objectives i and iv). Ensuring reliable
15 energy supply ties closely with a lean and modular approach to resource planning. A lean
16 portfolio involves reasonable and cost effective EWR (Commission objective vii). A
17 modular portfolio involves smaller, dispersed supply sources. A lean and modular
18 portfolio ensures reliability by avoiding exposure to failures in transmission and
19 distribution systems or to a loss of a single, large generating station.

20 A commitment to *People* includes listening to our customers regarding their
21 desire for Michigan's energy future and corresponding evolution of the Company's
22 resource portfolio. Conducting stakeholder outreaches during the IRP allows opportunity
23 to integrate customers' desires into the IRP process.

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1 Minimizing customer rate impact is also an important *People* consideration. This
2 is supported through minimizing, to the extent possible, capacity replacement costs,
3 remaining book balance for potential retirement scenarios, execution risk for resource
4 planning, stranded fuel obligations, and reliance upon less reliable equipment.

5 From a *Planet* perspective, the Company must ensure the PCA meets RPS
6 specified in Michigan law and compliance with applicable state and federal
7 environmental regulations (Commission objective ii). Transitioning to a clean and lean
8 resource portfolio positions the Company to achieve compliance with potential
9 environmental regulation that may be imposed in the future, such as carbon dioxide
10 emissions regulations, which reduces future financial risk to customers. The PCA must
11 also align with the Company's Clean Energy Goal, which extends beyond the compliance
12 level required by current law and illustrates the Company's deep commitment to
13 protecting the environment. The Company's Clean Energy Goal calls for reducing
14 carbon emissions by 80% (from 2005 levels) and no longer using coal to generate
15 electricity, both by 2040.

16 From a *Prosperity* perspective, the PCA must provide for both a financially
17 healthy utility that attracts capital investment for needed electric infrastructure and
18 affordable bills for customers. In a traditional utility regulatory environment, utility
19 investors earn returns on capital investment in new infrastructure. This traditional
20 regulatory model gives little incentive for utilities to utilize PPAs to meet energy and
21 capacity needs. Act 341 appropriately authorized the Commission to approve a new
22 financial and regulatory system by providing fair and reasonable compensation for
23 utilities that utilize PPAs. The Commission's adoption of such compensation is critical to

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1 creating a stable, sustainable regulatory and financial model that drives utilization of
2 PPAs that benefit the Company's customers and the state of Michigan. The PCA must
3 also provide for affordable customer bills and competitive pricing (Commission objective
4 iii), which are critical to support the lives of the Company's residential customers and the
5 businesses of its commercial and industrial customers.

6 Furthermore, a supply plan that is modular lessens customer rate impact as it
7 provides flexibility to adjust to changes in technology cost, electric demand, or the
8 business environment. This approach is a departure from the traditional utility model of
9 pursuing large, centralized generation projects to realize economy of scale benefits,
10 which can result in the risk of inflexible supply, particularly when actual demand falls
11 short of forecasted demand. A modular approach provides a scalable supply portfolio
12 that minimizes potential for surplus capacity, diversifies supply resources (Commission
13 objective vi), insulates the Company and its customers from commodity price risks, and
14 protects against high customer rates (Commission objective v).

15 Q. What are the key decisions the Company set out to address in this IRP?

16 A. The over-arching objective of the IRP and the resulting PCA was to create the most
17 reasonable and prudent means of meeting short- and long-term energy and capacity
18 needs. In reaching this result, this IRP necessarily had to address four key decisions.
19 First, as directed by the Commission in Case No. U-18322³, the IRP was designed to
20 support a decision on the best plan for disposition of the Medium 4. The Company
21 examined early retirement of the Medium 4 in years 2021 and 2023, as well as continued
22 operation through their end-of-design lives in 2031. Because the IRP makes such

³ See Commission's Order in U-18322, page 25.

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1 evaluations, the IRP had to recommend the best way to recover any remaining book
2 balance and costs of removal for retired units.

3 Second, the Company had to ensure the PCA achieved all planning objectives set
4 forth by the Commission and the Company.

~~5 Third, to seek competitive pricing for supply options, the Company proposes a
6 new manner for procuring capacity through competitive bids. As a result, a methodology
7 was developed for determining the avoided costs that the Company is required to provide
8 to Qualifying Facilities ("QF") under PURPA. The Company proposes a competitive
9 bidding process to determine avoided costs, which provides the most accurate
10 representation of the costs that the Company actually avoids by purchasing from a QF,
11 provides an orderly process for the acquisition of capacity, and provides customers with
12 the benefit of competitively priced energy and capacity. Should the Commission not
13 agree with this proposed methodology for determining avoided costs, the Company has
14 developed an alternative a specific avoided cost that is based on a blend of the resources
15 in the near-term portion of the PCA, specifically EWR, CVR, and DR.~~

165 Fourth, because the Company is proposing a competitive-bid methodology, the
176 FCM was developed to earn a fair return on PPAs—a strategy that the Company believes
187 is aligned with providing the lowest costs to customers. The FCM is intended to
198 incentivize the Company to follow the competitive-bid methodology in the PCA and
209 execute PPAs that are cost-effective for our customers, while compensating the Company
2110 for the inherent financial risk associated with the imputed debt and corresponding
2211 financial obligations associated with PPAs.

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DIRECT TESTIMONY**SECTION III: IRP PROCESS**

Q. Please summarize the process used by the Company to complete this IRP.

A. The Company's approach to completing this IRP started with identification of the planning objectives and decisions previously discussed. At the same time, the Company engaged stakeholders, both the general public and parties that typically intervene in the Company's electric rate case proceedings, to discuss development of the IRP and receive feedback regarding resources and actions that can be taken to meet future capacity and energy needs. Efforts then transitioned to development of scenarios and sensitivities representing a wide range of potential future outcomes. Once the scenarios and sensitivities were established, there was an intense period of modeling and analytical work completed using resource planning software. During this period, the Company continued to interact with stakeholders to answer questions they might have, address their concerns, and continue to understand the stakeholder preference for meeting future capacity and energy needs. Once the analysis was complete, the results were reviewed from the perspective of reasonableness in assumptions and alignment with planning objectives. The resulting portfolio of resources became the PCA. The PCA was then run through all scenarios and sensitivities to understand its performance under all study conditions. Results of this analysis were then assessed using the Company's risk analysis to ensure that the PCA was robust under the reasonable range of outcomes represented by our scenarios and sensitivities and to ensure that the PCA represented the best IRP for Michigan.

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1 Q. Please provide a high-level overview of the Company's outreach efforts.

2 A. The Company conducted a stakeholder engagement process consisting of public and
3 technical stakeholder outreaches. Each outreach event was designed to provide
4 transparency, education, and an opportunity to provide input to the IRP. These outreach
5 events educated participants about the purposes and process of an IRP, and invited
6 participants to share their ideas, suggestions, and opinions on meeting Michigan's future
7 energy and capacity needs. Exhibit A-2 (RTB-2) details the Company's outreach efforts.

8 For the general public, two public open house events were held. The first open
9 house was held on January 29, 2018 at the Kellogg Center in East Lansing and the second
10 open house was held on February 12, 2018 at the Company's John Russell Leadership
11 Center in Grand Rapids. The public open houses were widely promoted through press
12 releases, customer outreach, owned media, social media, employee communications, and
13 our State and Federal Governmental Affairs staff.

14 To facilitate these discussions, the public open houses were in-person meetings
15 consisting of four main areas of interest: (i) overview of the IRP, (ii) the environment,
16 (iii) emerging technologies, and (iv) renewable resources. To ensure participants wishing
17 to make a formal comment could do so, two options were provided—material for
18 hand-written comments or verbal comments recorded by a stenographer.

19 For those expected to be highly involved in the technical aspects of the IRP, a
20 series of technical workshops were created to address questions, and obtain detailed
21 insights and requests that could be incorporated into the analytical portion of the IRP.
22 The Company invited participants for these workshops based on the parties that were
23 granted intervention in the Company's last electric rate case, Case No. U-18322. The

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1 technical workshop sessions were held on December 12, 2017 and February 27, 2018 in
2 Jackson, Michigan. The technical workshops provided an opportunity to explain the
3 modeling and analytical approach to the IRP, to take questions, and to solicit feedback on
4 the technical aspects of the IRP.

5 To facilitate these discussions, the technical workshops were in-person meetings
6 led by the Company's communications experts, modeling experts, and leadership team.
7 The two technical workshops followed the same basic format based on three 1-hour
8 segments:

- 9 • A presentation of information by the Company on the project schedule and
10 status, modeling approaches and explanations, information sources, and, with
11 respect to the second technical conference, responses to comments formally
12 provided by the stakeholders;
- 13 • An opportunity for stakeholders to ask questions on the information presented
14 or a topic that was not presented. During this segment of the technical
15 conference, a verbal response was provided to each question; and
- 16 • An opportunity for each stakeholder to make comments. To ensure accurate
17 portrayal of stakeholder comments, an electronic document capturing the
18 comments was projected on screens for all stakeholders to see. Stakeholders
19 were also asked to confirm the accuracy of each comment as written.

20 The outreach events, both the public open houses and technical workshops, were
21 successful in that they resulted in a constructive discussion on the IRP. Comments
22 received during the public open house events focused on developing additional
23 renewables and clean energy resources. The need to transition to a cleaner fleet sooner
24 rather than later was a consistent message within the comments. Comments received
25 from the technical workshops carried similar themes of the public open house comments,
26 but also included a focus on the content of the regulatory filing, minimizing time
27 constraints in the regulatory process, and providing an opportunity for the Company to
28 perform and provide analysis on behalf of technical stakeholders. Of the feedback

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1 received, the Company took action or responded to all comments. A report detailing the
2 Company's public outreach efforts is provided as part of the Company's IRP Report,
3 Exhibit A-2 (RTB-2).

4 Q. Please provide a high-level overview of the scenarios and sensitivities presented in this
5 IRP.

6 A. The IRP is based on modeling scenarios—future outlooks—to account for a range of
7 potential outcomes for a study period of 2018 through 2040 to evaluate a 5, 10, 15, and
8 20-year time horizon consistent with Section 6t and the Commission's filing
9 requirements approved in Case No. U-15896, *et al.* Various sensitivities—changes in
10 key assumptions that are varied one parameter at a time within any given scenario—were
11 then applied to account for uncertainties in the scenarios themselves. Modeling several
12 scenarios and sensitivities provides a representation of external factors that could
13 influence resource availability and selection, while seeking the most reliable, efficient,
14 and economic results. By developing and studying several scenarios and sensitivities, the
15 Company minimized the risk of focusing on a single outcome.

16 The process used to develop the IRP was rigorous and comprehensive, consistent
17 with good utility practice, followed all Commission requirements, and ultimately ensured
18 the identification of the most reasonable, prudent, and cost-effective resources to serve
19 customers in a reliable manner.

20 Q. Please summarize the actual scenarios and sensitives considered in this IRP.

21 A. This IRP considered three different scenarios: (i) Business As Usual—(current
22 conditions continue into the future); (ii) Emerging Technology—(current conditions
23 continue except renewable resources, EWR, and DR become materially less expensive);

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1 and (iii) Environmental Policy—(30% reduction in carbon by 2030 and materially less
2 expensive renewable resources). In addition to these three scenarios, there was also a
3 collection of sensitivities required to be evaluated on each of the scenarios. The
4 Company's scenarios and sensitivities are aligned with, and mostly consist of, scenarios
5 and sensitivities mandated by the Commission's November 21, 2017 Order in Case No.
6 U-18418.

7 The Company modeled three additional scenarios that mirrored those mandated
8 by the Commission, but used the Company's gas price forecast instead of the Energy
9 Information Administration ("EIA") gas price forecast mandated to be used by the
10 Commission. The Company believes its gas price forecast is more reasonable than the
11 EIA gas price forecast as discussed in more detail by Mr. Gallaway. These three
12 additional scenarios were developed to support the early retirement analysis of the
13 Medium 4. The Company also added sensitivities to examine the (i) impact of variation
14 in fixed charge rate related to the reduction in Federal Income Tax rate from 35% to 21%;
15 (ii) the incremental cost of capital expenditures on 316(b) regulation at Campbell Units
16 1 and 2; and (iii) the incremental savings of potentially avoidable capital expenditures on
17 316(b) regulation at Karn Units 1 and 2.

18 In support of these scenarios and sensitivities, assumptions necessary to translate
19 the scenarios and sensitivities into models were developed. This included assumptions
20 such as, but not limited to, fuel cost forecasts, technology characteristics and costs, and
21 program levels for EWR and DR. The Company also performed screening evaluation
22 producing a set of resource options for consideration in portfolio optimization analysis.

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1 Q. Does the Company's modeling and analysis effort represent a robust foundation for the
2 IRP?

3 A. Yes. The modeling team developed models suitable for resource planning analysis
4 consisting of 44 combinations of scenarios and sensitivities. For each combination, up to
5 eight portfolio optimizations were examined, which are specific combinations of
6 demand-side and supply-side options such as reliance on only market purchases, reliance
7 on only gas generation, reliance on gas and renewable generation, or reliance on all
8 possible resource options plus demand-side options. In total, there were 225 model runs,
9 some of which took multiple days to complete. This enormous modeling effort
10 represented a robust analysis and suitable foundation for the IRP.

11 Q. Please describe how the PCA was developed.

12 A. The PCA was developed based on the results of modeling and analysis, which varied
13 between the different scenarios and sensitivities. The Company identified the
14 demand-side management and supply resources that were most widely selected by the
15 Company's Strategist[®] software ("Strategist") across the scenarios and sensitivities. The
16 Company then examined these resources to determine the reasonableness of the
17 assumptions upon which they were based. Furthermore, the Company examined these
18 resources to determine if they aligned with the planning objectives. Resources based
19 upon reasonable assumptions and aligned with planning objectives were included in the
20 PCA in amounts necessary to meet capacity needs and in order of economic merit.
21 Mr. Clark provides a detailed discussion of how the PCA was developed.

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1 Q. Please provide a summary on the Company's risk analysis approach.

2 A. The Company utilized a three-step process to assess the risk of choosing any particular
3 resource portfolio (including the Scenarios and Sensitivities methodology set forth by the
4 Commission in Case No. U-15896, *et al*). The first step was review of the portfolio
5 optimizations created by the Company's Strategist modeling to identify resource
6 tradeoffs—the point at which the model may or may not select a particular resource. The
7 second step was review of Net Present Value of Revenue Requirements⁴ ("NPVRR") of
8 the portfolio optimizations to gain insight into any costs customers would potentially
9 incur, customer savings realized, or resulting neutral costs given the choice of any
10 particular resource portfolio. This process utilized each scenario and sensitivity. Finally,
11 the third step was review of expanded sensitivity analysis on capacity and natural gas
12 prices to ascertain resiliency to these key outcome determinants. The Company's risk
13 analysis is presented by Mr. Clark and is validated by Ms. Haugh.

14 Q. Please identify the modeling consultants retained by the Company to perform
15 independent reviews of the Company's IRP modeling and analysis.

16 A. The Company retained ABB in January 2018 to provide an independent analysis of the
17 potential retirement of the Medium 4 prior to their end-of-design lives in 2031. In
18 performing this analysis, ABB provided expertise on how best to represent the retirement
19 paradigm within Strategist.

20 Based on its retirement analysis, ABB recommend the early retirement of Karn
21 Units 1 and 2, preferably in 2021 or 2023, and continued operation of Campbell Units

⁴ Net present value is a financial concept that represents future cash flows (positive and negative) over the entire life of an investment discounted to the present. For this IRP, the cash flows are discounted by the Company's current discount rate of 7.55%. The cash flows being discounted are the revenue requirements for the Company's entire resource portfolio.

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1 1 and 2 through the end of their design lives in 2031. A discussion of ABB's Medium 4
2 retirement analysis is provided by Mr. Adkins. ABB's recommendation in this regard
3 supports the Company's decision to retire Karn Units 1 and 2 in 2023 and continue to
4 operate Campbell Units 1 and 2 through 2031.

5 The Company also retained PACE Global to perform an independent review of
6 the IRP analysis and adherence with filing requirements. PACE Global worked with
7 Company personnel to perform a thorough review of the approach undertaken to perform
8 the IRP analysis. This included a detailed review of the methods and tools used, input
9 assumptions, and adherence to filing requirements. PACE Global's conclusion was that
10 the IRP was prudent, appropriate, and aligned with all regulatory requirements. They
11 further concluded that the PCA is supported by a sound analysis and consideration of
12 alternate options and uncertainties. The review performed by PACE Global is discussed
13 by Ms. Haugh.

SECTION IV: IRP RESULTS

14
15 Q. How does the Company currently meet the capacity and energy needs of its customers?

16 A. The Company meets the capacity and energy demands of its customers through a diverse
17 mix of demand- and supply-side resources.

18 Demand-side management resources consist of EWR and a wide range of DR
19 programs, including both utility controlled and customer behavioral programs.
20 Mr. Ykimoff provides details on the EWR programs and Mr. Ennis provides details on
21 the DR programs.

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1 The Company currently owns 5,766 MW of installed capacity equivalent to
2 5,218 Zonal Resource Credits (“ZRCs”),⁵ all located within Michigan and within MISO
3 Zone 7. Supply-side resources owned and operated by the Company include five
4 coal-fueled generating units,⁶ two gas-fueled combined cycle plants,⁷ a pumped storage
5 plant,⁸ several gas-fueled combustion turbines,⁹ two gas/oil-fueled steam turbines,¹⁰
6 thirteen hydroelectric plants,¹¹ two wind farms,¹² and two solar farms.¹³ These
7 generators are detailed in the testimony of Ms. Walz, Ms. Hatcher, and Mr. Kapala.

8 The Company also has contractual rights through PPAs to capacity from
9 55 counterparties totaling 2,947 MWs that are fueled in a variety of ways, including gas,
10 coal, biomass, wind, and water. Additionally, the Company has contracts in place with
11 six counterparties for energy and 379 contracts in place for the Experimental Advanced
12 Renewable Program – Solar. These PPAs are addressed in more detail by Mr. Troyer.

13 Q. What was the Company’s baseline capacity outlook at the onset of the IRP process?

14 A. The baseline capacity position outlook established at the onset of the IRP process in late
15 2017 was based on the latest forecasts of peak electric demand and the resources detailed
16 above. The baseline capacity position outlook is shown in Figure 1, where capacity
17 position is defined as the total amount of planning resources less the total load forecast
18 plus PRMR.

⁵ A ZRC is equivalent to 1 MW of capacity available in, or capable of being transferred to, the resource delivery zone in which customer demand is being served during periods of coincident peak demand after discounting for forced outages.

⁶ Campbell 1, Campbell 2, Campbell 3, Karn 1, and Karn 2

⁷ Zeeland 2 and Jackson

⁸ Ludington Pumped Storage

⁹ Zeeland 1A, Zeeland 1B, Campbell A, Straits, Gaylord 1, Gaylord 2, and Gaylord 3

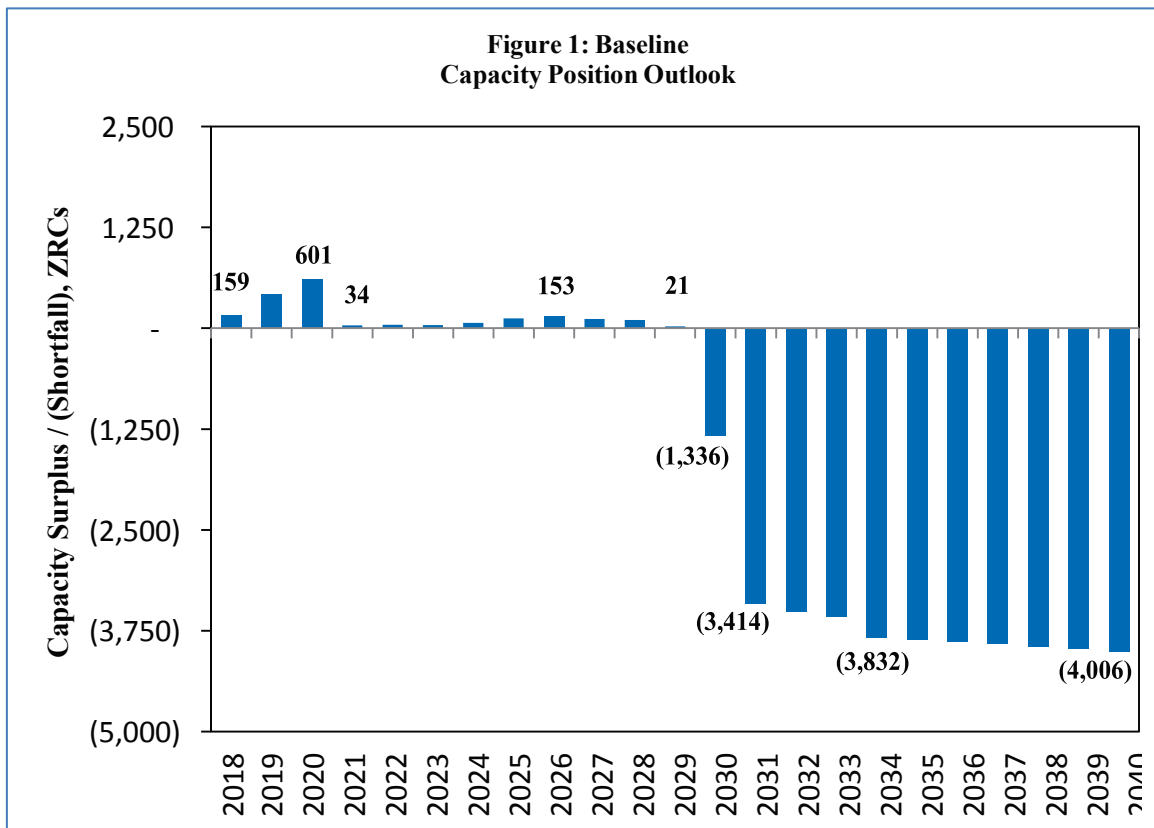
¹⁰ Karn 3 and Karn 4

¹¹ Alcona, Cooke, Croton, Five Channels, Foote, Hardy, Tippy, Allegan, Hodenpyl, Loud, Mio, Rogers, and Webber

¹² Cross Winds Energy Park and Lake Winds Energy Park

¹³ Solar Gardens-GVSU and WMU

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Included in the baseline capacity position outlook is:

- Operation of the Medium 4 through their design lives (2031);
- 525 MW of wind generation made operational in 2021 as part of the Company's REP (Case No. U-18231) and 25 MW of incremental wind generation as describe by Company witness Hatcher;
- T.E.S. Filer City Station Limited Partnership LLC ("Filer City") PPA Amendment effective June, 2019;
- Campbell 3 operating through 2040;
- PPA with Midland Cogeneration Venture ("MCV") continues through 2030;
- Zeeland and Jackson plants extend their design lives beyond 2040;
- DR program as detailed by Mr. Ennis in Exhibit A-60 (PCE-1), line 6;
- No mandated solar capacity in the Company's Avoided Cost proceeding (Case No. U-18090);

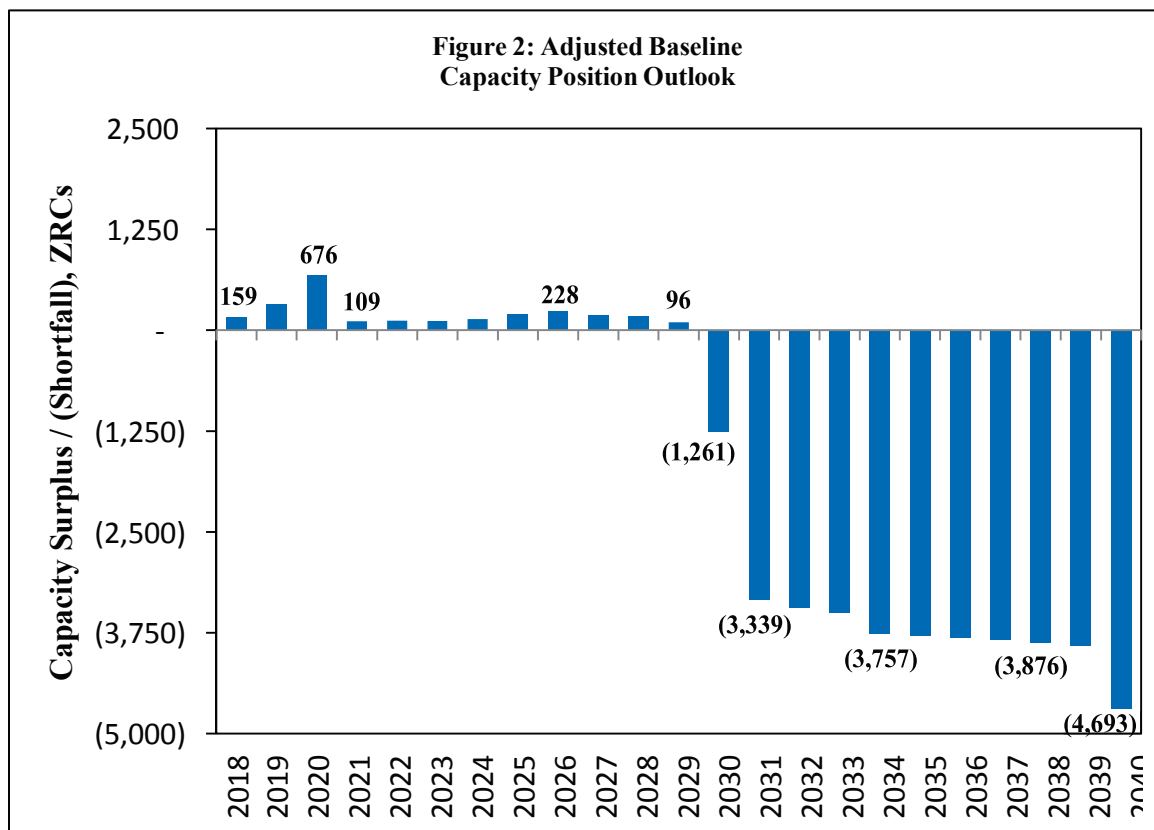
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DIRECT TESTIMONY

- Increased EWR consistent with the Palisades PPA Buyout plan described later in my direct testimony; and
- Construction of Cross Winds Energy Park Phases II and III.

It is important to note that the baseline capacity position outlook shows no need for capacity through the first ten years of the outlook. Reporting a surplus is consistent with what was reported in the Company's capacity demonstration filing (Case No. U-18441) and Application to Reset Avoided Capacity Costs (Case No. U-18491).

Q. Did the baseline capacity position change during the course of the IRP?

A. Yes. The baseline capacity position changed during the development of the PCA. These changes included: (i) adding an additional 150 MW of solar PURPA capacity mandated by the Commission in Case No. U-18090; (ii) delaying the availability of the Filer City PPA Amendment to June of 2020 based upon expected approval from the Federal Energy Regulatory Commission; (iii) retiring Campbell Unit 3 in 2039 to align with the Company's Clean Energy Goals; and (iv) increasing the forecasted capacity from Commercial and Industrial Demand Response ("C&I DR") in Planning Year 2019 by 10 MW. Figure 2 shows the adjusted baseline capacity position.

RICHARD T. BLUMENSTOCK
DIRECT TESTIMONY

Q. Please explain the rise in capacity position for years 2018 through 2020 and the large decline in capacity position in 2021.

A. The Company's PPA with Palisades will terminate on April 11, 2022. Since the Palisades PPA terminates during Planning Year¹⁴ 2021, the capacity afforded by this PPA is not eligible to receive credit in MISO's Resource Adequacy Construct¹⁵ for that Planning Year. The large decline in surplus capacity in 2021 is attributed to the loss of 765 ZRCs¹⁶ from the Palisades PPA.

¹⁴ MISO defines a Planning Year as the 12-month period beginning June 1 of one year and concluding May 31 of the following year.

¹⁵ Planning Resources that clear in a Planning Resource Auction or Transitional Planning Resource Auction or that are designated in a Fixed Resource Adequacy Plan will be obligated to provide capacity the entire Planning Year unless replaced by another Planning Resource (MISO Business Practices Manuals 011, Resource Adequacy, page 12).

¹⁶ A ZRC is issued by MISO to generator owners for generating capacity equal to the amount of capacity necessary to serve one MW of firm demand at the generator's interconnection with the transmission system after considering the effects of the equivalent force outage rate on demand, the generator's Generator Verification Test Capacity, and the Network Resource Interconnection Service rating.

RICHARD T. BLUMENSTOCK
DIRECT TESTIMONY

1 A replacement plan for the Palisades PPA was developed in late 2016 as part of
2 the Palisades PPA Buyout plan described in the Palisades Securitization filing.¹⁷ The
3 Company is proceeding with certain aspects of the Palisades PPA Buyout plan, including
4 increased EWR savings from 1.0% to 1.5% (approved in Case No. U-17771),
5 implementation of the Filer City PPA Amendment (approved in Case No. U-18392),
6 increased reliance on DR (pending approval in Case No. U-20134), and construction of
7 Cross Winds Energy Park Phases II and III (Case Nos. U-17792, U-15805, and
8 U-18345). These resources, combined with renewable generation supporting the
9 Company's REP, and PURPA capacity mandated by the Commission in the Company's
10 Avoided Cost proceeding, are the reason the capacity position increases from 2018 to
11 2020.

12 As can be seen in Figure 2, the ramp in capacity will entirely offset the capacity
13 lost due to the termination of the Palisades PPA, and thereby protect customers from
14 exposure to purchasing capacity at a potentially high price.

15 Q. What decision has the Company made in terms of disposition of the Medium 4?

16 A. Analysis and testimony supporting the IRP indicates that it is most reasonable and
17 prudent to retire Karn Units 1 and 2 in 2023, and continue to operate Campbell Units
18 1 and 2 through 2031. The final decision on retirement will be made pursuant to
19 regulatory approval of the creation of a regulatory asset for the remaining book balance
20 and costs of removal of Karn Units 1 and 2. Mr. Clark supports the analysis that led to
21 the decision to retire Karn Units 1 and 2, and Ms. Meyers supports the proposal for a
22 regulatory asset to recover the remaining book balance of these units. The Company's

¹⁷ See Company witness Clark's Direct Testimony in U-18250, pages 4 and 5.

RICHARD T. BLUMENSTOCK
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1 analysis indicates it is nearly break-even for retiring Karn Units 1 and 2 in 2023 and
2 replacing capacity with various forms of demand-side management and leveraging
3 available solar generation versus retiring them at the end of their design lives in
4 2031 based solely on NPVRR. Consideration of other planning objectives ultimately
5 guided the decision to retire; specifically, diversifying retirement dates away from
6 significant amount of retirements in the early 2030s, minimizing execution risk of
7 replacing a large amount of capacity in 2031, and results of the considerations required in
8 the Commission's mandated retirement analysis.

9 As supported by Mr. Kapala, separate retirement of either Campbell Unit 1 or
10 Campbell Unit 2 is not feasible. Simultaneous early retirement of Campbell Units 1 and
11 2 showed increased customer costs, as supported by Mr. Clark. If Campbell Units 1 and
12 2 were retired simultaneously with Karn Units 1 and 2, there would be detrimental impact
13 on supply portfolio balance, excessive remaining book balance, and a more significant
14 customer rate impact. Additionally, retirement of the entire Medium 4 in the next 5-years
15 would potentially require the Company to resort to generator additions, costly PPA(s), or
16 costly capacity purchases since there would be insufficient time to ramp up demand-side
17 management and solar resources. Therefore, Campbell Units 1 and 2 will be operated
18 until the end of their design lives in 2031. Potential retirement of all Medium 4 units,
19 which the Company does not support, would require the redevelopment of the PCA and
20 the resources which the Company plans to rely on.

21 Finally, retirement of Karn Units 1 and 2 is proposed for 2023 over 2021 to
22 minimize risks associated with employee retention, developing backfill capacity, and
23 planning for community and employee transition.

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1 Retirement of Karn Units 1 and 2 will require a projected \$30 million investment
2 in Karn Units 3 and 4 so that these units may be separated from the retired units. The
3 PCA continues operation of Karn Units 3 and 4 until the end of their design lives in 2031.
4 This investment was included in the Company's disposition analysis. The Company will
5 incur a portion of the \$30 million expense within the next three years as detailed by
6 Mr. Kapala, but will seek approval of the expenses in a forthcoming electric rate case.

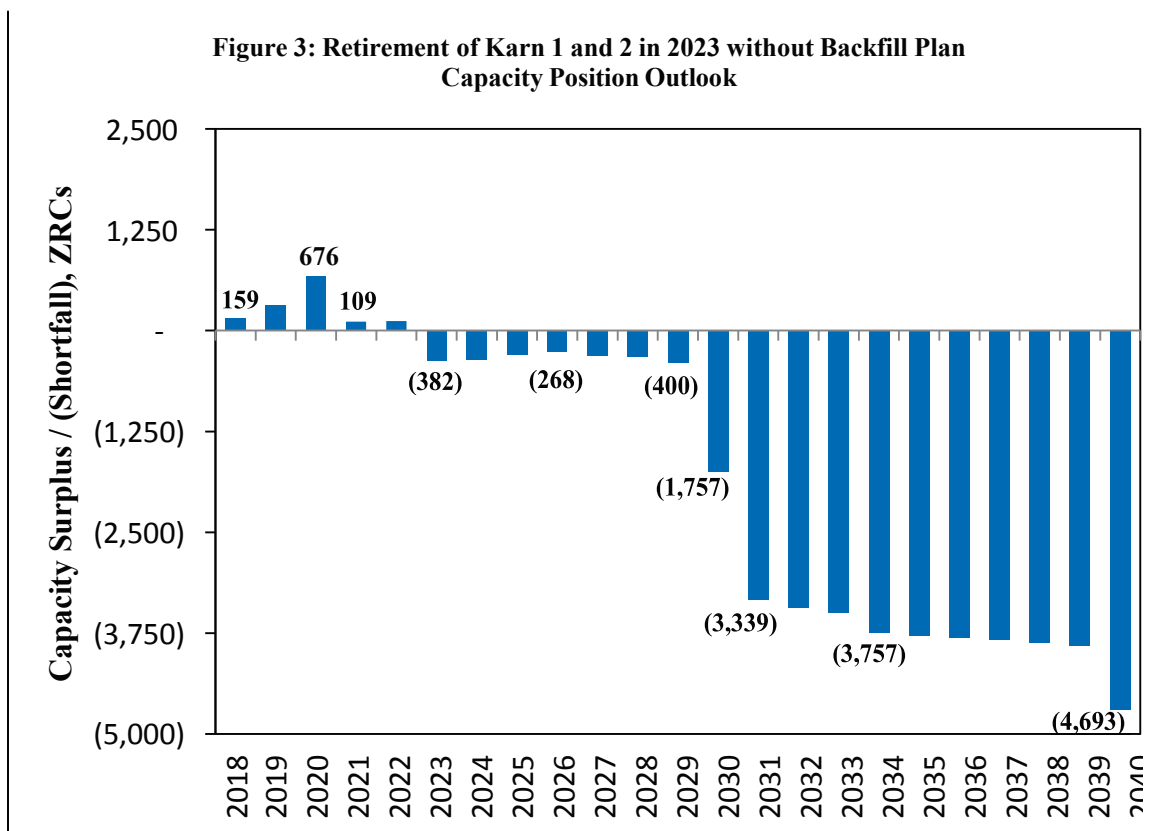
7 Q. How does the Company propose to recover the remaining book balance of Karn Units
8 1 and 2?

9 A. The Company proposes that the Commission approve the creation of a regulatory asset in
10 this proceeding to address this issue. The Company proposes to continue to depreciate
11 Karn Units 1 and 2 at the current Commission-approved depreciation rates until base
12 rates are reset in the next electric general rate case. In the next rate case, the remaining
13 book balance would be removed from plant in service and accumulated depreciation
14 accounts, and placed into that regulatory asset. The Company proposes to set an annual
15 amortization rate that allows for the recovery of the remaining book balance and the
16 decommissioning costs by 2031. Ms. Myers details this proposal and alternative options
17 in her direct testimony. Absent assurance of full recovery of remaining book balance of
18 Karn Units 1 and 2, the Company plans to operate these units until the end of their design
19 lives in 2031. In such an event, there will be no change in the PCA because the Company
20 will need to ramp up demand-side management and solar resource in preparation for
21 meeting capacity needs in 2031.

RICHARD T. BLUMENSTOCK
DIRECT TESTIMONY

Q. What is the Company's projected capacity position assuming Karn Units 1 and 2 are retired in 2023?

A. The Company's capacity position outlook assuming Karn Units 1 and 2 retire in 2023 is shown in Figure 3. For purposes of clarity and comparison, this outlook does not consider replacement capacity proposed in the PCA in order to show that the Company projects a consistent capacity need of 268 to 400 ZRCs through 2029.



Q. What is the Company's plan to replace the lost capacity from Karn Units 1 and 2?

A. Strategist models were utilized to perform portfolio optimization analysis to determine the economic ranking of backfill plans through the entire planning period of 2040. Resource plan optimizations showed EWR, CVR, and DR at increased levels consistent with their respective achievable potential studies were most widely selected across all scenarios and sensitivities. These demand-side management resources are based on

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1 reasonable assumptions and align very well with the planning objectives; particularly,
2 affordability, reliability, alignment with the Clean Energy Goal, and stakeholder desire.
3 Therefore, these demand-side management resources were included in the backfill plan
4 for replacing capacity from Karn Units 1 and 2. EWR, CVR, and DR resources are
5 available to completely offset the Company's capacity need due to Karn Units 1 and 2
6 retiring. However, due to availability of 100 MW of solar generation made operational in
7 2021 from the REP (discussed by Ms. Hatcher) and the necessity to ramp solar
8 generation in preparation for capacity needs in 2030 and beyond, 350 MW of solar
9 generation available in 2023 was used to replace a portion of the capacity lost from Karn
10 Units 1 and 2 retiring. Utilizing the solar generation available in 2023 in this manner
11 decreases the risk related to the Karn 1 and 2 backfill plan by diversifying the resources
12 included in the plan and allows the Company to maintain a consistent level of DR
13 recruitment through 2030.

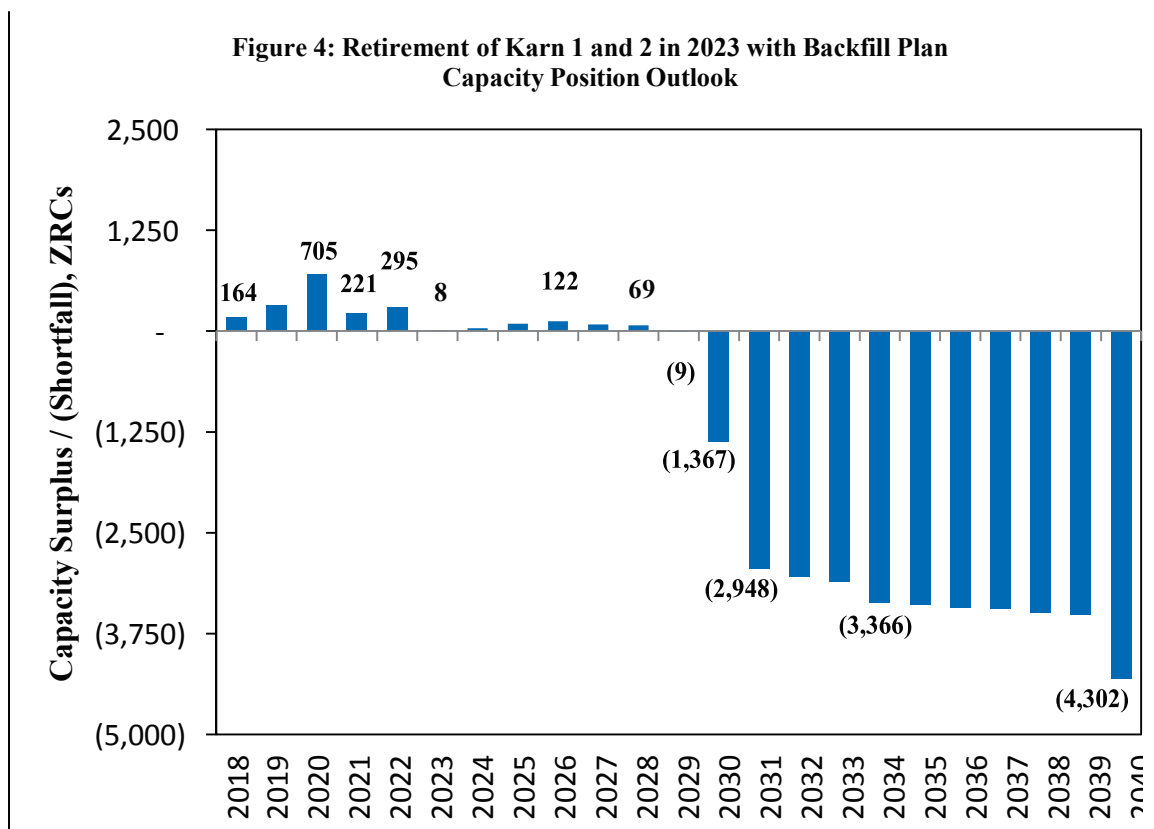
14 The replacement backfill plan for Karn Units 1 and 2's retired capacity is as
15 follows:

- 16 • CVR deployment achieving 54 MW (56 ZRCs) by June 1, 2023;
- 17 • EWR savings increase from 1.5% to 2.0% per year achieving an incremental
18 (to approved levels in U-17771) 76 MW (79 ZRCs) by June 1, 2023;
- 19 • DR expansion achieving an incremental (to base DR levels appearing in
20 Mr. Ennis' Exhibit A-60 (PCE-1), line 6) 71 MW (80 ZRCs) by June 1, 2023;
21 and
- 22 • Solar generation consisting of 100 MW (50 ZRCs) made operational by
23 June 2021 in the REP. Additionally, while demand-side resources can replace
24 the capacity lost by Karn Units 1 and 2, the Company is leveraging an
25 additional 250 MW (125 ZRCs) of solar generation available in 2023 which is
26 part of the ramp toward 2030.

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Q. What is the projected capacity position assuming Karn 1 and 2 retire in 2023 and the previously described backfill plan is executed?

A. The subject capacity position is shown in Figure 4. Note that the Company's capacity position returns to a surplus condition in 2023, indicating that the backfill plan entirely replaces lost capacity from Karn Units 1 and 2.



Q. Please describe the reason for the large drop in capacity position in 2030, 2031, and 2040.

A. In 2030, the Company's PPA with MCV expires (assuming the Company elects to extend the PPA to 2030). By 2031, the Company has four generating units that reach the end of their design lives; namely, Campbell Unit 1, Campbell Unit 2, Karn Unit 3, and Karn Unit 4. In 2039, Campbell Unit 3 will retire one year before its design life in order to comply with the Company's Clean Energy Goal of having no coal generation by 2040.

RICHARD T. BLUMENSTOCK
DIRECT TESTIMONY

1 Q. What is the Company's plan to replace capacity lost due to termination of the MCV PPA
2 and retirement of Campbell Units 1 through 3 and Karn Units 3 and 4?

3 A. Beyond 2023 and through the entire outlook period, resource plan optimizations showed
4 EWR, CVR, and DR at increased levels were most widely selected across all scenarios
5 and sensitivities. These demand-side management resources are based on reasonable
6 assumptions and align very well with the planning objectives. Therefore, these
7 demand-side management resources were included in the backfill plan for the capacity
8 needs beyond 2023. Beyond these demand-side management resources, solar generation
9 was the most widely selected resource option that, similar to the demand-side
10 management resources, was based on reasonable assumptions and was most aligned with
11 the planning objectives. Therefore, solar generation filled a majority of the remaining
12 capacity need. In the years 2032 and beyond, Strategist models also selected batteries to
13 meet capacity needs.

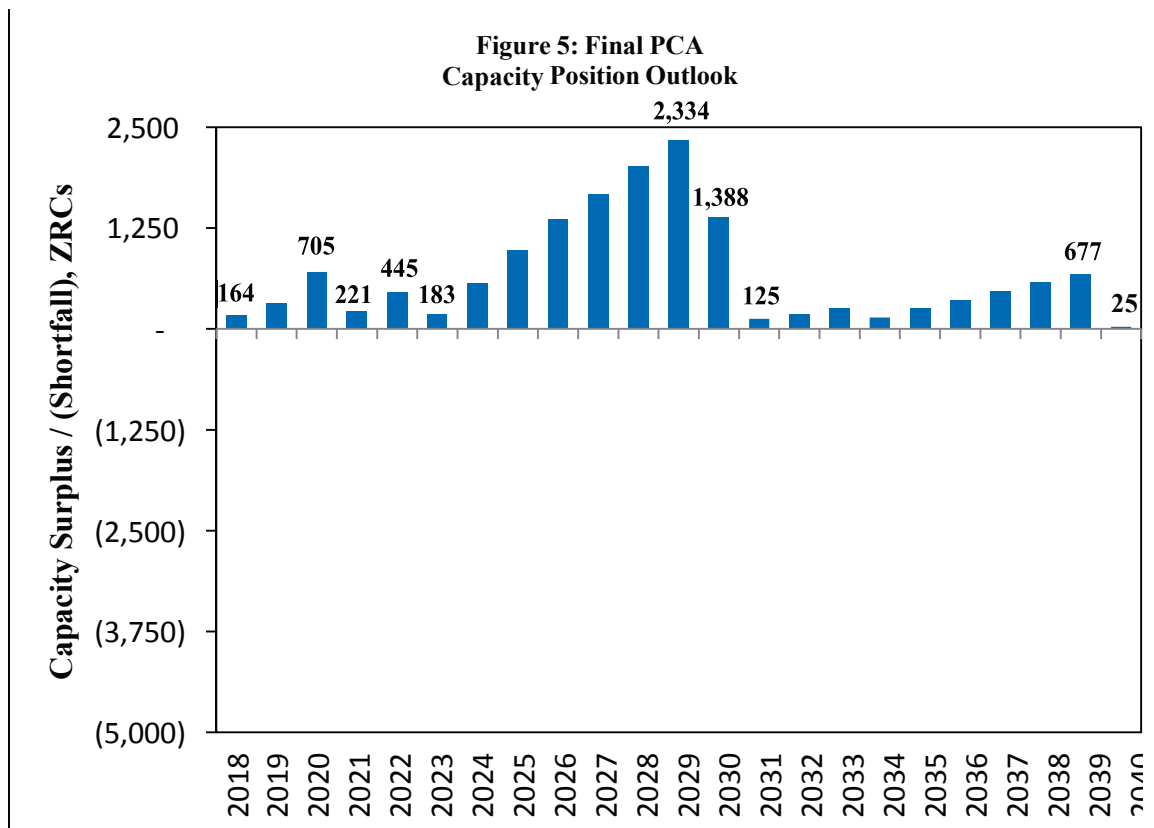
14 The replacement backfill plan to replace lost capacity due to termination of the
15 MCV PPA and retirement of Campbell Units 1 through 3 and Karn Units 3 and 4 is as
16 follows:

- 17 • CVR deployment achieving 111 MW (115 ZRCs) by 2028 and maintain at
18 that level, thereafter;
- 19 • EWR savings at 2% per year through 2029 and 2.25%, thereafter, achieving
20 an incremental (to approved levels in U-17771) 361 MW (373 ZRCs) by
21 2040;
- 22 • DR expansion achieving an incremental (to base DR levels appearing in
23 Mr. Ennis' Exhibit A-60 (PCE-1), line 6) 539 MW (605 ZRCs) by 2030 and
24 maintain at that level, thereafter;
- 25 • Solar generation achieving 6,350 MW (3,175 ZRCs) by 2040; and
- 26 • Batteries beginning in 2032 at 50 MW (50 ZRCs) and climbing to 450 MW
27 (450 ZRCs) by 2040.

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DIRECT TESTIMONY

Q. What is the resulting projection for capacity position through 2040?

A. The resulting capacity position, which I am calling the Final PCA Capacity Position Outlook, is shown in Figure 5.



The Company's capacity position achieves a significant surplus in the late 2020s, and again to a lesser extent in the late 2030s, as the Company builds its resource portfolio in preparation for the capacity losses from terminating or retiring supply resources. This surplus, particularly in the late 2020s, gives the Company flexibility to further evolve its resource portfolio, such as retiring existing generating units before they reach their design lives. The surplus also serves as a prudent hedge against potential execution and delivery risks with adding significant amounts of DR and solar resources. The modular approach of adding smaller portions of supply on a yearly basis allows the Company to be flexible in its resource planning—providing the opportunity to evolve and adapt to changing

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1 conditions—without making significant up-front investments in one large, centralized
2 generating station. Note that the Company's capacity position returns to near zero in
3 years 2031 and 2040, indicating that the backfill plan sufficiently replaces lost capacity
4 from termination of the MCV PPA as well as the generating assets that retire in 2031 and
5 2040.

6 Q. Does the PCA meet the planning objectives detailed earlier in your direct testimony?

7 A. Yes, it does. From a *People* perspective, the PCA's reliance upon demand-side
8 management resources and renewable generation supports compliance with the
9 Company's Clean Energy Goal, reduces waste, enhances reliability, keeps bills
10 affordable, and aligns with stakeholders' desire for evolution of the Company's resource
11 portfolio. The Company has demonstrated its commitment to communities and
12 employees affected by past retirement decisions, and is committed to do the same with
13 the decision to retire Karn Units 1 and 2 in 2023. The PCA is shown to provide sufficient
14 capacity to reliably serve anticipated peak electric load plus PRMR through 2040. The
15 modular nature of the PCA enhances reliability through reduced exposure to failures in
16 energy transmission and generator outages.

17 From a *Planet* perspective, the PCA is in full compliance with all environmental
18 regulations and mitigates future financial risks of potential environmental regulation on
19 fossil fuel generation. The PCA also specifies retirement of all coal generation by 2040,
20 aggressively reduces waste, and increases solar generation, all of which enable the
21 Company to meet its Clean Energy Goal.

22 From a *Prosperity* perspective, the PCA will keep bills affordable due to its
23 low-cost and modular nature. So, too, do the proposals for recovery of remaining book

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1 balance, ~~a new avoided cost methodology~~, and the FCM for PPAs. The PCA avoids large
2 capital investments tied up in one project, allowing the Company to adjust its plans in the
3 future should lower-cost technologies become available or demand not materialize as
4 forecasted in this IRP. Such adjustments will allow the Company to provide the right
5 amount of capacity at the right time.

6 The PCA contains several proposals that will enable a financially healthy utility.
7 If approved, these proposals will give the necessary confidence the Company needs to
8 move forward with the PCA and will ensure the long-term financial sustainability
9 necessary to remain financially healthy.

SECTION V: IRP REQUEST FOR APPROVAL

11 Q. Please summarize what the Company is requesting in this filing?

12 A. The Company is requesting that the Commission:

- 13 1. Find that the Company's IRP and PCA represent the most reasonable and
14 prudent means of meeting the electric utility's energy and capacity needs. In
15 reaching that finding, the Company further requests the Commission to:
 - 16 a. Find that the Company's current capacity position outlook shows no
17 capacity need over the next three years;
 - 18 b. Find that the most reasonable and prudent disposition of the Medium 4 is
19 to retire Karn Units 1 and 2 in 2023, and continue to operate Campbell
20 Units 1 and 2 through 2031;
 - 21 c. Find that the most reasonable and prudent means of replacing capacity for
22 Karn Units 1 and 2 is increased EWR, CVR, DR, and solar generation;
 - 23 d. Find that the expenditures expected to be commenced in the next three
24 years following the expected final order in this proceeding that are
25 intended to replace capacity for Karn Units 1 and 2 are approved for cost
26 recovery purposes. Those expenditures, expected to occur between June
27 of 2019 and June of 2022, are as follows:

RICHARD T. BLUMENSTOCK
DIRECT TESTIMONY

- CVR Deployment: Achieving a total peak load reduction of 44 MW (incremental 40 MW) by June 1, 2022 with a capital cost of \$8,924,600 and a total Operations and Maintenance (“O&M”) cost of \$666,600;
 - EWR: Savings increase from 1.5% to 2.0% per year achieving total EWR peak load reductions of 718 MW (incremental 52 MW from current EWR Plan) by June 1, 2022 with a capital cost of \$0 and incremental O&M cost of \$161,589,035; and
 - DR expansion: Achieving a total peak load reduction of 607 MW (an incremental 238 MW from 2019 levels proposed in the Company’s pending electric rate case) by June 1, 2022 with a capital cost of \$21,028,357 and a total O&M cost of \$36,272,652.
- e. Approve the Company’s proposal to evolve the Company’s resource portfolio through 2040 as follows:
- CVR deployment achieving 111 MW (115 ZRCs) by 2028 and maintain at that level, thereafter;
 - EWR savings at 2% per year through 2029 and 2.25%, thereafter, achieving an incremental (to approved levels in U-17771) 361 MW (373 ZRCs) by 2040;
 - DR expansion achieving an incremental (to base DR levels appearing in Mr. Ennis’ Exhibit A-60 (PCE-1), line 6) 539 MW (605 ZRCs) by 2030 and maintain at that level, thereafter;
 - Solar generation achieving 6,350 MW (3,175 ZRCs) by 2040; and
 - Batteries beginning in 2032 at 50 MW (50 ZRCs) and climbing to 450 MW (450 ZRCs) by 2040.
- The Company’s IRP, as outlined above, is based on the modeling and analysis presented in this case. The Company reserves the right to make changes to its resource acquisition strategy as appropriate due to changing circumstance; and
- f. Approve the full recovery of Karn Units 1 and 2’s remaining book balance through the use of a regulatory asset. Specifically, the Company requests that the Commission approve the Company’s continued depreciation of Karn Units 1 and 2 at the current Commission-approved depreciation rates until base rates are reset in the next electric general rate case. In the next rate case, the remaining book balance would be removed from plant in service and accumulated depreciation accounts, and placed into the regulatory asset approved and created in this proceeding. The Company

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proposes to set an annual amortization rate that allows for the recovery of the remaining book balance and the decommissioning costs by 2031 by designating it a regulatory asset to be recovered through 2031;

~~6. Approve the Company's proposed competitive bid methodology for determining avoided cost rates and for determining and addressing capacity need or sufficiency for purposes of PURPA; and~~

7. Approve the Company's proposed FCM for new PPAs.

Q. Please summarize your direct testimony.

A. This IRP meets all applicable filing requirements. The PCA meets the Commission's and Company's planning objectives and is the most reasonable and prudent way to meet energy and capacity needs over the next 20 years.

This is an integrated plan in that the PCA is only possible with a supportive regulatory construct that includes recovery of remaining book balance at Karn Units

~~1 and 2, compensation for PPAs, and a revised construct for establishing avoided cost~~
~~rates.~~ Such a regulatory construct will give the necessary confidence the Company needs

to move forward with the PCA. The Company reserves the right to abandon or amend its PCA if the Commission rejects any of the Company's proposals presented in this IRP.

Q. Does this complete your direct testimony?

A. Yes, it does.

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)	Case No. U-20165
under MCL 460.6t and for other relief.)	
-)	

DIRECT TESTIMONY

OF

THOMAS P. CLARK

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2018

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

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DIRECT TESTIMONY

1 Renewable Energy Credit (“REC”) tracking and forecasting. In June of 2013, I was
2 assigned to the Smart Energy Department where I was responsible for the development
3 and implementation of demand response (“DR”) programs associated with the
4 Company’s deployment of Advanced Metering Infrastructure. In March 2015, I accepted
5 the role of manager of the Company’s Resource Planning department where I was
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 July of 2017, I accepted my current role which added Real-Time and Day-
9 Ahead Midcontinent Independent System Operator, Inc. (“MISO”) Market Operations to
10 my Resource Planning responsibilities.

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

13 A. Yes. I provided testimony in:

- 14 • Case No. U-15675-R, the Company’s 2009 Power Supply Cost Recovery
15 (“PSCR”) Reconciliation regarding the portion of RE Plan costs to be
16 recovered in the Company’s PSCR Reconciliation for 2009;
- 17 • Case No. U-16300, the Company’s 2009 Renewable Cost Reconciliation
18 regarding renewable energy costs incurred in 2009;
- 19 • Case No. U-16543, the Company’s RE Plan Amendment, regarding renewable
20 energy purchase agreements and the portion of RE Plan costs forecast to be
21 recovered as PSCR costs;
- 22 • Case No. U-16045-R, the Company’s 2010 PSCR Reconciliation regarding
23 the portion of RE Plan costs to be recovered in the Company’s PSCR
24 Reconciliation for 2010;
- 25 • Case No. U-16301, the Company’s 2010 Renewable Cost Reconciliation
26 regarding renewable energy costs incurred in 2010;
- 27 • Case No. U-16581, the Company’s Biennial RE Plan Review, regarding
28 renewable energy purchase agreements and the portion of RE Plan costs
29 forecast to be recovered as PSCR costs;

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DIRECT TESTIMONY

- Case No. U-16432-R, the Company's 2011 PSCR Reconciliation regarding the portion of RE Plan costs to be recovered in the Company's PSCR Reconciliation for 2011;
- Case No. U-16655, the Company's 2011 Renewable Cost Reconciliation regarding renewable energy costs incurred in 2011;
- Case No. U-17301, the Company's 2013 Biennial RE Plan Review, regarding renewable energy purchase agreements, the portion of RE Plan costs forecast to be recovered as PSCR costs, the Company's expected compliance obligation, and REC forecast;
- Case No. U-17321, the Company's 2012 Renewable Cost Reconciliation regarding renewable energy costs incurred in 2012;
- Case No. U-18250, regarding the Company's electric generation resource planning process and its plan to meet customer demand requirements given the buyout of the Palisades Nuclear Power Plant Power Purchase Agreement ("Palisades PPA"); and
- Case No. U-18322, regarding the Company's benefit/cost analysis regarding the retirement of the Medium 4 Units.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to describe and support the Integrated Resource Plan ("IRP") that is being submitted by the Company as required by Section 6t of 2016 PA 341 ("PA 341"), and by the Commission in its orders in Case Nos. U-18322, U-18418, and U-15896 *et al.* My direct testimony is organized in the following manner:

- I. An overview of testimony describing the planning and modeling process that was conducted in support of the Company's IRP, the Proposed Course of Action ("PCA");
- II. A description of the Company's IRP process and the evaluation of the capacity need;
- III. Discuss and support the stand alone retirement analysis of D.E. Karn ("Karn") Units 1 and 2 and J.H. Campbell ("Campbell") Units 1 and 2 (the "Medium 4");
- IV. Describe and support the PCA and preferred resource portfolios as a result of the IRP analysis;

THOMAS P. CLARK
DIRECT TESTIMONY

V. Describe and support the risk assessment methodology used and the results of this analysis; and

~~VI. Describe the Company's capacity position and present an alternative methodology for determining the Company's avoided costs pursuant to the Public Utility Regulatory Policies Act of 1978 ("PURPA").~~

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring:

Exhibit A-3 (TPC-1) Karn Units 1 & 2 Capital and Operations & Maintenance Summary;

Exhibit A-4 (TPC-2) Campbell Unit 1 Capital and Operations & Maintenance Summary;

Exhibit A-5 (TPC-3) Campbell Unit 2 Capital and Operations & Maintenance Summary;

Exhibit A-6 (TPC-4) Campbell Units 1 & 2 Capital and Operations & Maintenance Summary;

Exhibit A-7 (TPC-5) September 2017 Capacity Price Forecast; and

~~Exhibit A-8 (TPC-6) 2018 IRP Blended Avoided Cost Calculation.~~

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

A. Yes.

SECTION I: OVERVIEW OF TESTIMONY

Q. Please provide an overview of your direct testimony.

A. In accordance with PA 341 Section 6t and various Commission orders, the Company has developed an IRP that meets the Company's commitment to the triple bottom line of People, Planet, and Prosperity while simultaneously achieving the MPSC's objectives of:

- Resource Adequacy and Capacity Requirements;
- Compliance with Environmental Regulations;
- Competitive Pricing;

THOMAS P. CLARK
DIRECT TESTIMONY

- Reliability;
- Commodity Price Risk;
- Diversity of Generation Portfolio; and
- Reasonable and Cost Effective Energy Waste Reduction (“EWR”) and Renewables.

Development of this plan required significant modeling effort and consideration of many different costs, regulations, communities, customers, and environmental impacts. As discussed in detail by Company witness Sara T. Walz, the modeling effort begins with the development of scenarios and sensitivities that meet the requirements set forth in Case No. U-18418. This includes development of supply and demand-side resource prototypes that are available to fill capacity needs. After establishing the scenarios and sensitivities the Company evaluated its capacity position. Evaluation of the Company’s capacity position is first performed with the Company’s base load forecast and existing capacity resources. The base load forecast and existing resources used as the baseline for the IRP is consistent with those used to determine the capacity position filed in Case Nos. U-18441 and U-18491. No capacity need was identified until 2030.

In order to address the Commission’s orders in Case Nos. U-17990 and U-18322, the Company assessed whether continued operation of the Medium 4 units is in the best interest of customers. After careful evaluation, the Company determined that the most reasonable course of action is the early retirement of Karn Units 1 and 2 on May 31, 2023. Campbell Units 1 and 2 will continue to operate until May 31, 2031. The retirement of Karn Units 1 and 2 in 2023 requires a capacity backfill plan for the 496

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1 Zonal Resource Credits¹ (“ZRCs”) that would have been provided by Karn Units 1 and 2
2 beginning in Planning Year² 2023.

3 With the available demand and supply resources identified, the next step was to
4 develop the best course of action for backfilling the capacity lost by the retirement of
5 Karn Units 1 and 2 beginning in 2023, as well as considering major age-related
6 retirements and contract terminations occurring in 2030, 2031, and 2040. Resulting
7 portfolio optimizations for each of the six scenarios and 38 sensitivities were developed
8 using the Strategist resource optimization and production cost modeling tool
9 (“Strategist”). Details of these modeling efforts are discussed further by Company
10 witness Walz.

11 The model runs for each scenario and sensitivity results in a unique future
12 resource portfolio that provides the required energy and capacity to meet customer needs
13 at the lowest cost. There was variation in the results depending on the specific scenario
14 and sensitivity sufficient enough to capture the risk of deviating futures. The Company
15 considered each result and identified the trends, looking for those capacity resources that
16 appeared consistently across the various scenario and sensitivity results. A clear
17 preference for demand-side and renewable resources was evident from the analyses.
18 From those trends, the Company created its PCA.

19 The PCA includes increasing EWR from current levels to 2.25%, ramping DR
20 resources to 1,250 MW, implementing Conservation Voltage Reduction (“CVR”) with

¹ A ZRC is issued by MISO to generator owners for generating capacity equal to the amount of capacity necessary to serve 1 MW of firm demand at the generator’s interconnection with the transmission system after considering the effects of the equivalent forced outage rate on demand, the generator’s Generator Verification Test Capacity and the Network Resource Interconnection Service rating.

² MISO defines a Planning Year as the 12-month period beginning June 1 of one year and concluding May 31 of the following year.

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1 the enablement of the Company's Grid Modernization initiative³, and constructing up to
2 5,000 MW of new solar generation resources by 2031. Additional solar and battery
3 storage is planned to meet load growth and backfill plant retirements throughout the
4 2030's resulting in 450 MW of battery storage and an incremental 1,350 MW of solar.

5 **SECTION II: IRP PROCESS AND DETERMINATION OF THE**
6 **COMPANY'S BASE CAPACITY POSITION**

7 Q. What is the purpose of an IRP?

8 A. The purpose of an IRP is to first identify if additional resources will be needed to serve
9 customers' energy and capacity needs based on the Company's forecasts of future load
10 and assumptions regarding the operation and use of existing resources. If additional
11 resources are determined to be needed, analyses are conducted to pinpoint the most
12 reasonable and prudent portfolio of existing and new resources to serve our customers'
13 future energy and capacity needs.

14 Q. What are the planning and modeling steps used to develop an IRP?

15 A. IRP development must include identification of a capacity need if existing resources are
16 not sufficient to serve forecasted customer demand to begin the modeling process. If a
17 capacity need is forecasted, potential resource options are analyzed to develop a PCA that
18 meets all reliability constraints at a reasonable cost compared to other alternatives. There
19 are multiple steps involved to develop a comprehensive resource plan, which include:

³ The Company continues to implement technology and enhance infrastructure elements as part of its ongoing electric system infrastructure improvements and modernization (a.k.a., Grid Modernization). The Grid Modernization initiative includes investments to continue upgrading existing low voltage distribution Substations with Distribution Supervisory Control and Data Acquisition, adding additional distribution automation, Grid Analytics, and deployment of a Distribution Management System. These investments will improve the Company's awareness of and ability to respond to system issues and outages that impact customers, including a reduction of outage frequency and outage duration.

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1. Determine capacity position and first year of need;
2. Identify viable resource options;
3. Develop production cost models including appropriate inputs and assumptions;
4. Construct portfolios for evaluation;
5. Perform portfolio optimization and production cost simulation analysis;
6. Evaluate portfolios using quantitative and qualitative measures;
7. Evaluate portfolios through scenario and sensitivity analysis;
8. Completing a risk analysis; and
9. Determining the most reasonable and prudent plan that meets the MPSC and Company planning objectives, and considers stakeholder feedback.

Q. Which of the above steps are you describing and providing support for?

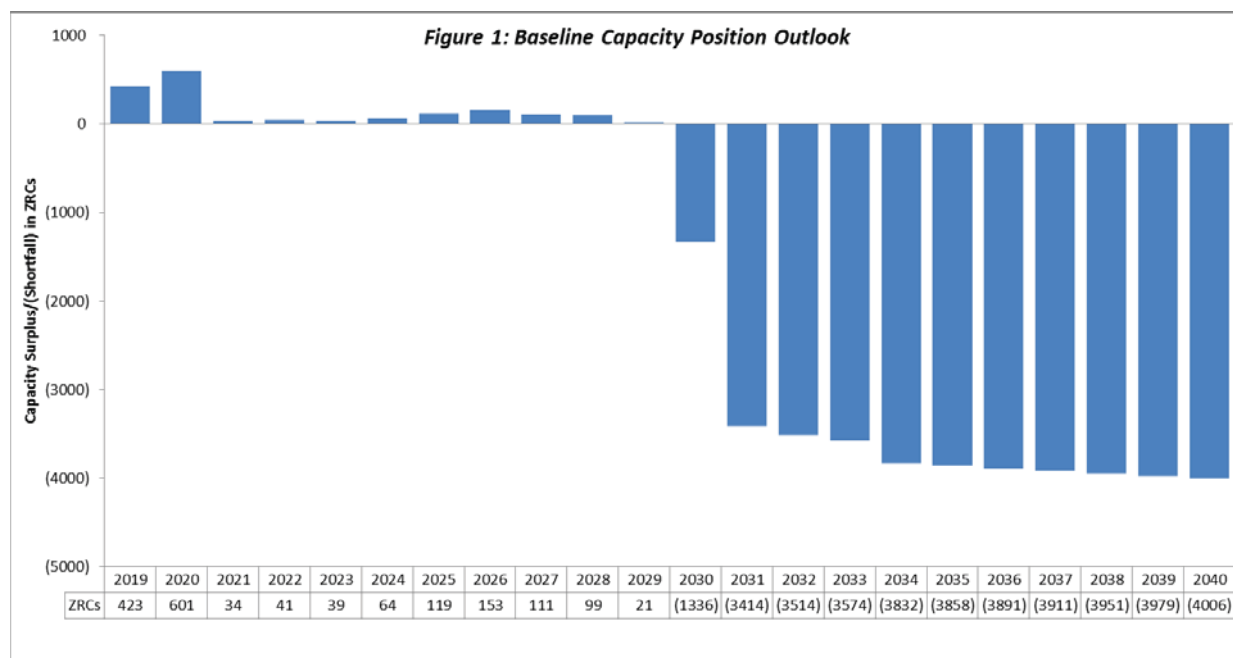
A. I will be providing descriptions and support for the determination of the capacity position, discussed in this Section; the risk analysis conducted, discussed in Section V, and why the Company's PCA is the most reasonable and prudent means of meeting the Company's energy and capacity needs, discussed in Section IV. The other steps referenced above are supported by Company witness Walz.

Q. Please describe the evaluation of the capacity position used as a baseline in this IRP.

A. The Company's baseline capacity position outlook uses the latest forecasts of peak electric demand and the demand- and supply-side resources described by Company witness Richard T. Blumenstock. The Company's base capacity position outlook is shown in Figure 1, *Baseline Capacity Position Outlook*, where capacity position is defined as the total amount of planning resources less the total load forecast plus Planning Reserve Margin Requirement ("PRMR"). The Business-As-Usual ("BAU") load forecast is further explained and supported by Company witness Eugene M.

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1 Breuring. The Company forecasted a surplus of capacity with the existing supply and
 2 demand-side management resources, and Power Purchase Agreements (“PPAs”) from
 3 2019 through 2029. The first capacity shortfall of approximately 1,300 ZRCs occurs in
 4 the year 2030, increases to approximately 3,400 ZRCs in 2031, and then the need persists
 5 through the remainder of the planning period.



6 Q. What are the major assumptions included in the Company’s baseline capacity position
 7 outlook?

8 A. The following major assumptions for this outlook include:

- 9 • The current retirement date of Campbell Unit 1, Campbell Unit 2, Karn
 10 Unit 1, Karn Unit 2, Karn Unit 3, and Karn Unit 4 was assumed to align with
 11 MISO Planning Year 2030/31. In the Company’s most recently approved
 12 depreciation rate case, Case No. U-17653, those units are identified as
 13 reaching the end of their useful life on December 31, 2030. For purposes of
 14 this analysis it was assumed that they would continue to operate until May 31,
 15 2031 so as to provide capacity for the entire 2030/31 MISO Planning Year
 16 which requires a generator to be available June 1, 2030 through May 31, 2031.
- 17 • The Jackson (“Jackson”) and Zeeland (“Zeeland”) Generating Plants are
 18 assumed to continue operation through the end of the planning period. This
 19 represents an extension of life when compared to the current depreciation life

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of these facilities, currently identified as December 31, 2030 in the most recently approved depreciation rate case, Case No. U-17653. It is reasonable to assume these units will continue to operate beyond their currently identified depreciation life because the components that reach end of life in 2030, though critical to operation of the plant, can be replaced for relatively low cost. To simplify the modeling effort and focus on nearer-term considerations, it was assumed these investments would be made. Ultimately, the economics of continued operation of these facilities will be evaluated in more detail in future IRPs;

- The termination of the Palisades PPA occurs as expected on April 11, 2022;
- The Company executes its unilateral right to extend the PPA with Midland Cogeneration Venture Limited Partnership (“MCV”) from the current termination date of March 16, 2025 to 2030. The capacity shortfall shown in Figure 1 for the year 2030 is predominantly the expiration of this contract. It is reasonable to assume a five-year extension of this contract because the relatively lower cost of capacity of the MCV PPA extension. Furthermore, the Commission has already approved the PPA which includes this unilateral right to extend;
- The continued expansion of existing DR programs, and continued levels of the Rate GI Provision and the Energy Intensive Primary program;
- Achieving energy efficiency savings of 1.5% in 2018 as approved by the Commission in Case No. U-17771 and maintained through the planning period;
- The assumed 525 MW of wind in 2021 as requested in the REP Case No. U-18231, plus an additional 25 MW of wind in 2021 which will be addressed in the REP;
- The T.E.S Filer City Station Limited Partnership (“Filer City”) PPA amendment, approved by the Commission in Case No. U-18392, which provides for the commercial operation of the converted Filer City Plant in Planning Year 2019; and
- The commercial operation of Cross Winds Energy Park II and III expansions.

Q. Did this base capacity position outlook change throughout the IRP process or as a result of the PCA?

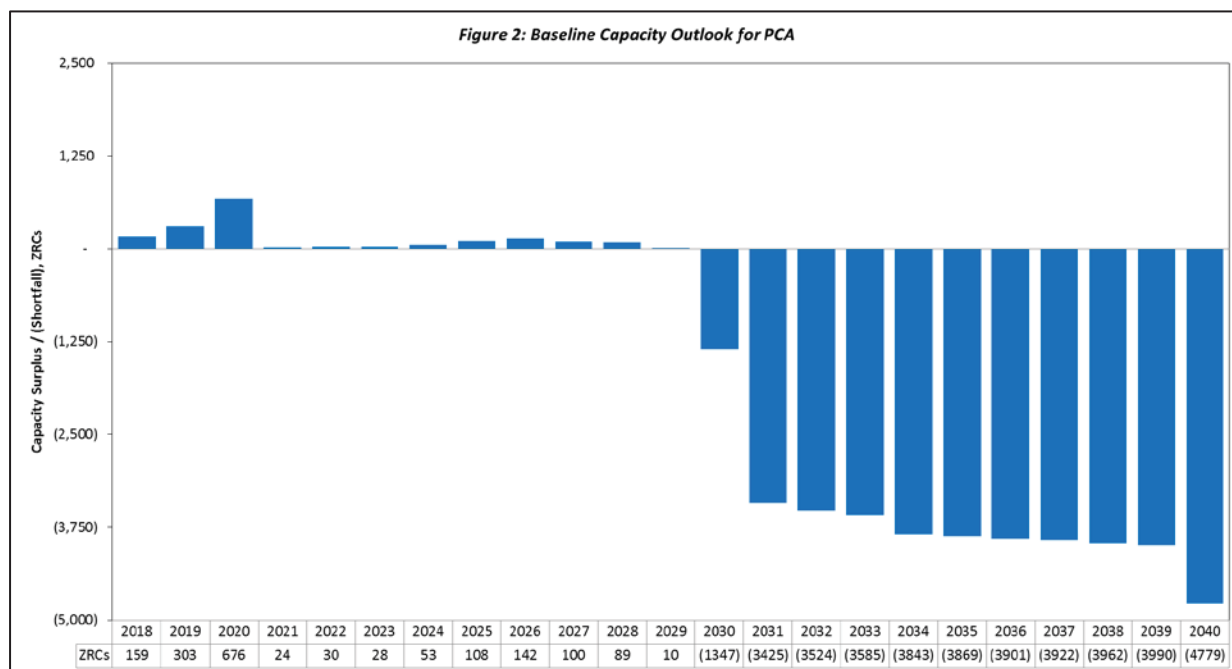
A. Yes. The base capacity position was changed during the development of the PCA. These changes included:

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- An additional 150 MW of PURPA Qualifying Facility (“QF”) capacity, assumed to be supplied by solar generators, mandated by the Commission in the Company’s Avoided Cost proceeding, Case No. U-18090;
- The commercial operation date of the converted Filer City Plant, as provided for in the Filer City PPA Amendment, was adjusted from the Planning Year 2019 to Planning Year 2020 based upon expected approval from the Federal Energy Regulatory Commission (“FERC”);
- Campbell Unit 3 is retired at end of year 2039 versus 2040 to align with the Company’s Clean Energy Goals; and
- Minor reductions in the level of DR in the short-term to allow for more consistent ramping of DR resources over the planning period.

Figure 2 below is the base capacity position after the above adjustments were made.

With these adjustments the Company continues to have a surplus of capacity until a persistent need occurs in the year 2030.



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SECTION III: MEDIUM 4 ANALYSIS

Q. Please describe the previous analyses conducted by the Company on the disposition of the Medium 4 units that were presented in Case Nos. U-17990 and U-18322.

A. In late 2015 and early 2016, the Company performed a simple cost/benefit analysis of the Medium 4 to understand the relative economics of investment required to meet environmental water standards Steam Electric Power Generating Point Source Category and Section 316(b) of The Clean Water Act⁴ (“316(b)”). This first analysis was completed in early 2016 and presented in response to discovery requests in the Company’s electric general rate case, Case No. U-17990. Company witness David F. Ronk, Jr. provided rebuttal testimony in Case No. U-17990 which, at a high-level, described the analysis presented in that case as follows:

“[T]here are certain scenarios in which early retirement results in a small savings to customers, and there are certain scenarios in which early retirement results in a small to medium cost increase to customers”

Mr. Ronk continued to say this analysis was preliminary and that additional analysis was necessary to make a final determination on the disposition of any of the Medium 4 coal units. See Rebuttal Testimony of Company witness Ronk, MPSC Case No. U-17990, pages 6-7.

In its February 28, 2017 Order in Case No. U-17990, the Commission required the Company to provide a “detailed benefit/cost analysis regarding the retirement of the Medium 4 Units...” MPSC Case No. U-17990, February 28, 2017 Order, pages 38-40. This resulted in the second analysis related to the continued operation of the Medium 4 units. The second analysis was developed for the Company’s electric general rate case in

⁴ See Section II of the direct testimony of Company witness Heather A. Breining.

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1 Case No. U-18322. In that case, I provided direct testimony which described the

2 Company's analysis as follows:

3 "The results of the Company's benefit/cost analysis regarding the
4 retirement of the Karn Units 1 and 2 and Campbell Units 1 and 2
5 indicate that, based on information currently available, it would be
6 premature to make a decision to accelerate retirement of any of
7 these units. These are operating base load plants that currently
8 provide benefits to customers. Consumers plans to continue to
9 perform analysis to look at various scenarios and commodity price
10 sensitivities." See Direct Testimony of Thomas P. Clark, Case No.
11 U-18322, page 8.

12 The Commission considered the Company's analysis in Case No. U-18322 and in its
13 March 29, 2018 Order, the Commission required that "the retirement assessment of the
14 Medium 4 units should be submitted as a standalone analysis in the company's IRP in
15 June 2018." MPSC Case No. U-18322, March 29, 2018 Order, page 25. Additionally,
16 the Commission's March 29, 2018 Order stated that the analysis should include an
17 assessment of the following enumerated factors:

18 "(1) capacity replacement costs; (2) impact of recovery of
19 undepreciated book value; (3) customer rate impact analysis; (4)
20 non-economic variables such as portfolio balance, employment,
21 and community impact; (5) effect on contractual fuel obligations;
22 (6) near-term revenue requirements; (7) conditions of existing
23 equipment; and (8) execution risk." MPSC Case No. U-18322,
24 March 29, 2018 Order, page 23.

25 Q. Has the Company completed the required standalone analysis of the Medium 4 coal
26 units?

27 A. Yes. The Company leveraged the development of its IRP model to evaluate the
28 economics of continued operation of the Medium 4 units and considered each of the
29 factors identified above in its decision. As a result of that analysis, the Company is
30 recommending the early retirement of Karn Units 1 and 2 on May 31, 2023 and the

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1 continued operation of Campbell Units 1 and 2 until the end of their design lives,
2 assumed to be May 31, 2031.

3 Q. Please describe the analysis of the Medium 4 units.

4 A. To be consistent with previous analyses and ensure that reasonable comparisons could be
5 made, the Company performed a cost/benefit analysis similar to those presented in Case
6 Nos. U-17990 and U-18322. The first step in performing this analysis was to reexamine
7 the ongoing capital expenditures and Operations & Maintenance (“O&M”) expenses
8 necessary to continue operation of each of the units between now and the expected
9 end-of-life period, May 31, 2031. Additionally, ongoing capital expenditures and O&M
10 expenses for early retirement scenarios of May 31, 2021 and May 31, 2023 were
11 assessed. The Company considered only the joint retirement of Karn Units 1 and 2
12 because it was determined that it would be impractical to continue operation of just one
13 Karn unit, given the site common operations and expenses, as well as fuel delivery
14 efficiencies.

15 Initially, the same recommendation was not made for Campbell Units 1 and 2,
16 primarily due to the assumed continued operation of Campbell Unit 3. Upon further
17 consideration, however, the Company elected to consider a joint retirement of Campbell
18 Units 1 and 2 as well.

19 The capital expenditures and O&M expenses identified are provided in Exhibit
20 A-3 (TPC-1) for Karn Units 1 and 2, on Exhibit A-4 (TPC-2) for Campbell Unit 1, on
21 Exhibit A-5 (TPC-3) for Campbell Unit 2, and on Exhibit A-6 (TPC-4) for Campbell
22 Units 1 and 2 combined. Company witnesses Norman J. Kapala and Heather A. Breining
23 provide the support for these values and a more detailed list of the capital expenditures

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and O&M expenses required to operate the units to the various retirement dates evaluated. The results of the cost/benefit analysis are summarized in Figure 3.

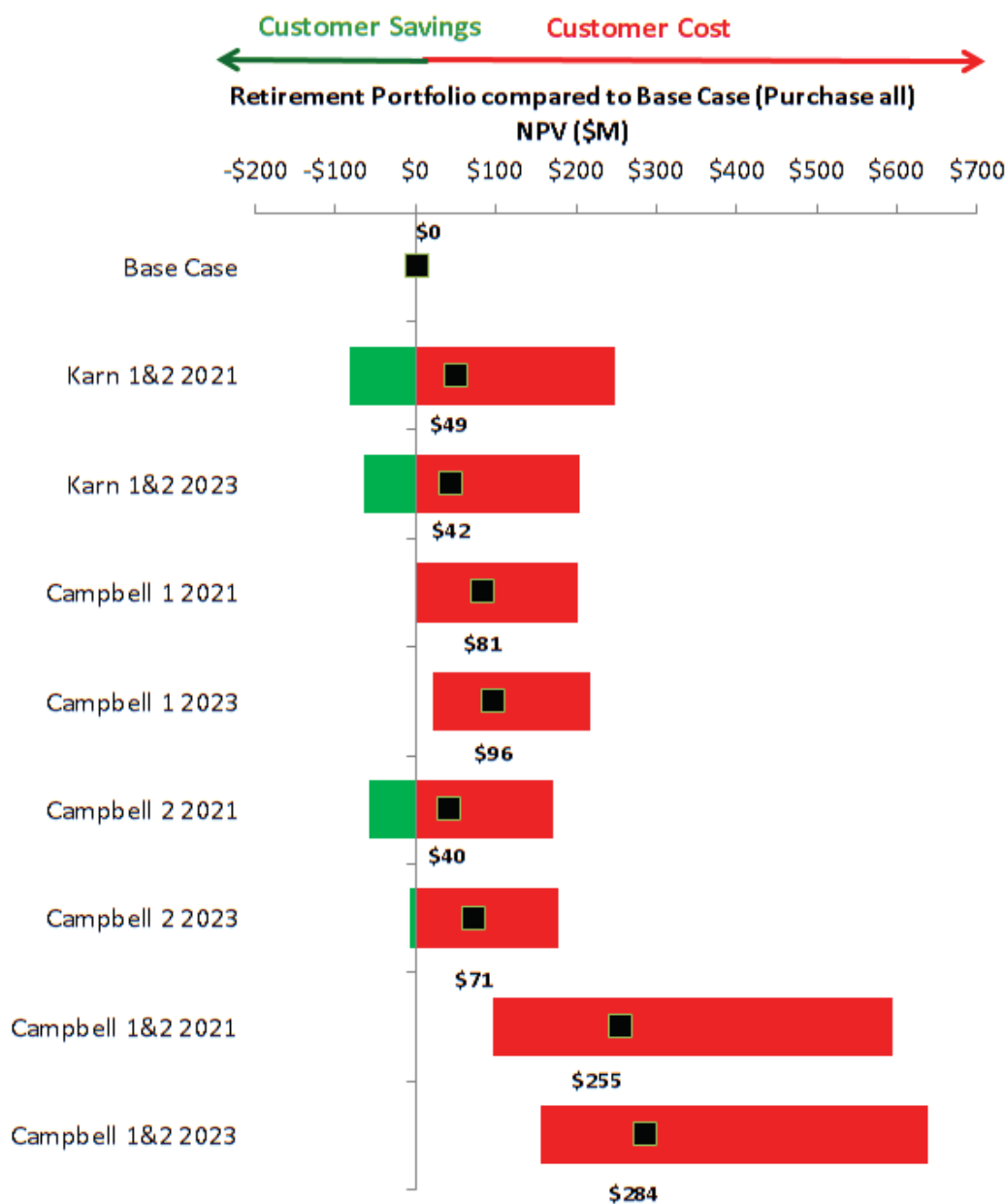


Figure 3

The analysis summarized above is directly comparable to the two previous analyses presented in Case Nos. U-17990 and U-18322. The ranges of results depicted

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1 are created by evaluating the market benefits provided by the units against the cost of
2 continued operation at various capacity and gas prices.

3 Various gas prices were considered in development of the range of the Net
4 Present Value (“NPV”) of the revenue requirement⁵ results shown in Figure 3. These gas
5 prices are a function of the base gas price used which, for this scenario and sensitivity
6 combination, is the Consumers Energy base case gas price discussed by Company
7 witness Brian D. Gallaway. The analysis was conducted using gas prices ranging from
8 25% below to 50% above the base gas price in increments of 25%.

9 Various capacity prices were also considered and are a function of the MISO Cost
10 of New Entry (“CONE”).⁶ Capacity prices between 0% and 100% of CONE were
11 considered in this analysis in 25% increments. The Company considers 75% of CONE to
12 be the base case for market capacity prices. The Company’s base capacity price forecast
13 is provided in Exhibit A-7 (TPC-5).

14 While the economics of continued operation have improved when compared to
15 the prior analyses, there remain certain capacity and gas prices that result in customer
16 benefits if the units are retired early.

17 To better understand the customer impacts of early retirement and reduce
18 uncertainty, customer costs must be reevaluated using an actual capacity replacement
19 plan. The Company leveraged the IRP modeling effort, specifically the BAU Consumers
20 Energy (“BAU CE”) scenario, and allowed Strategist to identify the optimal replacement

⁵ NPV of the revenue requirements represents the current value (2018 dollars) of a stream of annual revenue requirements the Company must receive from its customers in order to cover all costs, operating expenses, taxes, depreciation, and return on investment.

⁶The value of CONE was published by MISO, as submitted to FERC in September 2017 for Planning Year 2018-2019.

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capacity for the eight different retirement scenarios considered. The Company then ran the same gas and capacity price sensitivities on each of the optimal replacement plan results from Strategist. The results of this more comprehensive analysis are summarized in Figure 4.

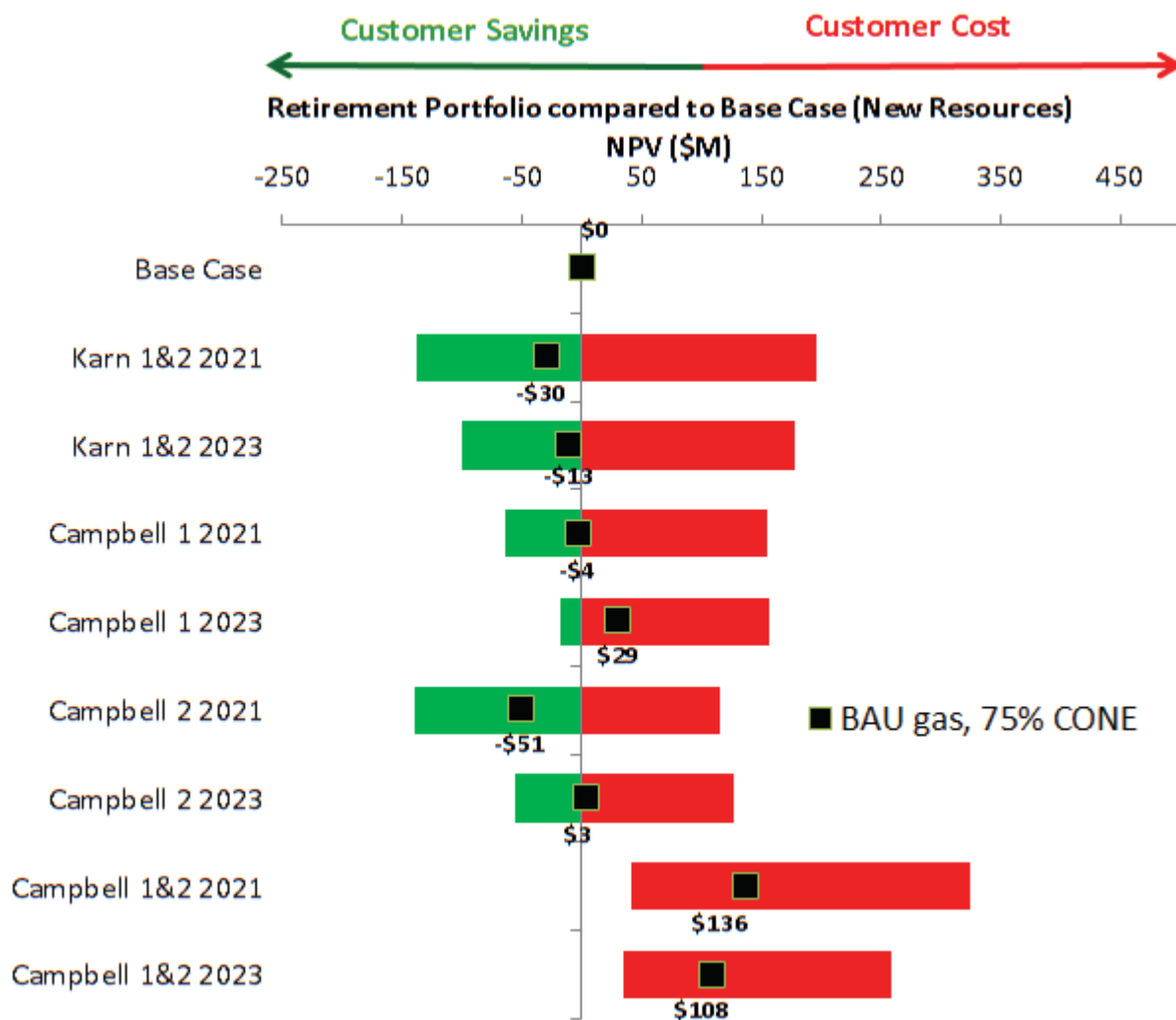


Figure 4

These results indicate that, when the available replacement resources are considered, there is a small improvement in the economic benefit of retiring the Medium 4 units early. Still, the economic justification for early retirement versus continued operation is not overly compelling.

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1 Q. What does it mean that the economic justification for early retirement versus continued
2 operation is not overly compelling?

3 A. The results of the above discussed analysis are not overly compelling because they do not
4 significantly favor continued operation or retirement. The present value of the customer
5 cost impacts that will be realized by avoiding the expected O&M and capital
6 expenditures identified for the Medium 4 is between savings of \$139 million and
7 increased costs of \$284 million. These are deltas in the present value cost of meeting
8 customers' energy needs over the 20-year planning period. Comparing the possible
9 savings or costs associated with early retirement or continued operation of the Medium 4
10 to the present value of meeting customer needs over the planning period indicates that the
11 impact of this decision is a shift in costs of less than plus or minus 1.25%. There are
12 many other assumed variables that could easily shift customer costs by this amount over
13 the same time period. Furthermore, the greatest level of risk for increased costs shown in
14 Figure 4 would require gas prices 50% greater than BAU and capacity prices at 100% of
15 the MISO CONE. Cost impacts corresponding to 75% of CONE and BAU gas price
16 indicates cost impacts at plus or minus 0.2%. This is an insignificant cost variation.

17 Q. Why did the Company highlight the results of the Medium 4 economic evaluation at the
18 75% of CONE capacity price and the Company's base case gas price forecast?

19 A. The Company highlighted the results of the retirement analysis at these capacity and gas
20 prices because it considers this to be the BAU future. Meaning, these are the most
21 reasonable gas and capacity prices to assume.

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1 Q. Why does the Company believe the Consumers Energy base gas price is the most
2 reasonable gas price to assume?

3 A. The Company's gas price forecast is a better representation of future gas prices than the
4 Energy Information Administration's ("EIA") 2017 Annual Energy Outlook ("AEO") gas
5 price forecast because it relies on several different long-term gas price projections and
6 accounts for impacts of recent market forwards as discussed in more detail by Company
7 witness Gallaway.

8 Q. Why does the Company believe 75% of CONE is the most reasonable capacity price to
9 assume?

10 A. The Company has conducted several reverse capacity auctions in recent years that have
11 consistently resulted in capacity prices between 50% and 75% of CONE. Furthermore,
12 the DR resources the Company considered in this IRP have a levelized cost of
13 approximately 60% of CONE. While that is only one of the resources considered in this
14 IRP, it was picked by the model in the BAU CE scenario to replace the Medium 4 units
15 and was selected at some point in almost every other scenario. This indicates it is near
16 the marginal capacity price. These reasons support a capacity price greater than 50% of
17 CONE, but less than 100% of CONE. 75% is a reasonable, but conservative price to
18 utilize.

19 Q. Please explain Exhibit A-7 (TPC-5).

20 A. Exhibit A-7 (TPC-5) represents the Company's forecast of capacity at 75% of CONE.
21 The value of CONE was published by MISO, as submitted to FERC, in September 2017
22 for planning year 2018 to 2019. For MISO Local Resource Zone 7, that value was
23 published as \$90,740/ZRC-year. Exhibit A-7 (TPC-5), line 9, column (b), represents that

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1 value, multiplied by 75%. For each planning year beyond 2018 to 2019 and shown in
2 column (b), lines 10 through 31, capacity prices are assumed to escalate at 2% each year.

3 Q. How did the Company use the results of the economic analysis to inform its decision to
4 retire Karn Units 1 and 2 on May 31, 2023?

5 A. Given the relative close cost impacts of all of the analysis related to continued operation
6 or early retirement of the Medium 4, the Company acknowledges that these units provide
7 comparable value to customers as other resource options or the market. Given the
8 environmental investments required to continue operations beyond 2023, these units
9 should be retired in advance of December 2023 (in order to avoid the environmental
10 investments) or continue operating through 2031 (in order to maximize the environmental
11 investments required to continue operation beyond 2023). To diversify retirements
12 currently identified for 2031 and to balance execution risk, the Company elected to
13 recommend retirement of two of the Medium 4 units. The decision on which two of the
14 Medium 4 units are retired is driven by the favorable economics associated with
15 retirement of Karn Units 1 and 2 over Campbell Units 1 and 2 as well as other
16 considerations discussed below.

17 Q. Did the Company evaluate the early retirement of the Medium 4 units on any scenarios
18 other than the BAU CE scenario?

19 A. Yes. The Company performed an evaluation of early retirement of all of the Medium 4
20 units in all three scenarios built using the Consumers Energy gas price forecast.⁷ The
21 results were different between the BAU resource plan and the Emerging Technology
22 (“ET”) and Environmental Policy (“EP”) resource plans. In the BAU scenario Strategist

⁷ All of the scenarios used in the modeling conducted by the Company are discussed in detail by witness Sara T. Walz.

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1 recommended replacement of the Medium 4 units with EWR and DR resources. In the
2 ET and EP scenarios Strategist recommended replacement of the Medium 4 units with
3 new wind resources. The ET and EP replacement plans were driven by availability of
4 Production Tax Credits (“PTC”)⁸ for wind in 2023 and relatively low wind capital costs
5 (15% and 35% reductions respectively), in comparison to energy market costs and
6 resulted in a plan that replaced four times the energy produced from the units evaluated
7 for early retirement.

8 Q. How did the Company incorporate the results of the above scenarios in the development
9 of the Karn Units 1 and 2 replacement plan?

10 A. Given the BAU CE scenario’s selection of demand-side resources as the primary source
11 for replacement capacity, the base plan to add 550 MW of wind, as explained in more
12 detail below,, and the assumed reduction in costs of demand-side resources in the other
13 scenarios, the Company was confident that the replacement plan from the BAU CE
14 scenario represented a reasonable cost portfolio. Furthermore, the execution risk
15 associated with building the amount of wind identified in the ET and EP scenarios by
16 2023 is significant. As a result, gas and capacity price sensitivities were only performed
17 on the BAU CE scenario.

18 Q. How did the Company consider the first component of the Commission’s required
19 retirement analysis – “capacity replacement costs”?

20 A. The capacity replacement cost component of the retirement analysis was addressed by
21 using the IRP model to determine the NPV costs for an actual, achievable, and reasonable
22 capacity replacement plan. The results of the analysis, as discussed above and presented

⁸ The PTC is a federal income tax credit enacted to incentivize the production of energy from renewable energy resources.

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1 in Figure 4, demonstrate that the Company can replace some, but not all of the capacity
2 provided by the Medium 4 units at a reasonable cost. This is most evident by considering
3 the increased NPV associated with retirement of Campbell Units 1 and 2 together versus
4 Campbell Units 1 or 2 alone.

5 As discussed by Company witness Kapala, the savings associated with retiring
6 both Campbell Units 1 and 2 together are larger than the savings associated with retiring
7 just one of the units. However, the NPV results indicate that retirement of both units is
8 less attractive to customers than retirement of just one unit. That is driven by the costs of
9 the least-cost capacity replacement plan selected by Strategist. As more capacity is
10 replaced, the incremental cost of that capacity increases. Retirement of both Campbell
11 Units 1 and 2 requires nearly twice the amount of replacement capacity as retirement of
12 just one Campbell unit and about 100 MW of additional replacement capacity compared
13 to the retirement of the Karn Units 1 and 2. The cost for the last increment of 100 MW is
14 more expensive than the first increment of 100 MW.

15 Q. How did the Company consider the second component of the Commission's required
16 retirement analysis – "impact of the recovery of undepreciated book value"?

17 A. As detailed by Company witness Cari K. Hurt, the Company first analyzed the amount of
18 undepreciated, or unrecovered, book value associated with the Medium 4 units. The
19 Company currently has \$1,701 million in unrecovered book value associated with the
20 Medium 4 units. Of that, \$952 million is associated with Karn Units 1 and 2 and \$749
21 million is associated with Campbell Units 1 and 2. Assuming continued operations
22 through 2031, the Company anticipates those values would decline to \$1,461 million
23 (\$793 million for Karn Units 1 and 2; \$668 million for Campbell Units 1 and 2) by

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1 May 31, 2021 and to \$1,235 million (\$670 million for Karn Units 1 and 2; \$565 million
2 for Campbell Units 1 and 2) by May 31, 2023. These amounts are significant, but have
3 no impact on the economic evaluation presented above.

4 Regardless of early retirement or continued operation, the Company expects these
5 unrecovered costs will be recovered from customers. As evident in the discussion on the
6 net book value of Karn Units 1 and 2 by Company witness Heidi J. Myers, there are
7 recovery methods available for these unrecovered costs that could increase near-term
8 revenue requirements or reduce near-term revenue requirements. Given the options
9 available to limit the increase in near-term revenue requirements and resulting rate
10 impacts, the Company determined that, so long as approval is received to recover the
11 unrecovered costs, these costs would not prevent the early retirement of any of the
12 Medium 4 units.

13 Q. What recovery mechanism is the Company proposing for the unrecovered book value of
14 Karn Units 1 and 2?

15 A. The Company is proposing a regulatory asset with amortization through 2031 be used to
16 recover the unrecovered book value of Karn Units 1 and 2. Company witness Myers
17 provides the details on all of the mechanisms considered for recovery of the unrecovered
18 book value of Karn Units 1 and 2 and the impact on revenue requirements.

19 Q. How did the Company consider the third component of the Commission's required
20 retirement analysis – "customer rate impact analysis"?

21 A. Company witness Myers presents the details of the customer rate impact associated with
22 the various capacity replacement plans identified for the Medium 4 units. The customer
23 rates are expected to increase in the near-term with the early retirement of any of the

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1 Medium 4. This is expected because the replacement plan includes capacity resource
2 options that require substantial upfront investment to deliver energy and capacity over the
3 long-term. The economic analyses presented in Figure 4 and supported by Company
4 witness Walz indicate that, over the long-term, customers are likely to save a small
5 amount as a result of the energy and capacity replacement plan. The customer rate
6 impacts indicate that the early retirement of Karn Units 1 and 2 has the least impact on
7 customer rates in the near-term. Ultimately, the Company chose the date with the second
8 lowest realized rate impact, and proposed retirement of Karn Units 1 and 2 on May 31,
9 2023. Non-economic factors related to retirement, which I address later in my direct
10 testimony, and are also addressed by Company witness Kapala, make retirement of Karn
11 Units 1 and 2 in 2021 unfeasible and imprudent, despite slightly lower rate impacts.

12 Q. How did the Company consider the fourth component of the Commission's required
13 retirement analysis – "non-economic variables such as portfolio balance, employment,
14 and community impact"?

15 A. The more time between the decision to retire early and the actual retirement date, the
16 more likely the Company will successfully mitigate the non-economic impacts identified.
17 The Company believes that portfolio balance can be reasonably maintained if the
18 replacement plan is effectively executed. The resource replacement plan relies heavily
19 on demand-side resources which require time to ramp up. The need for ramp up time
20 favors a later retirement date and limiting the retirement to two of the four units by 2023.
21 Figure 5 below, provides a summary of the mix of portfolio resources maintained by the
22 Company today (2018) compared to the mix of resource proposed by year 2024,

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1 following the retirement of Karn Units 1 and 2. As evident from the figure, the Company
2 maintains a reasonable balance of resources for meeting customer needs.

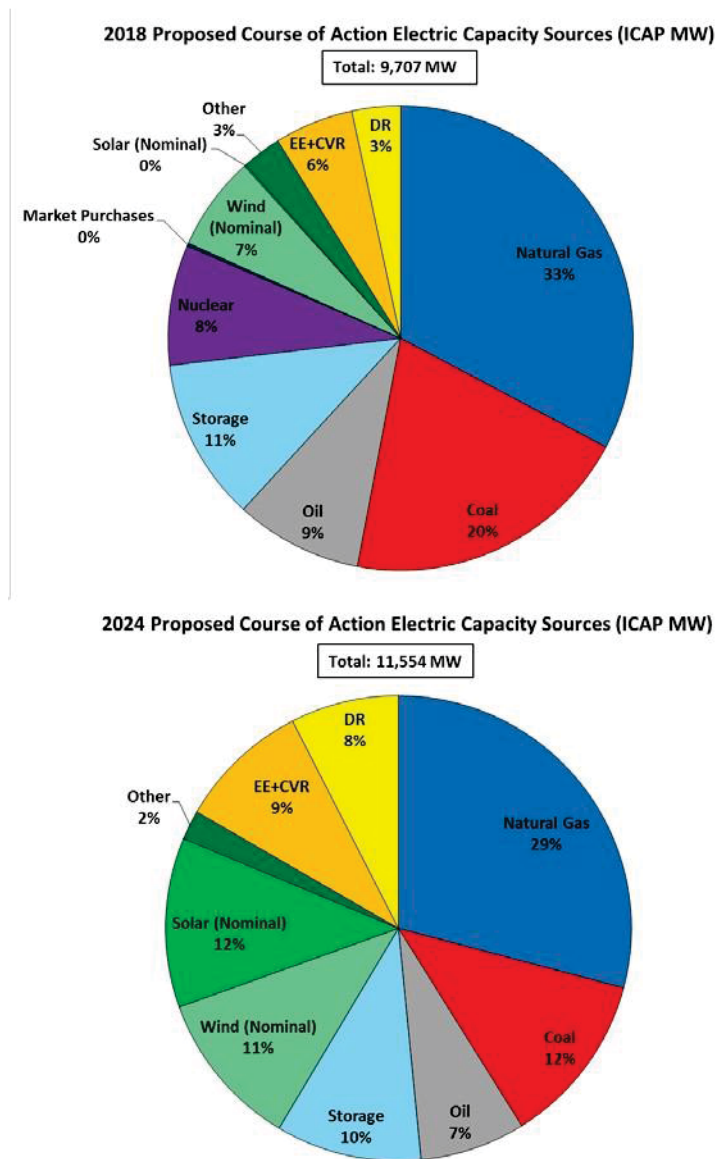


Figure 5

3 Employment impacts are increased as more units are retired. As highlighted by
4 witness Kapala, there are at least 340 impacted employees at the Medium 4 units. The
5 more employees impacted, the more difficult it will be to mitigate negative impacts.
6 Employment considerations favor retiring fewer units and providing more time for
7 natural attrition and placement of employees elsewhere in the Company; therefore,

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1 employment impacts are best mitigated by not retiring all Medium 4 units at once and
2 retiring Karn Units 1 and 2 in 2023. Retirement of Karn Units 1 and 2 in 2023 will allow
3 the Company to manage employee impacts effectively by providing a similar timeline to
4 that used in the retirement of the Company's coal-fired units at its B.C. Cobb,
5 J.C. Weadock, and J.R. Whiting sites in 2016.

6 Community impacts are significant at both the Campbell and Karn sites. Both of
7 these generating sites represent significant contributors to local tax base; therefore, the
8 retirement of any of these units will have negative impacts on the communities in which
9 they are located. Furthermore, redevelopment of either site is hindered by the continued
10 operation of remaining generation units on the site (i.e., Karn Units 3 and 4 and Campbell
11 Unit 3). The community impacts related to retirement of the Medium 4 favors continued
12 operation of all four units. Although there will be negative community impacts related to
13 the early retirement of Karn Units 1 and 2, these impacts can be most effectively
14 managed by providing more time which favors a 2023 retirement date of these units.

15 Q. How did the Company consider the fifth component of the Commission's required
16 retirement analysis – "effect on contractual fuel obligations"?

17 A. As discussed by Company witness Gallaway, the Company's current fuel procurement
18 methodology would allow for any combination of retirement of the Medium 4 units.
19 Mr. Gallaway further explains that current trends in coal transportation costs demonstrate
20 that rail carriers are decreasing the cost to transport coal to encourage the continued use
21 of coal by electric utilities. Since the Campbell site receives coal solely by rail carrier,
22 the trends in coal transportation costs are likely to benefit the Campbell site more than the
23 Karn site, which receives coal by both rail and vessel.

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1 Q. How did the Company consider the sixth component of the Commission's required
2 retirement analysis – "near-term revenue requirements"?

3 A. Company witness Myers identifies the incremental revenue requirements through 2024
4 associated with the various capacity replacement plans identified for the Medium 4 units.
5 Simply summing these values indicates that the early retirement of Campbell Unit 2 in
6 2021 has the lowest incremental revenue requirement, but that the early retirement of
7 Karn Units 1 and 2 in 2021 have the second lowest incremental revenue requirements.
8 Retirement of Karn Units 1 and 2 in 2023 have the fourth lowest incremental revenue
9 requirements. The differences in incremental revenue requirement when comparing any
10 of these scenarios, however, are relatively small. The delta in incremental revenue
11 requirement between the early retirement of Karn Units 1 and 2 and the early retirement
12 of Campbell Unit 2 is less than \$10 million regardless of which retirement year is
13 selected. This indicates that there is no material difference in incremental revenue
14 requirements between Campbell Unit 2 and Karn Units 1 and 2.

15 Q. How did the Company consider the seventh component of the Commission's required
16 retirement analysis – "condition of existing equipment"?

17 A. As discussed by Company witness Kapala, the clearest measurement of the condition of
18 existing equipment is examination of each of the unit's Random Outage Rate ("ROR").
19 ROR is intended to capture times when a generating unit is unavailable outside of
20 planned periodic outages. A higher ROR indicates less predictable system failures and
21 can be interpreted as existing equipment in worse condition. Examining the historical
22 RORs indicates that the condition of existing equipment at Karn Units 1 and 2 is worse
23 than the condition of existing equipment at Campbell Units 1 and 2.

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1 Q. How did the Company consider the eighth component of the Commission's required
2 retirement analysis – "execution risk"?

3 A. To assess execution risk the Company considered three factors: (i) time; (ii) amount of
4 capacity replacement backfill required; and (iii) cost and complexity associated with unit
5 separation.

6 Time: Execution risk is best mitigated with more time; therefore, the Company
7 assessed the highest risk to early retirement of any of the Medium 4 units in 2021.
8 Assuming a final order in this proceeding in 2019, that would only give the Company two
9 years to execute on retirement.

10 Capacity Replacement: The Company assigned the least risk to retirement of just
11 Campbell Unit 1 because it was the smallest increment of capacity retirement considered.
12 The highest risk is assigned to retirement of Campbell Units 1 and 2 because that requires
13 the largest capacity backfill.

14 Unit Separation: Under this criterion, Karn Units 1 and 2 represent the least risk
15 because all coal generation on site is retired together and the continued operation of Karn
16 Units 3 and 4 requires significant, but not extreme, capital work. Retirement of any
17 Campbell unit was assigned high risk. In the case of any one unit, continued operation of
18 the other unit would require maintenance of the retired unit or significant modification to
19 the plant site. In the case of retirement of both units, significant modification to
20 Campbell Unit 3 fuel handling would be required.

21 After considering the three categories discussed above the Company assigned the
22 least execution risk to the retirement of Karn Units 1 and 2. Execution risks associated
23 with the retirement of Karn Units 1 and 2 is also discussed by Company witness Kapala.

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1 Q. Did the Company determine that any other considerations should be evaluated to develop
2 a recommendation on the disposition of the Medium 4 units?

3 A. Yes. The Company also considered the operational complexity of the Company's coal
4 fleet. The operational complexity of the Company's coal generation fleet is best
5 simplified by managing a single coal generation site. This simplifies the fuel
6 procurement process and allows the Company to concentrate all coal generation expertise
7 to a single geographic area. The early retirement of Karn Units 1 and 2 allow for a single
8 coal generation site. The early retirement of Campbell Units 1 and/or 2 does not allow
9 for a single coal generation site. Therefore, the consideration of operational complexity
10 favors early retirement of Karn Units 1 and 2.

11 Q. Did the Company complete an Internal Rate of Return ("IRR") Analysis?

12 A. No. It is not appropriate for this type of analysis. IRR should be used to allocate capital
13 funds to specific projects. The intention of this measure is to normalize, for comparative
14 purposes, two projects based on the benefits they deliver and their initial upfront
15 investment. The higher the IRR the more benefit per capital dollar invested a project will
16 deliver. Applying IRR to this analysis is not appropriate because the Company is not
17 considering a single capital investment that will deliver benefits in the future, the
18 Company considering a series of capital expenditures and O&M expenses that are
19 necessary to continue operation of the facility. Furthermore, the most significant capital
20 investments are for environmental compliance and provide no incremental benefit to the
21 facility against which they should be measured. The Company acknowledges that there
22 are methods that could be used to determine a proxy IRR for the series of capital
23 investments expected to be required to continue operating these units, but the Company

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1 believes this is unnecessary. The NPV results, which consider the costs of the resource
2 replacement, provide a more complete and accurate evaluation of the continued operation
3 or early retirement of the Medium 4 units.

4 Q. Did the Company consider capital investment sensitivities associated with the continued
5 operation of the Medium 4?

6 A. Yes. As discussed by Company witness Breining, significant investment would be
7 required to address 316(b) compliance if Karn Units 1 and 2 continue operation beyond
8 2023, but minimal investment would be required to address 316(b) compliance if
9 Campbell Units 1 and 2 continue operation beyond 2023. Given these assumptions, the
10 Company elected to consider different sensitivities related to environmental investment
11 required for continued operation of the Medium 4. In the case of Campbell Units 1 and
12 2, a sensitivity was conducted that considered increases in environmental capital
13 expenditures for 316(b) compliance under operation through 2031. Assuming such
14 investments would be required results in a reduction in projected customer costs increases
15 associated with early retirement of \$40 million NPV to \$68 million NPV. In the case of
16 Karn Units 1 and 2, a sensitivity was conducted that considered decreases in
17 environmental capital expenditures for 316(b) compliance under operation through 2031.
18 Removal of these required investments results in an increase in customer costs associated
19 with early retirement of \$44 million NPV to \$31 million NPV. These sensitivities
20 indicate that potential changes in required environmental investment are not significant
21 enough to alter the economic conclusion that early retirement of any of the Medium 4 is
22 not compelling, but early retirement of Karn Units 1 and 2 provide slightly better savings
23 for customers. This, taken with the many other factors considered and discussed above,

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continue to result in the recommendation that Karn Units 1 and 2 be retired on May 31, 2023 and Campbell Units 1 and 2 continue to operate through their planned age related retirement date of May 31, 2031.

Q. Can you summarize your analysis and recommendation regarding the disposition of the Medium 4 units?

A. Yes. The Company considered the economic impacts, customer rate and revenue requirement impacts, fuel obligations, condition of existing equipment, employee impacts, portfolio impacts, community impacts, and environmental impacts associated with early retirement of the Medium 4 units. The economics of early retirement or continued operation are not compelling, but given the desire to diversify retirement dates of existing units away from the early 2030s, the need to make material capital investment in environmental controls to continue operation of any of the Medium 4 beyond 2023, and the results of the considerations discussed above and summarized in Table 1 and 2 below, the Company is proposing the retirement of Karn Units 1 and 2 on May 31, 2023.

Financial					
	Customer NPV - Lifetime, Total	Undepreciated Book Value	Near-Term Revenue Requirement (2019 - 2024)	Customer Rate Impact	Fuel Obligations
Karn 1&2 2021	-\$30	\$793	\$352	\$0.17	No Issues
Karn 1&2 2023	-\$13	\$670	\$363	\$0.19	No Issues
Campbell Unit 1 2021	-\$4	\$280	\$376	\$0.23	No Issues
Campbell Unit 1 2023	\$29	\$237	\$384	\$0.25	No Issues
Campbell Unit 2 2021	-\$51	\$388	\$343	\$0.20	No Issues
Campbell Unit 2 2023	\$3	\$328	\$365	\$0.22	No Issues
Campbell Unit 1&2 2021	\$136	\$668	\$414	\$0.23	No Issues
Campbell Unit 1&2 2023	\$108	\$565	\$430	\$0.27	No Issues

Table 1

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Operational						
	Condition Assessment	Execution Risk	Location/Community Impact	Employee Impact	Portfolio Balance	Operational Complexity
Karn 1&2 2021	18.5%	High due to time	High	High	Minor Impact	Improved
Karn 1&2 2023	18.5%	Medium	Medium	High	Minor Impact	Improved
Campbell Unit 1 2021	12.2%	High due to time	Medium	Medium	Minor Impact	No Impact
Campbell Unit 1 2023	12.2%	High due to remaining unit operation uncertainty	Low	Medium	Minor Impact	No Impact
Campbell Unit 2 2021	12.4%	High due to time	Medium	Medium	Minor Impact	No Impact
Campbell Unit 2 2023	12.4%	High due to remaining unit operation uncertainty	Low	Medium	Minor Impact	No Impact
Campbell Unit 1&2 2021	12.3%	High due to time	High	High	Minor Impact	No Impact
Campbell Unit 1&2 2023	12.3%	Medium	Medium	High	Minor Impact	No Impact

Table 2

Q. Has the Company obtained a third-party analysis of its retirement decision for Karn Units?

A. Yes. The Company contracted ABB Enterprise Software, Inc. ("ABB") to independently perform a retirement analysis on the Medium 4. Company witness Charles F. Adkins, an ABB consultant, provides testimony regarding the analysis performed by ABB. Mr. Adkins explains that ABB's recommendation is that the Company should consider retiring Karn Units 1 and 2 early, preferably in 2021 or 2023. Mr. Adkins further explains that ABB recommends that the Company consider environmental retrofits at Campbell Units 1 and 2 and continue operation of these units until the end of their design lives in 2031. Mr. Adkins explains that, after the environmental retrofits on Campbell Units 1 and 2 are installed, the Company should continue to monitor the market developments, such as carbon mitigation, low commodity market conditions, and future

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1 environmental regulations, to determine if there is any value to retiring Campbell Unit 1
2 or Campbell Unit 2 before the end of the design lives of those units. This
3 recommendation supports the Company's proposal to retire Karn Units 1 and 2 on
4 May 31, 2023.

5 Q. What is the impact of the proposed 2023 retirement of Karn Units 1 and 2 on the
6 implementation of the Company's PCA?

7 A. The implementation of the Company PCA is contingent on the approval of all proposals
8 which make up the PCA. The Company's plan to retire Karn Units 1 and 2 and backfill
9 the lost capacity with demand-side resources is one of the proposals of the PCA. It is
10 critical to understand that the marginal economics associated with the proposed early
11 retirement decision for Karn Units 1 and 2 mean that, to ensure customer savings are
12 realized, the backfill must occur in the manner proposed by the Company. Any increase
13 in costs beyond the costs associated with the backfill resources proposed by the Company
14 will erode the customer savings identified in the analysis upon which the Company's
15 proposed retirement decision was based. For example, if the Commission were to
16 approve the Company's plan for early retirement, but requires backfill for the associated
17 lost capacity with PURPA QF capacity at the rates identified in Case No. U-18090, the
18 savings identified will not be realized and the Company would not propose to retire Karn
19 Units 1 and 2 in 2023. The backfill plan that delivers the savings identified in the
20 Medium 4 analysis must deliver energy at prices equivalent to the energy market prices
21 modeled and capacity at less than 75% of CONE. The PURPA rates discussed in Case
22 No. U-18090 have energy rates that are 15% to 20% above current market projections
23 and capacity rates at 150% of CONE.

THOMAS P. CLARK
DIRECT TESTIMONY**SECTION IV: PCA**

Q. Please explain the purpose of the Company's PCA.

A. The Company's PCA represents the Company's proposed plan for meeting its energy and capacity needs over the period of time covered by this IRP. The PCA is the result of extensive modeling analysis which considered numerous assumptions, scenarios, and sensitivities. Based on the extensive modeling analysis performed by the Company, the Company developed a PCA which is consistent with the Commission's requirements, is consistent with the requirements of the law, meets the Company's energy and capacity goals, and is in the best interest of the Company's customers.

Q. Please explain the three time frames you have used to describe the resources in the PCA.

A. For purposes of explanation, I have separated the PCA into three distinct time periods and five resource categories. The first time period is "Near-term" and refers to the three-year period covered by the IRP approval of costs provision in PA 341 Section 6t (June 2019 through May 2022). The second time period is the "Intermediate-term" and refers to the period beginning at the end of the three-year approval of costs period and continuing through the major capacity replacements in the early 2030's (June 2022 through May 2031). The third time period is "Far-term" and refers to the period that begins at the end of the Intermediate-term and continues through the end of the planning period (June 2031 through 2040).

Q. What are the resource categories you have utilized in your direct testimony?

A. The five resource categories are EWR, DR, Wind, Solar, and Storage. The Company is not proposing the addition of any new fossil-fueled generation at this time.

Q. What are the relevant considerations in your Near-term timeframe?

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1 A. The Near-term of the PCA relies on incremental investment in EWR, CVR, and DR. The
2 Near-term of the PCA also relies on the continued pursuit of demand-side and renewable
3 resources consistent with the Company's Biennial EWR plan Case No. U-18261, the
4 Company's recently filed REP, Case No. U-18231, and the recently filed electric general
5 rate case, Case No. U-20134. The Company is not seeking Commission approval in this
6 case for the approvals previously granted in Case No. U-18261 or the approvals actively
7 sought in Case Nos. U-18231 and U-20134.

8 Q. Please describe the energy and capacity resources which comprise the Near-term of the
9 Company's PCA?

10 A. The energy and capacity resources in the Near-term of the Company's PCA (shown
11 graphically in Figure 6) include increased EWR as detailed by Company witness
12 Ykimoff, continued expansion of the Company's DR programs as discussed by Company
13 witness Patrick C. Ennis, execution of the Company's REP as discussed in detail by
14 Company witness Teresa E. Hatcher, pursuit of Grid Modernization enabled CVR as
15 detailed by Company witness Mark A. Ortiz, and the inclusion of 150 MW of new
16 PURPA capacity, assumed to be solar generation, as discussed by Company witness
17 Keith G. Troyer. The detailed annual amounts are as follows:

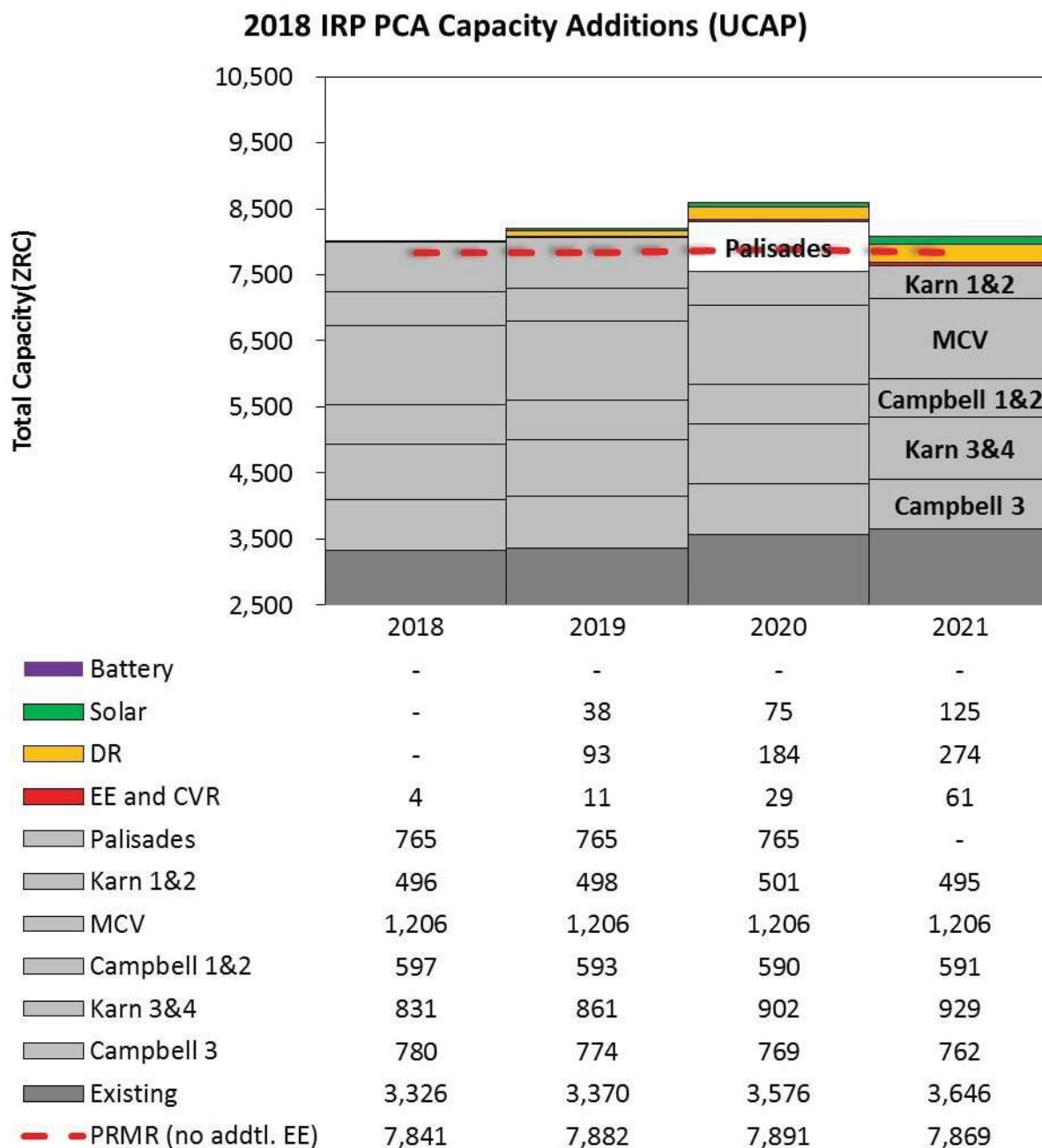
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Figure 6

- EWR:
 - 2019 – (i) 1.5% energy efficiency savings consistent with the Company’s current EWR Plan and base capacity position and (ii) CVR peak reduction capability of 11 ZRC;

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- 2020 – (i) Ramp from 1.5% to 2% energy efficiency savings (achieving an average of 1.75% savings) and (ii) Ramp to a total of 22 ZRC of CVR; and
- 2021 – (i) Maintain 2.0% energy efficiency savings and (ii) Ramp to a total of 34 ZRC of CVR;
- DR:
 - 2019 – Add an incremental 93 ZRC compared to projected 2018 levels (287 ZRC);
 - 2020 – Add an incremental 92 ZRC; and
 - 2021 – Add an incremental 90 ZRC achieving an incremental 274 ZRC by 2021 compared with projected 2018 levels;
- Wind:
 - Add 525 MW of new in-state wind resources by December 2020 as proposed in the Company's REP in Case No. U-18231 as included in the base capacity position; and
 - Add an incremental 25 MW of new in-state wind resources by December 2020 which will be addressed in the Company's REP as included in the base capacity position;
- Solar:
 - Add 150 MW (75 MW in 2019; 75 MW in 2020) of incremental PURPA QF solar as included in the base capacity position, which was mandated by the Commission in Case No. U-18090; and
 - Accelerate the 100 MW of solar proposed to achieve commercial operation in 2024 and 2025 (50 MW in each year) in the Company's REP to achieve commercial operation in 2021; and
- Storage:
 - No storage additions for the purpose of meeting energy and capacity needs are planned in the near-term. The Company is exploring storage for distribution support and pairing with renewables to improve our understanding of viability and value. These resources will be leveraged for their energy and capacity contributions to the extent they can provide such benefits, but are not included in the PCA at this time.

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- 1 Q. What are the relevant considerations in the Intermediate-term of the Company's PCA?
- 2 A. In the Intermediate-term there are two primary considerations. First, the need to begin
- 3 ramping the significant amount of resources required to backfill the capacity needs
- 4 created by the termination of the MCV PPA; the age related retirement of Campbell Units
- 5 1 and 2 in May 2031; and the age related retirement of Karn Units 3 and 4 in May 2031.
- 6 Combined, these terminations and retirements create nearly a 3,100 MW need in the early
- 7 2030s. Regardless of the resource identified to backfill these retirements, the Company
- 8 would likely need to begin construction of resources years in advance of the
- 9 termination/retirement dates. Given the PCA's reliance on solar, the near-term cost
- 10 declines expected, and, as discussed in the direct testimony of Company witness Carolee
- 11 K. Smith, the availability of greater levels of Investment Tax Credits in the early 2020's,
- 12 the Company is proposing bringing new solar resources online well in advance of its
- 13 actual capacity need. Second, the early retirement and backfill of Karn Units 1 and 2
- 14 must be accomplished. The capacity backfill selected by the model relied on the
- 15 continuation of 2.0% EWR through 2023, the continued expansion of CVR through 2023
- 16 and the expansion of DR by 400 MW by 2023. The Company, however, acknowledged
- 17 the opportunity to leverage the ramp of solar capacity discussed above to allow for a
- 18 more consistent year-over-year build of DR between now and 2030. This resulted in a
- 19 reduction of DR as a backfill resource for Karn Units 1 and 2 in 2023 to allow for
- 20 increases in DR later in the decade.

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Q. Please describe the energy and capacity resources which comprise the Intermediate-term of the Company's PCA?

A. The energy and capacity resources which comprise the Intermediate-term of the Company's PCA (shown graphically in Figure 7) are as follows:

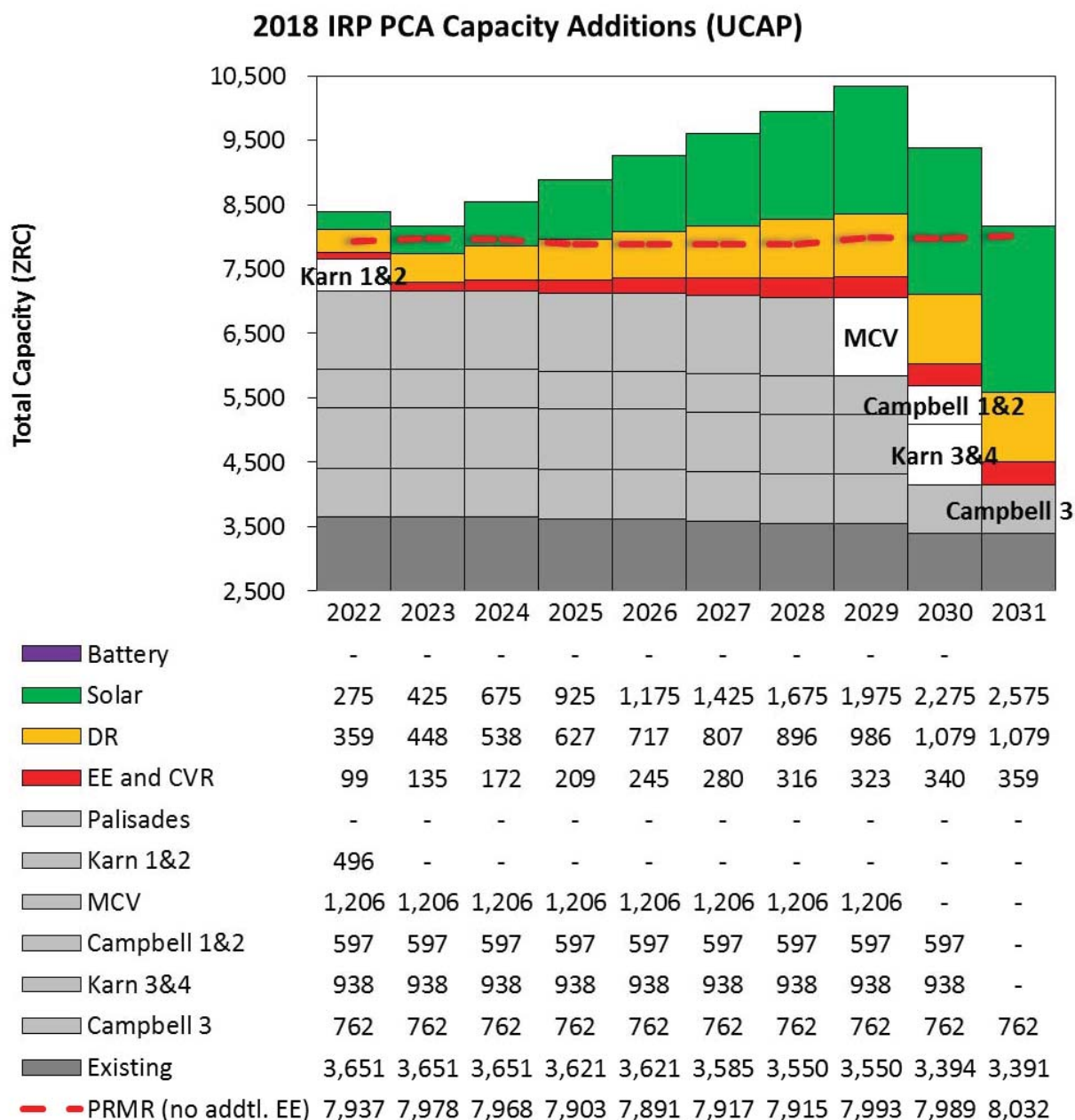


Figure 7

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Continuation of the MCV PPA – the Company plans to address the termination of the MCV PPA in 2025 by exercising a provision in that PPA that allows the Company to extend the PPA for five additional years. This provision of the MCV PPA is addressed in more detail by Company witness Troyer. As the termination of the MCV PPA in 2025 draws closer, the Company intends to continue to evaluate the economics of a PPA extension with MCV.

Demand-side resources – given the Company’s preference for renewable and demand-side resources and a need to maintain consistency for demand-side customer programs, the Company is proposing to maintain 2% EWR (reducing the need in 2031 by 245 ZRC), and the incremental addition of approximately 90 ZRC of DR annually through 2030 (increasing DR to a total of 1,079 ZRC). Similarly, to leverage the infrastructure put in place to enable CVR, the Company plans to continue deployment of this resource to a total of 115 ZRC.

Solar – considering the restrictions placed on siting wind and the relative cost competitiveness of solar, the remaining need is proposed to be filled with new solar generation resources. As demonstrated in Figure 7 above, the Company’s PCA proposes to fill the 2030 and 2031 need with up to 5,150 MW (2,575 ZRC) of constructed and contracted solar generation resources brought online as early as 2022. While the Company is able to completely replace the capacity lost by the proposed retirement of Karn Units 1 and 2 with demand-side resources, the Company is leveraging the ramp up of solar to replace capacity lost in 2030 and 2031 to diversify the Karn Units 1 and 2 backfill plan.

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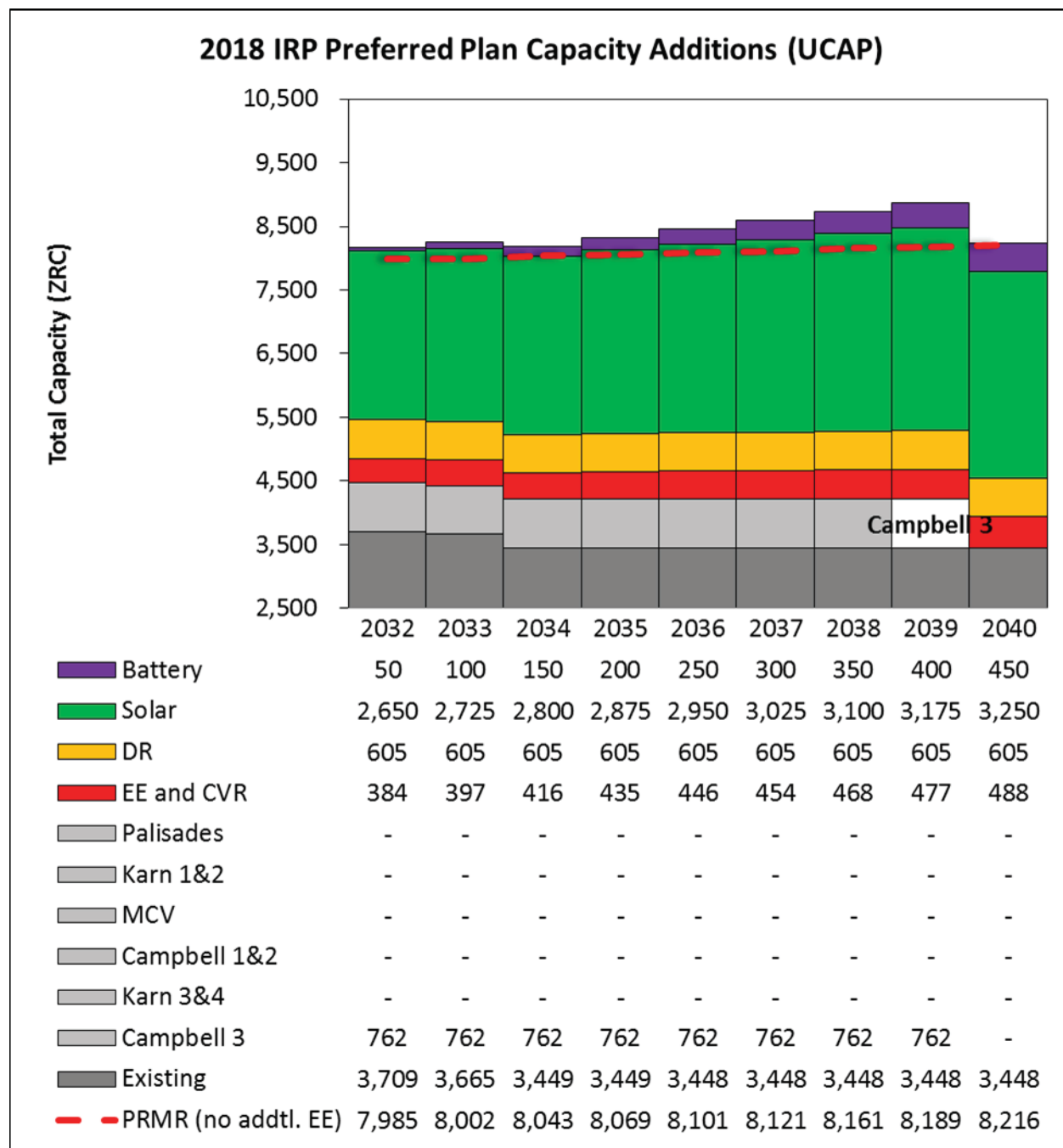
1 Other – No additional wind or storage is planned for filling the Intermediate-term
2 needs. However, relative cost, location, and technological advancement will likely
3 influence the actual resources constructed throughout the 2020s. The Intermediate-term
4 resources are only relevant to acknowledge that EWR, DR, and CVR will continue to
5 increase, and that the Company will begin solar additions to fill the need in 2030 and
6 2031 as early as 2022. The Company is proposing beginning construction prior to the
7 need in 2030 to allow time for operating and assessing a system with significant solar
8 generation, to allow for a more gradual impact on customer rates, and to minimize
9 execution risk associated with the construction of significant amounts of solar generation.

10 Q. What are the relevant considerations in the Far-term of the Company's PCA?

11 A. In the Far-term, the Company must address projected load growth and the replacement of
12 Campbell Unit 3 in 2039. As discussed earlier in my direct testimony, the Company
13 expects to continue operating the Zeeland and Jackson facilities through the end of the
14 planning period. The Company intends to maintain its strategy of meeting capacity and
15 energy needs with a combination of demand-side and renewable resources, as proposed
16 in the Near- and Intermediate-terms of the Company's PCA.

17 Q. Please describe the energy and capacity resources which comprise the Far-term of the
18 Company's PCA?

19 A. The energy and capacity resources in the Far-term of the Company's PCA (shown
20 graphically in Figure 8) are as follows:

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The Company will increase EWR to 2.25% annually beginning in 2030 and continue at that level through 2040. At nearly 15% of peak demand (1,250 MW/1,400 ZRCs, including 2018 levels), the Company will not actively pursue additional DR beyond 2030, but will maintain the high level of penetration achieved in

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1 the Intermediate-term. Battery storage is added to fill load growth needs resulting in
2 450 MW of storage by 2040. Finally, 1,350 MW of additional solar generation
3 (675 ZRCs) construction is planned between 2031 and 2040 to fill the need created by the
4 retirement of Campbell Unit 3 at the end of 2039.

5 Q. Is the Company proposing any distribution infrastructure that would be required to
6 support any of the resources proposed as part of the Company's PCA?

7 A. Yes. The Company is proposing actions in the Near-term requiring distribution
8 investments.

9 Q. What distribution investments are necessary to support the Near-term actions included in
10 the Company's PCA?

11 A. Investments in electric distribution related to grid modernization are necessary to enable
12 the delivery of the energy and capacity associated with CVR. The description of the grid
13 modernization program and required funding is explained in detail by Company witness
14 Ortiz.

15 Q. Is the Company proposing any transmission infrastructure investments that would be
16 required to support any of the resources proposed as part of the Company's PCA?

17 A. No. The Company is not proposing actions in the Near-term requiring transmission or
18 transmission alternatives investments. The Company engaged internal transmission
19 experts and conducted stakeholder discussions with Michigan Electric Transmission
20 Company ("METC") to identify potential transmission investments. METC identified
21 potential impacts in transmission investment associated with the early retirement and
22 replacement with supply-side resources of the Medium 4. Additionally, METC
23 developed transmission investment options to increase MISO Local Resource Zone 7

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1 import capability. Company witness Donald A. Lynd explains all transmission
2 alternatives, stakeholder discussions with METC, and resulting outcomes in more detail.

3 Q. Does the Company intend to pursue any PPAs as part of the PCA?

4 A. At the present time, the Company does not intend to pursue any new PPAs in the
5 Near-term portion of the PCA, beyond those included in the baseline capacity position.
6 In the Intermediate and Far-term PCA, there may be opportunities to pursue PPAs. As
7 part of the Company's avoided cost rate determination proposal in this case, the
8 Company is proposing competitive bidding for all future capacity needs that the
9 Company may have three years into the future. In this competitive bidding process, the
10 Company may select a PPA to fill a capacity need.

11 Q. What are the customer cost impacts of the PCA?

12 A. As discussed in detail by Company witness Myers, the customer cost impacts of the PCA
13 through 2039 are reasonable. Increases in revenue requirement are relatively small at a
14 Compound Annual Growth Rate of only 0.68%. Total incremental revenue requirements
15 are projected to increase \$658 million over the entire planning period and only
16 \$108 million during the Near-term period.

17 Q. Has the Company evaluated how it will meet applicable environmental rules and
18 regulations under the PCA?

19 A. Yes. Company witness Breining describes the environmental regulations with which the
20 Company's electric generating fleet must comply, the cost of compliance with those
21 regulations, as well as the timing and the justification for the investments made to ensure
22 environmental regulatory compliance, and the best plan for Michigan.

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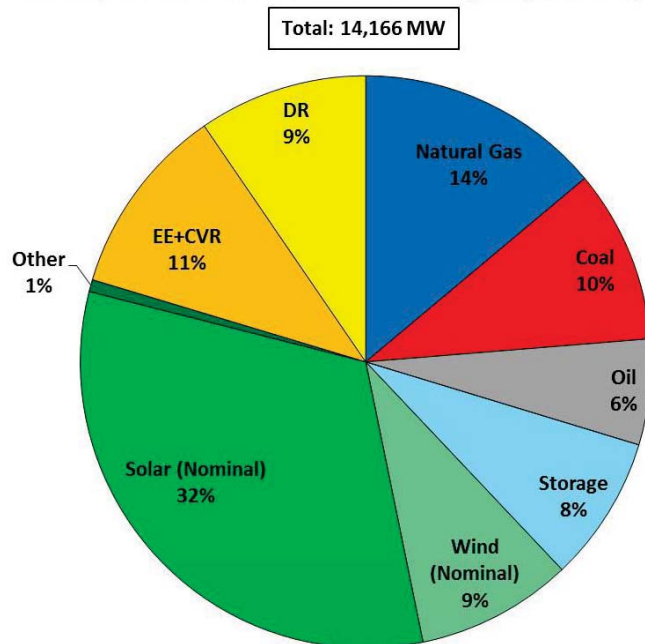
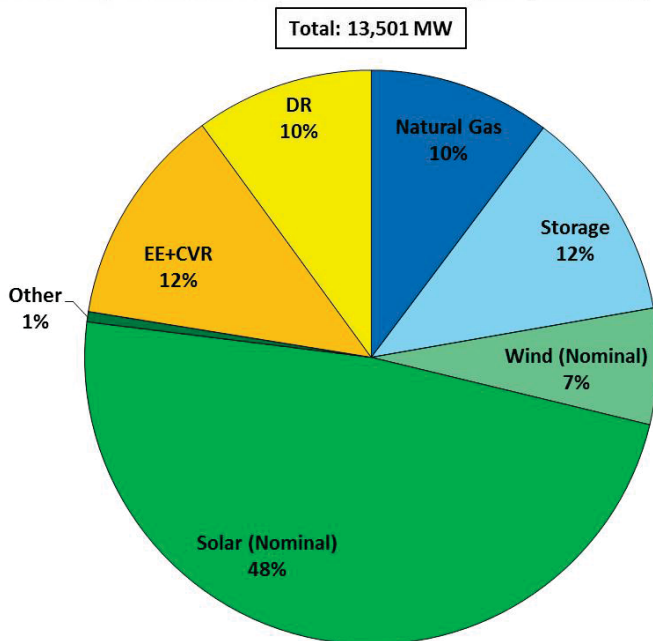
1 Q. Please explain how the PCA satisfies the planning objectives of the Commission and
2 Company.

3 A. The PCA both balances and satisfies the following planning objectives of the
4 Commission, Company, and Customer. This is also covered by Company witness
5 Blumenstock.

- 6 • RESOURCE ADEQUACY AND CAPACITY REQUIREMENTS: The PCA
7 provides incremental capacity where appropriate for the Company to meet
8 customers' needs. The resources selected in the PCA can be counted on to
9 meet PRMR. All incremental resources are planned to be located within
10 MISO Local Resource Zone 7 ensuring they will contribute sufficiently to
11 local reliability;
- 12 • COMPLIANCE WITH ENVIRONMENTAL REGULATIONS: The PCA
13 phases out fossil fuel emissions while maintaining affordable rates and bills
14 by relying on clean, non-carbon emitting resources throughout the planning
15 period. Compliance with environmental regulations is discussed by Company
16 witness Breining;
- 17 • COMPETITIVE PRICING: The overall price impacts of the PCA are
18 reasonable. As discussed by Company witness Myers, the customer rate
19 impacts associated with the PCA are limited to 0.68% compound annual
20 growth over the planning period. Additionally, the Company's strategy of
21 modular deployment of new generation resources allow for a phasing in of
22 costs which limit the rate impact year over year. Finally, the Company's plan
23 to competitively bid all new supply-side generation needs provides further
24 opportunity to realize lower customer cost impacts;
- 25 • RELIABILITY: As discussed above, the PCA provides sufficient capacity
26 resource to meet the Company expected PRMR. Furthermore, the plan to
27 keep all new demand and supply-side resources located within MISO Local
28 Resource Zone 7 ensure the Company will be able to meet its share of the
29 Zone 7 Local Clearing Requirement. Finally, the PCA incorporates
30 incremental levels of renewables and demand-side management resources to
31 ensure adequate time to understand the effects on reliability of the bulk
32 electric system, and to modify the development or implementation as
33 necessary to maintain that reliability;

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- 1 • COMMODITY PRICE RISK: Commodity price risk is minimized with the
2 proposed renewable and demand-side management resources called for in the
3 PCA. This is evident through the selection of solar and demand-side
4 management programs in certain scenarios using both the Company's base gas
5 price forecast and the AEO gas price forecast. Additionally, in the risk
6 analysis discussed in detail below, the variance in costs of the PCA under
7 differing gas prices is notably less than the variance in costs of the Alternate
8 Plan under the same differing gas prices. This is caused by less exposure to
9 the gas commodity costs through the selection of more renewables and less
10 natural gas fueled generation in the PCA compared to the Alternate plan. Gas
11 price variations drive changes in energy market purchase costs within the
12 Strategist production cost model. This implies that the PCA resources provide
13 energy with limited incremental commodity cost and reasonable energy
14 market exposure;
- 15 • DIVERSITY OF GENERATION PORTFOLIO: The generation portfolio
16 produced by the PCA is diverse. While the incremental additions of new
17 capacity are dominated by solar, the plan still incorporates a blend of
18 demand-side management, contractual agreements, wind, natural gas, coal,
19 and battery storage. Figure 5 above and Figure 9, below, provides the
20 contributions of all of the Company's demand- and supply-side resources in
21 2018, 2024, 2030, and 2040. No resource is overly relied upon in the
22 proposed plan;

THOMAS P. CLARK
DIRECT TESTIMONY**2030 Proposed Course of Action Electric Capacity Sources (ICAP MW)****2040 Proposed Course of Action Electric Capacity Sources (ICAP MW)****Figure 9**

- REASONABLE AND COST-EFFECTIVE DEMAND-SIDE AND RENEWABLE RESOURCES: Cleaner energy resources utilizing demand reduction, wind, and solar are relied upon in the PCA. The steady ramp of demand-side resources ensures consistent and effective marketing can be developed and deployed. Additionally, the selection of solar as a primary

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resource allows for modular deployment that can be adjusted, altered, delayed, or accelerated to capitalize on cost advantages and technology development. These features of the PCA ensure cost effectiveness for our customers and Michigan;

- **CLEAN AND LEAN STRATEGY:** Using the planning objectives in combination with the analysis in the IRP, the Company's objective was to identify a PCA that is aligned with the Company's clean and lean strategy. The Company strives to eliminate coal and reduce carbon emissions by 80% by 2040. Cleaner resources such as wind, solar, batteries, and natural gas are important components to achieving this goal over the planning horizon of the IRP. Consideration was given to programs that allow customers to reduce energy usage throughout the day and during peak times. The PCA includes various demand-related programs intended to both reduce and supply energy during the peak times; and
- **CUSTOMER VISION:** Based upon the feedback received during the stakeholder engagement efforts supporting this IRP, the Company is well aligned with our customers' vision of increased levels of renewable resources and advanced technologies like DR and EWR programs, all of which support a sustainable future for Michigan.

Q. Has the Company developed an implementation plan that specifies the major tasks, schedules, and milestones necessary to implement the PCA?

A. Yes. My direct testimony provides the schedule of which resource will be implemented as part of the PCA. The specific milestones and tasks necessary to achieve this implementation schedule are discussed in detail by specific witnesses based on area of responsibility. Details are provided by the following witnesses:

- Company witness Ykimoff discusses increases in EWR from 1.5% to 2.0%;
- Company witness Ortiz discusses implementation of CVR;
- Company witness Ennis discusses continued expansion of DR; and
- Company witness Scott D. Thomas discusses the construction of new renewable energy resources.

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1 Q. With respect to the PCA, please provide a schedule and description of actions to
2 implement ongoing and planned demand-side programs and demand-side rates.

3 A. My direct testimony provides a schedule of the incremental amounts of demand-side
4 resources that the Company is proposing as part of its PCA. Company witnesses
5 Ykimoff, Ennis, and Ortiz provide details on the Company's planned increases in
6 demand-side programs. The Company has assumed continuation of its existing
7 interruptible tariff and energy intensive program tariff at current levels.

8 Q. With respect to the PCA, please provide a schedule and description of relevant
9 supply-side resource research, engineering, retirement, acquisition, and construction.

10 A. The Company is not proposing any new supply-side resources within the Near-term of
11 the PCA. My direct testimony above addresses the Company's planned schedule and
12 description of all supply-side resources which are projected to meet customer capacity
13 needs through 2040 and all projected supply-side resource retirements. Company witness
14 Thomas addresses the execution risk related to developing the solar resources projected
15 in the Company's PCA. Furthermore, the Company is proposing a competitive bidding
16 process for addressing future capacity needs, as explained by Company witness Troyer.

17 Q. Please explain the Company's proposed schedule to report the status of a plan approved
18 in this IRP in accordance with MCL 460.6t(14).

19 A. With respect to the projects included in the Company's Near-term portion of the PCA,
20 the Company proposes to file annual reports with the Commission by May 31 of each
21 year subsequent to the completion of the years within the Near-term. The first of such
22 reports would be filed in 2020. These reports will update the Commission on the status

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DIRECT TESTIMONY

1 of all projects and investments which will be commenced by the Company subsequent to
2 the Commission's approval.

3 **SECTION V: RISK ASSESSMENT METHODOLOGY AND RESULTS**

4 Q. Please explain the Risk Assessment Methodology used by the Company in the
5 development of the IRP.

6 A. The Company used a three-step process to assess the level of risk with a resource
7 portfolio that includes the Scenarios and Sensitivities risk assessment methodology listed
8 as a type of method in determining risk in Case No. U-18461. These three steps consist
9 of:

- 10 1. Portfolio Optimization Reviews – The portfolio optimization reviews are used
11 to identify resource tradeoffs. For example, the model may select a resource
12 plan with a DR resource under a particular scenario or sensitivity. Under
13 another scenario or sensitivity the model may prefer a solar resource. The
14 scenarios developed with different assumptions help to identify the tradeoffs
15 and/or cross-over points, and guide the development of the PCA. Exhibit
16 A-20 (STW-11) provides information about the various resource plans
17 resulting from the modeled scenarios and sensitivities;
- 18 2. NPV Review of Portfolio Optimizations – NPVs help to understand the level
19 of costs customers incur with a particular resource portfolio. By comparing
20 NPVs of portfolio optimizations generated under each scenario and
21 sensitivity, insights into whether customers realize increased costs or savings
22 or remain neutral is determined. These comparisons are made with the
23 portfolio optimizations under each scenario and sensitivity run. This same
24 approach is used when comparing the PCA and alternate plans in each of the
25 developed scenarios. The lowest NPV plan represents the least-cost plan for
26 customers. Exhibit A-29 (STW-20) provides all of the NPVs resulting from
27 the modeled scenarios and sensitivities; and
- 28 3. Evaluation of the PCA and Expanded Sensitivity Analysis – The above steps
29 are important components of the risk assessment because they are the method
30 by which the final PCA was developed, however, after developing the final
31 PCA, the most important step is to evaluate how it performs in the possible
32 future scenarios. In addition, it is important to understand the impact of
33 certain variables. This allows for the assessment of cost variability impacts
34 and additional understanding of how influential the variable is when small
35 changes up and down occur. The two variables evaluated on the PCA are
36 capacity and natural gas prices. The Company evaluates incremental changes

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in these prices from the base price forecast used for a particular scenario and sensitivity. Capacity price sensitivities are 0%, 25%, 50%, 75%, and 100% of CONE. The natural gas price sensitivities are -25%, 0%, 25%, and 50% of the base natural gas price forecast. Below in Charts 1 and 2 is a graphical representation of the capacity and gas prices under each of the sensitivities evaluated. The black line on each chart indicates the Company's base outlook, while price sensitivities are highlighted in colored line series.

Chart 1

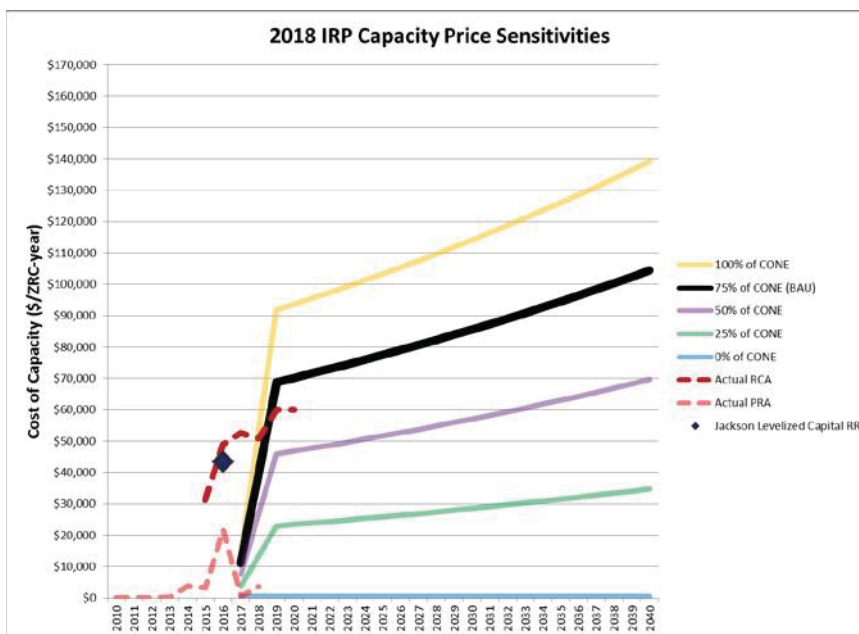
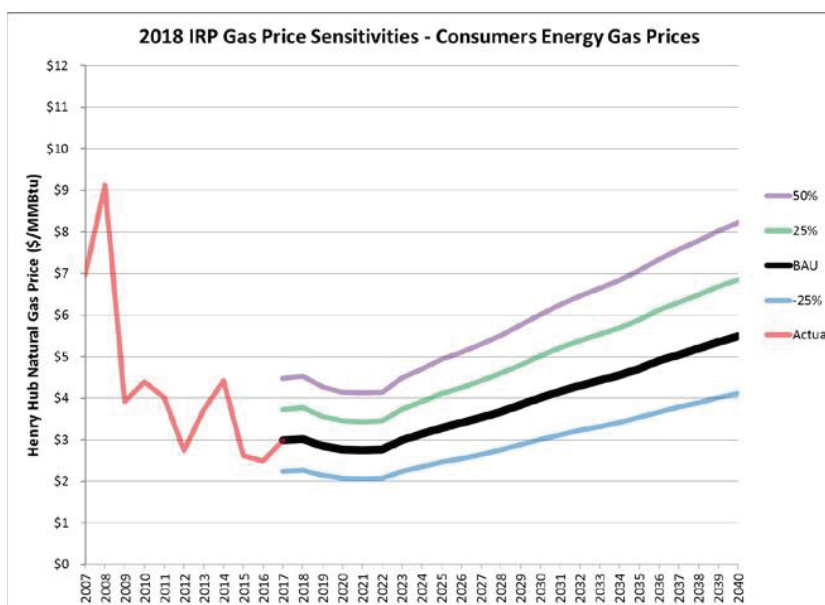


Chart 2



THOMAS P. CLARK
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Q. Please describe the results of the risk analysis using Step 1 Portfolio Optimization Reviews to help develop the PCA.

A. In review of the optimal resource plans and sub-optimal resource plans for each of the six scenarios, preference for renewables and demand-side management resources was evident. The lone exception was the BAU CE scenario in which a Natural Gas Combined Cycle (“NGCC”) unit(s) was preferred. This was an indication that renewable and demand-side resources were competitive with natural gas units in a future world of higher natural gas prices and/or lower capital costs of renewable resources, demand-side resources, and batteries. Figure 10 shows a high-level summary of the resource preference by scenario.

Figure 10: Resource Preference by Scenario

Scenario / Sensitivity	Business-As-Usual, CE gas	Emerging Technology ¹ , CE Gas ³	Environmental Policy ² , CE Gas	Business-As-Usual, AEO gas ⁴	Emerging Technology, AEO Gas	Environmental Policy, AEO Gas
Capital Cost Assumptions:		-15% Wind -35% Solar -35% Battery -35% Demand Response	-35% Wind -35% Solar -35% Battery	(+60% CE Gas)	-15% Wind -35% Solar -35% Battery -35% Demand Response (+60% CE Gas)	-35% Wind -35% Solar -35% Battery (+60% CE Gas)
Natural Gas Combustion Turbine						
Natural Gas Combined Cycle						
Reciprocating Internal Combustion Engine						
Wind						
Solar						
Battery						
Conservation Voltage Reduction						
Demand Response						
Energy Efficiency						

Q. What were the key drivers that lead to the selection of particular resources?

A. The key drivers in this step of the analysis were (i) reductions in capital costs for renewable resources and (ii) natural gas prices. Generally, either lower capital costs or

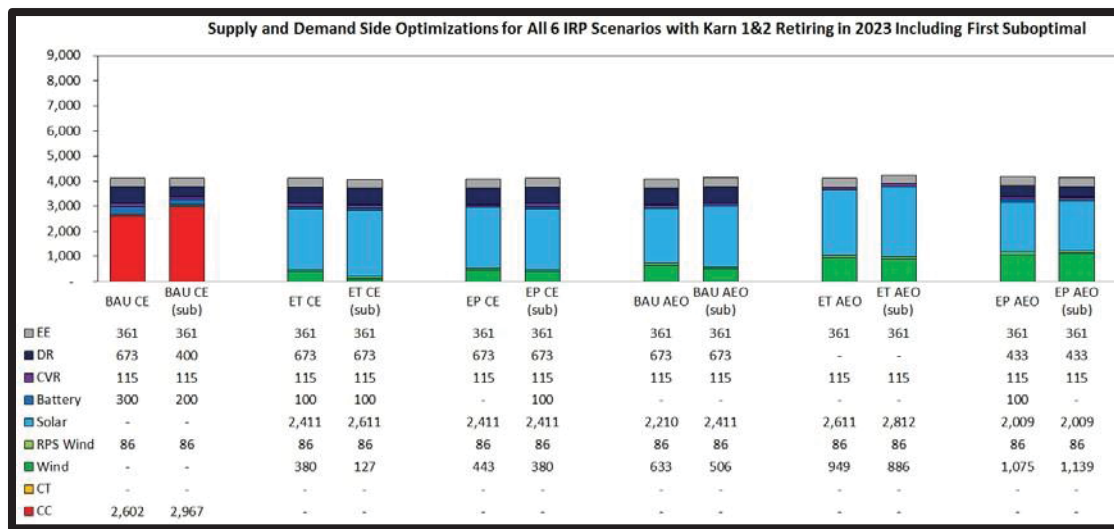
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1 higher natural gas prices resulted in more renewable resources. In some cases high
2 natural gas prices caused higher energy prices which incentivized low cost energy
3 production from wind and dis-incentivized natural gas resources due to increased costs
4 for fuel. This was relevant because the Company considers there to be more upside risk
5 than downside risk to natural gas prices and more downside risk than upside risk to
6 renewable resource capital costs. The results of the scenario and sensitivity analysis
7 indicated that there are reasonable futures where gas prices increase or renewable
8 resource capital costs decrease sufficient enough to justify meeting all incremental
9 supply-side needs with renewable resources. This was a key realization in the
10 development of the PCA.

11 Q. What were the tradeoffs or cross-over points in each scenario?

12 A. As shown in Figure 11, the preferred resource portfolio of each scenario compared to
13 sub-preferred resource portfolio over the planning period at a high-level show:

- 14 • Natural gas-fired generation is only selected in a BAU future at natural gas
15 prices reflective of the Consumers Energy forecast;
- 16 • Out-of-state wind resources with reduced capital costs are selected when
17 PTCs are available and energy values are high due to increased natural gas
18 prices; and
- 19 • DR and solar resources are competitive in each scenario even when not picked
20 early in the planning period.

THOMAS P. CLARK
DIRECT TESTIMONY**Figure 11: Resulting Preferred and Sub-Preferred Plans by Scenario**

Q. Why does the PCA not include additions of out-of-state wind?

A. The level of out-of-state wind build selected by the model in year 2023 was 3.2 GW. This amount of wind replaces all of the capacity currently provided by Karn Units 1 and 2, but nearly 4 times the energy. The model selects this wind because the energy value effectively buys-down the cost of the capacity. However, in reality, this is a high risk approach. If (i) energy prices do not materialize; (ii) energy cost spreads between the Company's load and the out-of-state injection point are greater than forecast; (iii) materially higher transmission costs must be incurred to construct the resource; or (iv) price separation in the capacity market between MISO Local Resource Zone 7 and the Local Resource Zone where the out-of-state wind is constructed occurs, it is not in the best interest of customers to construct 3.2 GW of out-of-state wind. Additionally, the expected level of wind build in Iowa, and included in regional market expansion, as discussed by Company witness Walz, was already significant. Assuming an additional

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1 3.2 GW of wind could be constructed in this region over a similar time period seemed
2 unreasonable.

3 Q. What other reasons did the Company have for not including out-of-state wind resources
4 in the PCA?

5 A. In addition to the above reasons, wind resources located out-of-state cannot generate
6 Michigan RECs that can be counted towards Michigan's Renewable Energy Credit
7 Portfolio Standard ("RPS"). Michigan's RPS requires 12.5% of the Company's sales to
8 be generated from qualifying renewable energy resources by 2019 and 15% by 2021, thus
9 making out-of-state wind resources less desirable. The Company's pursuit of in-state
10 solar will support any future changes to the RPS as it will qualify as a renewable energy
11 resource for purposes of meeting Michigan's RPS.

12 Q. Could the Company have included some amount of out-of-state wind in the PCA?

13 A. Yes. The Company could have elected to include a reduced amount of out-of-state wind
14 in the PCA, but given the near-term selection of wind the Company was not confident
15 that development expertise could be developed in sufficient time to realize the costs
16 modeled. Given the selection of solar in the later years and the relative value comparison
17 between solar and wind resources, taken with the desire to provide economic benefits
18 within the Company's service territory, the Company elected to propose in-state solar
19 resources in place of out-of-state wind resources. If cost competitive wind resources
20 become available in-state, the Company may consider these resources in place of solar
21 resources.

THOMAS P. CLARK
DIRECT TESTIMONYNPV Review of Build Plans

Q. Please describe the results of the risk analysis using Step 2, NPV Review of Build Plans, to assess the risks for the PCA.

A. In Step 1, the Company reviewed the variation in the optimal plans selected by the model in the various scenarios and sensitivities. This allowed the Company to understand the different optimal solutions for each future world evaluated. In Step 2, the Company determined the costs to customers (i.e., NPV) under each of the six scenarios to quantify the cost variation associated with the difference in resulting portfolios. The NPV review of the build plans for each scenario and sensitivity was assessed at three optimization levels:

- Reference Case – Capacity requirements are filled with market purchases;
- Supply-Side Resources – Includes combustion turbines, NGCC, solar, wind, reciprocating internal combustion engine, and batteries; and
- Full Optimization – Supply-side resources listed above and demand-side management resources (i.e., EWR, DR, and CVR).

Q. How is the “Reference Case” used?

A. The reference case provides an understanding of what impact a particular future scenario has on the overall energy market and provides a static comparison for different resource optimizations to be compared against. For example, by considering the NPV’s between the BAU CE scenario and the BAU scenario which uses the EIA AEO gas price forecast(i.e. the “BAU AEO” scenario), the Company was able to gain insight into the impact of increasing gas prices to the level in the AEO forecast. By changing nothing in the underlying resources, it is possible to attribute the cost changes between those scenarios strictly to the change in inputs.

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1 Q. How are the “Supply-Side Resources” used?

2 A. Certain demand-side resources are very difficult to model given the need to maintain
3 programs for multiple years and invest significantly in customer education for them to be
4 effective. Therefore, an optimization that relies solely on supply-side resources was
5 developed to allow for easier comparison of the impact of demand-side resources
6 included in the full optimization.













7 Q. How is the “Full Optimization” used?

8 A. Full optimization is the final result of the model. These are the results that were
9 compared in Step 1. The NPVs from these results are compared first to the supply-side
10 resources to validate the extent to which the inclusion of demand-side resources in the
11 optimization did in fact reduce costs.⁹ Second, these results are compared to each other
12 to understand cost variability across the scenarios and sensitivities. Cost variability
13 across the scenarios is the key quantitative measure of risk. The objective of the PCA is
14 to reduce costs absolutely, but also to reduce cost variability across the many scenarios
15 and sensitivities.

16 Q. What were the results of Step 2 of the Company’s risk analysis?

17 A. Figure 12 shows the Base Case Scenario results for the three optimization levels.

Figure 12: Base Case Scenarios – Optimization Levels

	Base Case Scenario – NPV (million \$)					
	BAU CE	ET CE	EP CE	BAU AEO	ET AEO	EP AEO
Reference Case	Base	Base	Base	Base	Base	Base
Supply-Side Optimization						
Full Optimization						

⁹ See Section VIII of the direct testimony of Company witness Walz.

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1 The reference case is assigned a base designation; the arrows are comparing the resulting
2 NPVs of each optimization level back to the reference case. As is evident, in all but the
3 BAU CE scenario, reliance on the market resulted in higher costs than construction of
4 new resources. In all six scenarios, inclusion of demand-side resources reduced costs.
5 The learning gained by assessing the changes in NPVs resulting in the scenarios and
6 sensitivities at these optimization points were:

- 7 • Customers incur lower costs in scenarios where renewable resources are
8 selected and capital costs are reduced;
- 9 • Demand-side management resources create customer savings; and
- 10 • Higher natural gas prices cause higher costs to customers, but these higher
11 costs can be offset with the implementation of renewable and demand-side
12 management resources.

13 Detailed explanations and graphical representations are included in Section IX of the
14 direct testimony of Company witness Walz.

15 The insights gained to this point indicate renewable and demand-side
16 management resources reduce risk by functioning as a hedge against energy market and
17 commodity costs. This is because renewable and demand-side resources have little
18 variable expenses while the energy market continues to be driven by marginal generation
19 costs which tend to be set by natural gas-fueled generators. Therefore, the reliance on
20 natural gas generation (as was included in the supply-side optimization and selected in
21 the BAU CE scenario) is a less effective hedge against energy market prices than reliance
22 on renewables because the cost to generate energy from a natural gas generator increases
23 when natural gas prices increase similar to the overall energy market price increases.

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Results of the full NPV analysis can be found in Exhibit A-29 (STW-20) sponsored by Company witness Walz. Graphical representations of the impacts from each portfolio are provided in Exhibits A-21 (STW-12) through A-28 (STW-19).

Evaluation of the PCA and Expanded Sensitivity Analysis

Q. Please describe the results of the risk analysis using Step 3 Evaluation of the PCA and Expanded Sensitivity Analysis.

A. After development of the PCA was complete using the risk assessment discussed above, the Company evaluated the costs of the PCA under each of the six different scenarios. Those costs were compared to the full optimization results for each scenario. The expectation was that the PCA would be higher cost than the full optimization solution in each scenario, but would have less cost variation across the scenarios. The NPV results for the PCA and the full optimization solution are provided in Table 3 below.

	BAUCE	BAUAEO	ETCE	ETAEO	EPCE	EPAEO
PCA	\$21,228	\$23,713	\$19,880	\$22,319	\$20,091	\$22,482
Optimal Plan	\$20,417	\$22,918	\$19,841	\$21,483	\$19,549	\$21,063

Table 3

In addition to the full optimization plans from each scenario, an Alternate Plan was developed to use as a reference point. The Alternate Plan was a feasible alternative to the PCA which would still achieve many of the objectives of the IRP, but was believed to be less desirable than the PCA. The Alternate Plan was designed to be similarly achievable as the PCA, meaning it contained similar glide paths as the PCA. The primary difference between the PCA and the Alternate Plan is the reliance on an incremental NGCC and a combustion turbine plant. The Alternate Plan allowed the Company to assess the level of

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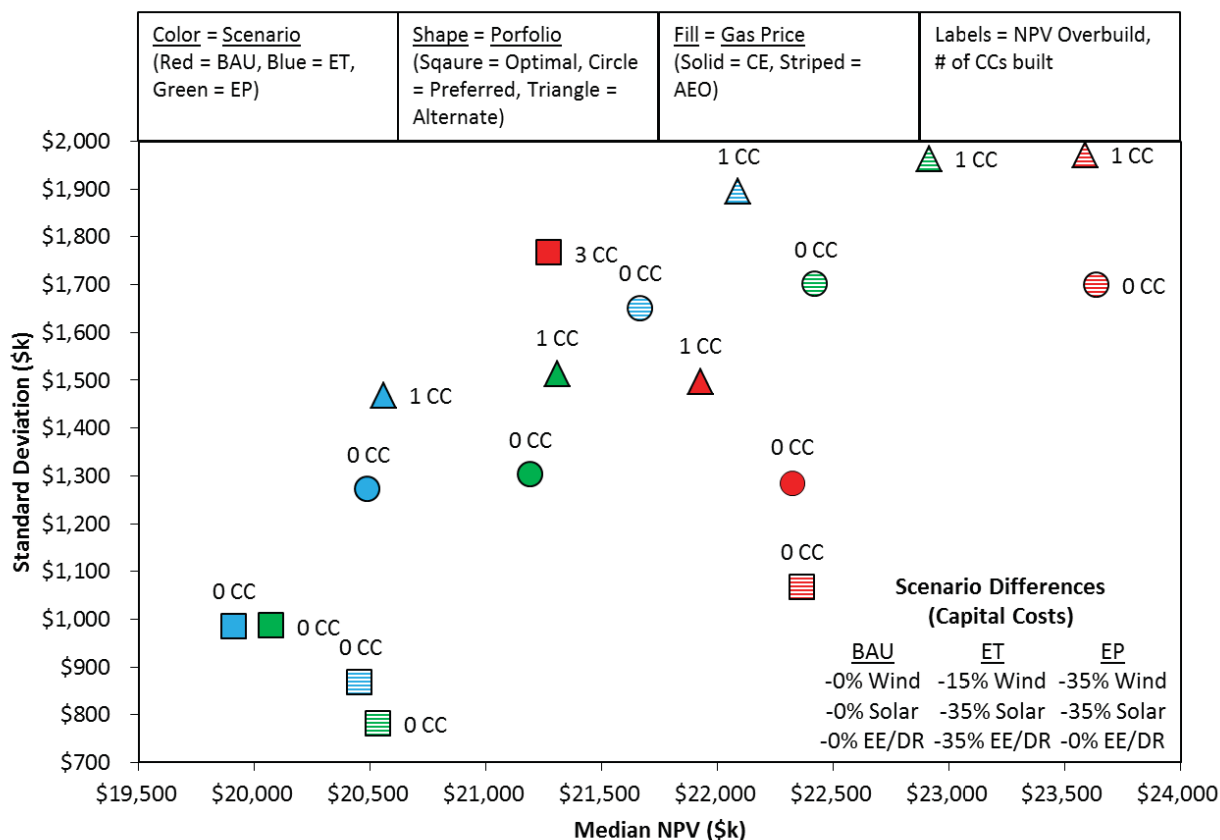
1 risk customers incur when natural gas reliance is maximized given the constraints of the
 2 Company's Clean Energy Goal. Comparison between the costs of the PCA and Alternate
 3 Plan across the six scenarios provides insight into the risk mitigation achieved by the
 4 PCA through renewable and demand-side resources. Table 4 below provides the NPVs
 5 of the PCA and the Alternate Plan for each of the six scenarios.

	BAUCE	BAUAEO	ETCE	ETAEO	EPCE	EPAEO
PCA	\$21,228	\$23,713	\$19,880	\$22,319	\$20,091	\$22,482
Alternate Plan	\$20,906	\$23,721	\$20,043	\$22,848	\$20,279	\$23,045

Table 4

6 As evident in the Table, with the exception of the BAU CE scenario, the PCA performs
 7 better across the scenarios by providing lower costs and less variability than the Alternate
 8 Plan.

9 After considering the PCA cost impacts in the six scenarios and comparing to the
 10 Alternate Plan, the Company next needed to understand how influential capacity and
 11 natural gas prices were to the results. This allowed for a deeper evaluation of the
 12 influence these variables have on the PCA, Alternate Plan, and the various optimal plans
 13 evaluated. Figure 13 below visually represents the economic risk to customers of the
 14 PCA, the Alternate Plan, and the various optimal plans evaluated.

THOMAS P. CLARK
DIRECT TESTIMONY**Median and Standard Deviation of Net Present Value of Revenue Requirements
for the Retirement of Karn in 2023 in BAU/ET/EP Worlds with -25% to +50% Gas
Price Sensitivities for Optimal, Preferred, and Alternate Build Plans****Figure 13**

The vertical axis is the standard deviation of the resulting NPVs. The horizontal axis is the median NPV. The best portfolios will consistently be lower on the vertical axis (representing less variation in the results) and further to the left (representing a lower median cost). Given that the optimal plans vary between scenarios, these should provide the lowest cost and least risk. They are plotted to demonstrate the absolute lowest achievable cost for each of the scenarios. The comparisons that are critical are the (i) comparison of the PCA to the Alternate Plan and (ii) the comparison of the PCA across the different scenarios. Circles represent the PCA, triangles represent the Alternate Plan,

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1 and squares represent the optimal plans. The color and striping indicate the scenario and
2 gas price. Note that in all scenarios the PCA results in lower cost variation (it is lower on
3 the vertical axis) and in all but the BAU CE scenario the PCA delivers an equal or lower
4 median cost than the Alternate Plan. This indicates that the PCA provides the least risk
5 to customer costs.

6 Q. Is the three-step process used robust?

7 A. Yes. The risk analysis conducted in evaluating the PCA, which includes the Company's
8 proposed retirement of Karn Units 1 and 2 and continued operation of Campbell Units
9 1 and 2, is robust because it evaluates both high-level and granular indicators of
10 economic risk associated with resource build plans under a variety of futures.
11 Furthermore, the Company engaged an independent third party, PACE Global, to validate
12 its approach to modeling and risk analysis. Company witness Melissa Haugh, of PACE
13 Global, provides direct testimony in this case supporting the Company's approach to risk
14 analysis.

15 Q. What other risk analysis methods could the Company have completed?

16 A. The Company could have supplemented the analysis discussed above with Stochastics or
17 Monte Carlo analyses to further assess the level of risk. Additionally, the Company
18 could have evaluated each of the optimal build plans across all six scenarios.

19 The Monte Carlo approach was not pursued because it would have provided
20 results based upon a random selection that would provide limited insight as to which
21 variables beyond capacity and natural gas prices influence a particular build plan.

22 Stochastics would have provided an assessment of fuel cost variation by relating
23 changes in one variable to changes in the other variables based on historical trends.

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1 However, the Company did not have a model that was readily capable of performing such
2 an analysis and, given the limited reliance on fuels other than natural gas in the
3 Company's future build plans, the Company is confident that the analysis discussed
4 above sufficiently captures fuel price risk.

5 Finally, while the evaluation of the optimal build plans in each scenario may have
6 provided additional data, the feasibility of each optimal plan would need to be considered
7 before assuming that the Company could execute such a plan and achieve the modeled
8 costs. For example, the results may have indicated that waiting to build all 5,000 MW of
9 solar generation resources in 2030 is a lower cost option than the PCA (which ramps
10 solar in throughout the 2020s), but the feasibility and execution risk associated with such
11 a build plan would be significant.

12 The Company continues to learn and grow its risk assessment capabilities to
13 pursue in future IRPs, but is confident that the risk analysis conducted for this IRP is
14 sufficiently robust to determine that the Company's PCA represents the most reasonable
15 and prudent plan to meet the energy and capacity needs of the Company's customers.

16 **SECTION VI: PURPA AVOIDED COST RATE**

17 ~~Q. In Case No. U-18090, the Commission utilized a proxy plant methodology to determine~~
18 ~~the Company's avoided costs. Is this approach consistent with the PCA?~~

19 ~~A. No. The avoided cost rate in Case No. U-18090 is based on estimated costs associated~~
20 ~~with the construction and operation of a Natural Gas Combustion Turbine ("NGCT")~~
21 ~~plant, costs associated with the construction and operation of a NGCC plant, a projection~~
22 ~~of natural gas fuel prices, and other factors described by Company witness Troyer. The~~
23 ~~results of the IRP and the PCA indicate the next avoided unit is a blend of demand-side~~
24 ~~and supply-side resources that do not include a natural gas-fired unit.~~

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DIRECT TESTIMONY

1 Q. ~~Given the PCA that the Company is proposing in this case, do you believe it is reasonable~~
2 ~~to base the determination of the Company's avoided costs on a natural gas plant proxy~~
3 ~~unit?~~

4 A. ~~No. The PCA does not incorporate a new NGCT nor NGCC to meet any of the~~
5 ~~Company's projected capacity needs. The PCA includes incremental levels of~~
6 ~~demand-side management and renewable generation.~~

7 Q. ~~What is the best way to establish an avoided cost that would be consistent with the PCA?~~

8 A. ~~The best method for establishing an avoided cost would be to utilize a competitive~~
9 ~~bidding process. By utilizing a competitive bidding process the Commission could~~
10 ~~ensure that the Company's avoided cost rates are based on the actual type and cost of the~~
11 ~~incremental unit proposed to be constructed or purchased. The Commission could also~~
12 ~~ensure that purchases at the full avoided cost rate are made only when an actual need is~~
13 ~~present. Company witness Troyer provides additional details on the Company's proposal~~
14 ~~to use a competitive bidding process to establish avoided costs.~~

15 Q. ~~What would be the Company's avoided cost if the Company does not identify a supply-~~
16 ~~side need within the first three years of the IRP planning period?~~

17 A. ~~If the Company did not identify a supply-side need within the first three years of the IRP~~
18 ~~planning period, no Request for Proposal ("RFP") would be issued and the avoided cost~~
19 ~~rate for capacity would be equal to the actual MISO Planning Resource Auction ("PRA")~~
20 ~~results. In this case, the avoided cost rate for energy should be based on an actual or~~
21 ~~forecasted Locational Marginal Prices for Consumers Energy's load node as discussed by~~
22 ~~Company witness Troyer.~~

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1 ~~Q. If the Commission wishes to use an alternative methodology different than what the~~
2 ~~Company is proposing in this case, how should Consumers Energy's avoided costs be~~
3 ~~determined?~~

4 ~~A. If the Commission elects to use an alternative methodology than what the Company is~~
5 ~~proposing in this case, the Company's avoided costs should be determined using the~~
6 ~~incremental energy and capacity resources identified in the IRP over the three-year~~
7 ~~implementation period. The avoided costs based upon this blend of assets is provided in~~
8 ~~Exhibit A-8 (TPC-6).~~

9 ~~Q. Please explain Exhibit A-8 (TPC-6).~~

10 ~~A. Exhibit A-8 (TPC-6) provides the calculation of the net fixed costs associated with the~~
11 ~~Company's PCA through planning year 2021. The Company determined the resources~~
12 ~~being added specifically identified in the IRP. Those resources' useful lives were then~~
13 ~~identified and a weighted average based on summer net demonstrated capability was~~
14 ~~determined. The energy provided by each resource was summed and O&M and capital~~
15 ~~costs were summed. The only resource modeled with capital costs was CVR, so a fixed~~
16 ~~charge rate for CVR was used to levelize the capital cost associated with the blended~~
17 ~~resources. All of this information is shown in the inputs section of Exhibit A-8 (TPC-6),~~
18 ~~page 1, lines 1 through 12. Page 1, lines 13 through 37, show the annualized total costs~~
19 ~~(column (e)) and energy value (column (i)) provided by the blend of resources. The~~
20 ~~difference between the total cost and energy value is the Net Fixed Cost which is shown~~
21 ~~in column (j). Column (j) is levelized in column (i), line 5. The use of this capacity price~~
22 ~~would only be appropriate if the Company were to have a capacity need pursuant to~~
23 ~~PURPA.~~

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1 ~~Exhibit A 8 (TPC 6), page 2, provides forecasted monthly on and off peak energy~~

2 ~~prices.~~

3 ~~Q. Please explain the Company's capacity position over the next three years.~~

4 ~~A. In the next three years, the Company has no capacity need and therefore, the avoided cost~~

5 ~~should be determined to be actual energy market prices and actual MISO PRA clearing~~

6 ~~price.~~

7 ~~Q. Please explain the Company's capacity position over the next 10 years.~~

8 ~~A. As an initial matter, and as explained by Company witness Troyer, the Company does not~~

9 ~~believe it is reasonable to use a 10-year capacity forecast for determining the Company's~~

10 ~~capacity position pursuant to PURPA. With the above noted, the Company currently~~

11 ~~projects no need for any new supply-side resources over the next 10 years. As explained~~

12 ~~above, the Company can entirely replace the capacity lost by Karn Units 1 and 2 with~~

13 ~~EWB, DR, and CVR. Since the Company is ramping up the development of solar~~

14 ~~resources to meet capacity needs in 2030 and beyond, the Company is leveraging that~~

15 ~~ramp up to diversify the backfill plan for Karn Units 1 and 2 and decrease execution risk.~~

16 ~~However, it should be understood that the solar resources projected in the Company's~~

17 ~~PCA between 2022 and 2030 are not necessary to address any capacity need during that~~

18 ~~period of time. The Company has no need for any supply side resources until the~~

19 ~~termination of the MCV PPA in 2030 and the retirement of Campbell Units 1 and 2 and~~

20 ~~Karn Units 3 and 4 in 2031.~~

21 ~~While the Company has no need for any supply-side resources over the next~~

22 ~~10 years, the Company still intends to use a competitive bidding process to address the~~

23 ~~ramp up of solar resources between 2022 and 2030. This competitive bidding process, as~~

THOMAS P. CLARK
DIRECT TESTIMONY

~~1 discussed in more detail by Company witness Troyer, would allow for participation by~~
~~2 QFs and would also allow a QF to fill any remaining capacity that the RFP sought to fill~~
~~3 at an avoided cost rate determined by the selected bids.~~

41 Q. Does this complete your direct testimony?

52 A. Yes, it does.

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) Case No. U-20165
under MCL 460.6t and for other relief.)
-)

DIRECT TESTIMONY

OF

MICHAEL A. TORREY

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2018

MICHAEL A. TORREY
DIRECT TESTIMONY

1 Q. Please state your name and business address.

2 A. My name is Michael A. Torrey, and my business address is One Energy Plaza, Jackson,
3 Michigan 49201.

4 Q. By whom are you employed and what is your present position?

5 A. I am employed by Consumers Energy Company ("Consumers Energy" or the
6 "Company") as its Vice President, Rates and Regulation.

7 Q. Please describe your educational background.

8 A. I graduated from the University of Michigan-Flint in 1982 with a Bachelor of Business
9 Administration in Accounting degree and in 1992 earned a Master of Business
10 Administration degree from Western Michigan University, majoring in Finance. I have
11 also completed several courses and seminars in utility accounting, economics, finance,
12 and ratemaking.

13 Q. Please describe your professional experience.

14 A. In May 1983, I joined Consumers Energy's Nuclear Operations Department as a
15 Graduate Accountant assigned to the Controllers Department at the Palisades Plant. I
16 progressed through several levels of increasing responsibility during my Palisades Plant
17 assignment, achieving the position of Senior Accounting Analyst in April 1993. In
18 July 1998, I was appointed Director of Revenue Requirements, Cost Analysis and
19 Planning in the Company's Rates Department. In December 2006, I was promoted to
20 Executive Director-Rates. In March 2015, my responsibilities were expanded to include
21 Regulatory Affairs. In July 2016, I was promoted to Vice President, Rates and
22 Regulation.

MICHAEL A. TORREY
DIRECT TESTIMONY

1 Q. What are your responsibilities as Vice President, Rates and Regulation for Consumers
2 Energy?

3 A. I am responsible for ratemaking and regulatory activities at Consumers Energy, which
4 include revenue requirements, cost allocation, rate design, tariff administration, and
5 regulatory affairs.

6 Q. Are you a member of any professional organizations?

7 A. Yes. I am a member of the Institute of Management Accountants, a worldwide
8 association of accountants and financial professionals, and Beta Gamma Sigma, the
9 honor society of the Association to Advance Collegiate Schools of Business, a business
10 school accreditation organization.

11 Q. Have you previously testified before the Michigan Public Service Commission ("MPSC"
12 or the "Commission")?

13 A. Yes. I have sponsored testimony in the following Consumers Energy cases:

14 U-12891 Electric Restructuring Implementation Costs;

15 U-13000 Gas General Rate Case;

16 U-13380 Stranded Cost;

17 U-13720 Stranded Cost;

18 U-13715 Securitization;

19 U-14098 Stranded Cost;

20 U-14274 Power Supply Cost Recovery ("PSCR") Plan;

21 U-14347 Electric General Rate Case;

22 U-14992 Palisades Sale;

23 U-14981 Midland Cogeneration Venture Limited Partnership Sale;

MICHAEL A. TORREY
DIRECT TESTIMONY

1 U-15290 Balanced Energy Initiative;
2 U-15415 PSCR Plan;
3 U-15611 Big Rock Decommissioning Reconciliation;
4 U-16191 Electric General Rate Case;
5 U-16861 Department of Energy Litigation Settlement Proceeds;
6 U-17473 Power Plant Securitization;
7 U-17990 Electric General Rate Case;
8 U-18124 Gas General Rate Case;
9 U-18322 Electric General Rate Case; and
10 U-18424 Gas General Rate Case.

11 Q. What is the purpose of your direct testimony in this proceeding?

12 A. The purpose of my direct testimony is to provide a policy perspective in support of the
13 regulatory construct and approvals needed to create that construct to enable the Company
14 to execute the Proposed Course of Action (“PCA”)-which is the most reasonable and
15 prudent manner to meet our customers’ energy and capacity needs. Specifically, I
16 provide a policy perspective to support the Company’s proposed recovery of unrecovered
17 book value related to the retirement of Karn Units 1 and 2 in 2023, the Financial
18 Compensation Mechanism (“FCM”) related to Power Purchase Agreements (“PPAs”)
19 ~~and the Company’s proposed competitive-bidding strategy, which includes a request for a~~
20 ~~three-year outlook for capacity demonstrations related to Public Utility Regulatory~~
21 ~~Policies Act of 1978 (“PURPA”).~~

MICHAEL A. TORREY
DIRECT TESTIMONY

1 Q. Why is the Company proposing a FCM in this proceeding?

2 A. This Integrated Resource Plan (“IRP”) identifies several long-term supply resources.
3 Many of the long-term supply resources require the Company to decide between utility
4 asset ownership and contracting with a non-utility owner through a PPA. This direct
5 testimony provides context related to that decision-making process.

6 Q. Are you sponsoring any exhibits?

7 A. No.

8 Q. What is the Company’s strategy in the PCA for meeting Michigan’s energy needs?

9 A. The PCA recommended by the Company in this IRP demonstrates the Company’s
10 commitment to meeting Michigan’s energy needs through a clean, lean, and modular
11 approach. As summarized by Company witness Richard T. Blumenstock, and discussed
12 by several other Company witnesses, Consumers Energy has identified an opportunity in
13 this IRP to shift from large baseload generating resources to a cleaner, leaner, and more
14 modular way of balancing supply and demand. This strategy will better meet our
15 commitment to keep bills affordable, improve Michigan’s competitive position, and limit
16 risk to our customers and investors. This approach is significantly different from the
17 Company’s (and many utilities) past approach which relied on building large
18 fossil-fueled baseload plants with less emphasis on energy efficiency and demand side
19 management.

20 ~~If the Commission approves the PCA which includes the FCM and a~~
21 ~~competitive bid methodology for setting avoided costs and a three year outlook for~~
22 ~~PURPA capacity sufficiency demonstrations~~ the Company will maximize energy
23 efficiency, demand response, and Conservation Voltage Reduction resources, and will fill

MICHAEL A. TORREY
DIRECT TESTIMONY

1 any future capacity needs through adding solar generation on a yearly basis using a
2 competitive bid process to select projects to fill capacity needs. This approach-as
3 opposed to building a large baseload generating station-will allow the Company to be
4 more nimble in its capacity planning and resource procurement activities. The Company
5 will be able to take advantage of declining technology costs, new technologies, and
6 changes in load. This scalable model allows for closer correlation of demand and supply
7 in small increments over time, minimizing the potential for surplus capacity paid for by
8 Consumers Energy's customers.

9 Q. What regulatory construct is required to support the PCA's clean, lean, and more modular
10 strategy?

11 A. Consumers Energy believes it is important to have a supportive regulatory construct that
12 includes: (i) the certainty of recovery of residual investment in coal plants that have
13 served customers for decades; (ii) incentives allowing the opportunity to earn a fair and
14 reasonable return when investing in demand side management or PPAs that benefit
15 customers under a strategy that may not result in asset ownership to the extent large
16 baseload plants have in the past; ~~(iii) a competitive bid process for setting the PURPA~~
17 ~~avoided cost rate, and (iv) a three year outlook supported by the IRP process for~~
18 ~~determining capacity sufficiency for purposes of the PURPA.~~ Such a supportive
19 regulatory construct would also recognize that the PCA is truly an *integrated* resource
20 plan. The elements of the PCA described above reflect a careful balance of many
21 competing concerns, which taken together as a whole, will ensure the best plan for
22 Michigan – for the Company, its customers, its communities, and the environment.
23 Every part of this plan is interdependent with the other parts. The regulatory construct

MICHAEL A. TORREY
DIRECT TESTIMONY

1 must be one that carefully considers the impacts of modifications to the PCA on the
2 viability of the plan as a whole.

3 **SECTION I: RECOVERY OF UNRECOVERED BOOK BALANCE OF**
4 **KARN 1 AND 2**

5 Q. Why is the recovery of the investment, specifically the unrecovered book balance in Karn
6 Units 1 and 2 addressed in this IRP?

7 A. The PCA proposes the retirement of Karn Units 1 and 2 in 2023. Company witnesses
8 Blumenstock, and several other Company witnesses including Thomas P. Clark and
9 Norman J. Kapala, provide the analysis and support for reaching that conclusion. The
10 Company's recommendation for recovery of the unrecovered Karn Units 1 and 2 is
11 addressed by Company witness Heidi J. Myers using a regulatory asset, an accounting
12 mechanism facilitating the Company's recovery of the unrecovered book balance over a
13 predetermined Commission-approved schedule that may extend beyond the retirement
14 date. The Company's decision to retire Karn Units 1 and 2 is based on the assumption
15 that that the unrecovered book balance at the time of retirement would be recovered, as
16 the decision to retire Karn Units 1 and 2 does not alter the fact that the investment in
17 Karn Units 1 and 2 was previously reviewed in many general rate proceedings, and found
18 reasonable and appropriate for recovery in customer rates. Furthermore, a regulatory
19 asset has been employed by many state commissions to provide the utility owner with
20 cost recovery of the unrecovered book value of retired coal units and minimize the
21 customer rate impact.

MICHAEL A. TORREY
DIRECT TESTIMONY~~SECTION II: PURPA CAPACITY SUFFICIENCY DETERMINATION~~

~~Q. Please discuss the policy justifications for the PCA's capacity sufficiency determination proposal.~~

~~A. As discussed by Company witness Keith G. Troyer, the PCA proposes a competitive solicitation process to select new capacity resources, and use the result of that process to set the PURPA avoided cost of capacity. Mr. Troyer also explains that the capacity sufficiency demonstration should be based on a three-year outlook. The three-year window aligns well with achieving customer savings and the regulatory framework established by the Section 6t of 2016 PA 341 (the "IRP Statute"). The Company's PCA in this proceeding demonstrates that the Company has no open capacity need over the next three years.~~

~~The November 21, 2017 Order in Case No. U-18090 established a 10-year outlook for determining if there is a capacity need, and established a Commission Order as the mechanism to declare whether the Company has a capacity need. In the same Order, the Commission stated that "PURPA avoided costs should be integrated with capacity demonstration and IRP proceedings in order to more accurately assess capacity needs." With the exception of the 10-year outlook period, the Company agrees, and the PCA follows the Commission's reasoning. The PCA lays out the Company's plans for filling future capacity needs. Because the PCA proposes competitively bidding capacity procurement and using that process to set the avoided cost, Commission approval of the PCA should serve as a determination that the Company has no current capacity need. In other words, a Commission order in this case would serve as the mechanism to declare that the Company has no capacity need.~~

MICHAEL A. TORREY
DIRECT TESTIMONY

1 ~~Should the Commission disagree with this proposal and determine that a~~
2 ~~Commission order approving specific capacity investments is necessary to fill a capacity~~
3 ~~need, then the Commission should set the capacity sufficiency outlook period at~~
4 ~~three years as contemplated by the IRP Statute. Subsection (11) of the IRP Statute gives~~
5 ~~the Commission authority to determine the reasonableness and prudence of investments~~
6 ~~proposed by a utility over a three-year period: "The costs for specifically identified~~
7 ~~investments, including the costs for facilities under subsection (12), included in an~~
8 ~~approved integrated resource plan that are commenced within 3 years after the~~
9 ~~commission's order approving the initial plan, amended plan, or plan review are~~
10 ~~considered reasonable and prudent for cost recovery purposes." By its very nature, then,~~
11 ~~the IRP statute contemplates a three-year window for making capacity determinations. If~~
12 ~~a Commission order approving specific capacity investments is required for a capacity~~
13 ~~determination, then the IRP Statute's three-year reasonable and prudence determination~~
14 ~~should serve as the mechanism for making that determination.~~

15 Q. ~~What impacts would a 10-year capacity demonstration outlook have on the PCA?~~

16 A. ~~By using competitive bidding and adding capacity on a yearly basis, the PCA~~
17 ~~contemplates that capacity "need" determinations will be made on a much shorter basis~~
18 ~~than a 10-year outlook. And if a Commission order is necessary in order to declare that~~
19 ~~there is no capacity need over a certain timeframe, a 10-year outlook for capacity~~
20 ~~demonstrations will erode the customer benefits created by the PCA, because there is~~
21 ~~currently no regulatory mechanism available for the Company to obtain MPSC approval~~
22 ~~of smaller Renewable Energy ("RE") projects 10 years into the future. Obtaining~~
23 ~~approval of a project now defeats the PCA's purpose. As discussed by Company~~

MICHAEL A. TORREY
DIRECT TESTIMONY

1 ~~witnesses Blumenstock and Clark, one of the biggest advantages of the PCA is the~~
2 ~~incremental nature of adding solar generation to the system. As opposed to constructing~~
3 ~~a large baseload plant now, the PCA contemplates adjustments in the future, which would~~
4 ~~allow the Company to leverage lower cost technologies, or avoid procuring capacity in~~
5 ~~the event demand does not materialize as forecasted in this IRP.~~

6 ~~As explained by Company witness Troyer, there are currently over 1.2 GWs of~~
7 ~~QF projects interested in selling capacity to the Company at the current avoided cost.~~
8 ~~Were the Commission to use a 10-year capacity sufficiency outlook and determine that a~~
9 ~~need exists because the Company does not have an order approving capacity additions in~~
10 ~~the years beyond the three for which the Company plans to run a competitive bid and~~
11 ~~present in an IRP, PURPA would require the Company to purchase from those QFs once~~
12 ~~those QFs created a legally enforceable obligation with the Company. That would not~~
13 ~~only increase customer rates now, it would negate the PCA's planned advantage of~~
14 ~~leveraging decreasing technology costs and attempting to match supply and demand on a~~
15 ~~closer term basis. Where a Commission order approving capacity projects is necessary in~~
16 ~~order to deem a projected capacity need filled, a 10-year capacity sufficiency outlook~~
17 ~~would prevent a utility from proposing a strategy to fill needs on an incremental basis. It~~
18 ~~would essentially require a utility to propose a significant capital investment for a large~~
19 ~~base load generating plant to fill future capacity needs and that is exactly what the PCA~~
20 ~~is avoiding.~~

MICHAEL A. TORREY
DIRECT TESTIMONY**SECTION III: FCM**

Q. What incentive is required to support the PCA's clean, lean, and more modular strategy?

A. The approval of the appropriate incentives will align the Company's strategy with customer interests through clean, lean and modular options such as renewables, energy waste reduction and demand response programs. Energy waste reduction and demand response program incentives allowed under 2016 PA 341 are addressed in other proceedings before the MPSC. The IRP Statute provides the Commission with the opportunity in this IRP to create the appropriate incentive for the Company to execute on the PCA, by approving the FCM applicable to PPAs described by Company witnesses Srikanth Maddipati and Keith Troyer and further supported by my testimony. This incentive would allow the Company to pursue the less traditional model that is proposed in the PCA.

Q. How does the traditional regulatory model provide for investor owned utility ("IOU") earnings?

A. The traditional regulatory model provides an IOU like Consumers Energy the opportunity to earn on the portion, or ratio, of its rate base financed by its owners' equity. Rate base includes the accumulated net investment in utility-owned assets. The assets included in rate base were constructed or acquired by the utility. Rate base, equity ratio, and cost are established by the Commission in the determination of base rates in a general rate case.

Q. How are PPA costs reflected in customer rates?

A. The MPSC reviews and approves PPA contracts subject to certain statutory criteria. PPA costs are addressed in annual PSCR proceedings and RE Plan proceedings. Projected PPA costs are included in the PSCR Plan and RE Plan cases. Actual PPA costs are

MICHAEL A. TORREY
DIRECT TESTIMONY

1 reconciled in the annual PSCR Reconciliation with any over-recovery or under-recovery
2 addressed in a future PSCR proceeding or RE Cost Reconciliation. The cost of
3 purchased power is passed through to customers without markup, or earnings potential.
4 When examined through the lens of earnings potential, this necessarily creates a bias for
5 IOU decision making.

6 Q. What bias does the traditional regulatory model introduce into the IOU decision making
7 process related to owning a supply asset or contracting with a non-utility through a PPA?

8 A. The traditional regulatory model introduces a bias towards growing rate base through
9 asset ownership with a related earnings potential as opposed to contracting through a
10 PPA with no earnings potential. Operating under the traditional regulatory model is
11 contrary to what a non-regulated business may experience.

12 Q. How is the traditional regulatory model contrary to what a non-regulated business may
13 experience?

14 A. A non-regulated business has an incentive to lower its cost of goods sold and increase its
15 earnings by contracting with a lower cost supplier. That is not the case when a regulated
16 utility chooses a lower cost PPA over a utility-owned supply asset. A regulated utility
17 choosing to enter into a PPA versus constructing or acquiring an asset is foregoing
18 potential earnings. One might argue that any IOU management decision to forego an
19 earnings opportunity would violate their fiduciary obligation to the IOU's owners.

20 Q. How does 2016 Public Act 341 ("PA 341") provide the Commission the opportunity to
21 address the bias inherent in the traditional regulatory model?

22 A. PA 341 permits the Commission to approve mechanisms which compensate utilities for
23 entering into PPAs. Specifically, Section 6t(15) provides that:

MICHAEL A. TORREY
DIRECT TESTIMONY

1 “For power purchase agreements that a utility enters into after the
2 effective date of the amendatory act that added this section with an
3 entity that is not affiliated with that utility, the commission shall
4 consider and may authorize a financial incentive for that utility that
5 does not exceed the utility’s weighted average cost of capital.”

6 Q. Does the FCM proposed by the Company meet the criteria established in Section 6t(15)
7 of 2016 PA 341?

8 A. Yes. The FCM described by Company witnesses Srikanth Maddipati and Troyer meets
9 the criteria. Following Commission approval, the Company proposes to apply the FCM
10 to all new PPAs.

11 Q. Why should the MPSC approve the FCM as proposed by Consumers Energy?

12 A. As described by witness Troyer, the Company is proposing to procure its capacity
13 through a competitive-bid process conducted by an independent third party that will
14 allow all interested parties to participate. This strategy-which works to leverage the
15 PCA’s clean, lean, and modular characteristics-is the right strategy to take to result in
16 lower costs for customers. But a competitive bid methodology presents significant risks
17 to the Company’s ability to attract capital investment for needed infrastructure
18 investments and provide sustainable returns to investors unless there is an incentive for
19 the Company to enter into PPAs. Otherwise, the Company’s credit ratings could become
20 stressed and the Company would have a bias towards constructing its own projects to
21 own, or entering into “build-transfer” agreements for the ownership of projects, whereby
22 a developer builds the project and then sells it to Consumers Energy. Accordingly, if the
23 Company’s proposed FCM is not approved by the Commission in this proceeding, the
24 Company does not propose to go forward with the competitive bidding of future
25 capacity needs.

MICHAEL A. TORREY
DIRECT TESTIMONY

1 Q. Why does the Company not propose to go forward with the competitive-bid methodology
2 described by Mr. Troyer if the FCM is not approved?

3 A. As explained by Company witness Mr. Maddipati, the FCM proposed by Consumers
4 Energy will provide fair compensation for the incremental burden to the Company's
5 financial profile related to lower cost, long-term PPAs that would not exist without access
6 to utilities with strong balance sheets such as Consumers Energy. The compensation
7 provided by the FCM will help maintain the financial health of the utility. The FCM also
8 provides an incentive for Consumers Energy to overcome the inherent bias in favor of
9 utility-owned assets under the traditional regulatory model. Customers benefit through
10 increased access to lower cost supply alternatives that may exist as the Company
11 executes its IRP over the next several years. Without approval of the FCM, the Company
12 would be removed from the traditional utility model that has served utilities, investors,
13 and customers well for many decades and placed in an environment that is financially
14 unsustainable as PPAs that exist only because of Consumers Energy's strong balance
15 sheet rapidly increase while that same balance sheet is stressed by the imputed debt from
16 the PPAs. This Commission should carefully consider how the utility model should
17 evolve to serve the best interests of financially healthy utilities, investors that view
18 Michigan as an attractive place to allocate capital, and to benefit customers through a
19 clean, lean, and modular approach as proposed by Consumers Energy.

20 Q. How should the FCM be reflected in customer rates?

21 A. Recovery through general base rates is appropriate. The levelization of the FCM charge
22 as proposed by witness Maddipati would allow for its recovery over the long-term
23 through general base rates. When the start or termination of a PPA subject to the FCM

MICHAEL A. TORREY
DIRECT TESTIMONY

1 and general rates are not aligned, the Company requests Commission approval to use
2 deferred accounting until general rates are reset.

3 Q. Does this conclude your direct testimony in this proceeding?

4 A. Yes.

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)	Case No. U-20165
under MCL 460.6t and for other relief.)	
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DIRECT TESTIMONY

OF

KEITH G. TROYER

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2018

KEITH G. TROYER
DIRECT TESTIMONY

1 Q. Please state your name and business address.

2 A. My name is Keith G. Troyer, and my business address is 1945 West Parnall Road,
3 Jackson, Michigan 49201.

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

5 A. I am employed by Consumers Energy Company (“Consumers Energy” or the
6 “Company”) as a Senior Engineer II in the Transactions and Wholesale Settlements,
7 Electric Contract Strategy Section of the Electric Grid Integration Department.

8 Q. Please describe your educational background and work experience.

9 A. I received the degree of Bachelor of Science in Engineering with a specialty in Civil
10 Engineering from Michigan State University in 2008. In 2015, I became a Registered
11 Professional Engineer in the state of Michigan. In 2018, I received a Master of Business
12 Administration (“MBA”) through Michigan State University’s Executive MBA Program.
13 In July 2009, I joined Consumers Energy as an Electric System Owner. In January 2011,
14 I accepted a position as an Engineer in the Transactions and Resource Planning section of
15 Energy Supply. In that role, I was responsible for administration and coordination of the
16 Company’s Experimental Advanced Renewable Program (“EARP”) – Solar
17 (“EARP-Solar”), part of the Company’s Renewable Energy Plan (“RE Plan”). I was
18 involved in the development and implementation of the EARP-Solar expansion in 2011.
19 In June 2013, I began taking on additional responsibilities associated with the RE Plan,
20 including the calculation of the Transfer Price associated with renewable energy and
21 capacity and the tracking of Renewable Energy Credits (“RECs”). In 2014, I was also
22 responsible for supervision of the implementation of the EARP-Anaerobic Digestion
23 (“EARP-AD”) pilot.

KEITH G. TROYER
DIRECT TESTIMONY

1 Q. What are your responsibilities as a Senior Engineer II in the Electric Contract Strategies
2 section?

3 A. In December 2016, I transitioned to my current role where my supervisory and direct
4 responsibilities include administering Power Purchase Agreements (“PPAs”), issuing
5 solicitations for energy and capacity, and managing the Company’s capacity position
6 with Midcontinent Independent System Operator, Inc. (“MISO”).

7 Q. Have you previously provided testimony before the Michigan Public Service
8 Commission (“MPSC” or the “Commission”)?

9 A. Yes. I provided testimony in:

- 10 • MPSC Case No. U-17095-R (direct), the Company’s 2013 Power Supply Cost
11 Recovery (“PSCR”) Reconciliation Case, regarding 2013 RE Plan expenses
12 recovered through PSCR;
- 13 • MPSC Case No. U-17631 (direct), the Company’s 2013 Renewable Energy
14 Reconciliation Case, regarding 2013 RE Plan expenses recovered through
15 PSCR, renewable energy compliance, and new renewable capacity
16 compliance;
- 17 • MPSC Case No. U-17317-R (direct), the Company’s 2014 PSCR
18 Reconciliation Case, regarding 2014 RE Plan expenses recovered through
19 PSCR;
- 20 • MPSC Case No. U-17792 (direct and rebuttal), the 2015 biennial review of
21 the Company’s RE Plan, regarding RE Plan expenses recovered through the
22 PSCR, renewable energy compliance, new renewable capacity compliance,
23 and renewable energy programs;
- 24 • MPSC Case No. U-17803 (direct), the Company’s 2014 Renewable Cost
25 Reconciliation Case, regarding 2014 RE Plan expenses recovered through
26 PSCR, renewable energy compliance, and new renewable capacity
27 compliance;
- 28 • MPSC Case No. U-17678-R (direct), the Company’s 2015 PSCR
29 Reconciliation Case, regarding 2015 RE Plan expenses recovered through
30 PSCR;

KEITH G. TROYER
DIRECT TESTIMONY

- MPSC Case No. U-17918 (rebuttal), the Company's 2016 PSCR Plan and five-year forecast, regarding the impacts of net electric metering on energy supply;
- MPSC Case No. U-18081 (direct and revised), the Company's 2015 Renewable Reconciliation case, regarding 2015 RE Plan expenses recovered through PSCR, renewable energy compliance, and new renewable capacity compliance;
- MPSC Case No. U-18090 (direct, rebuttal, reopened rebuttal, second reopened rebuttal, affidavit, and third reopened rebuttal), the Company's 2016 Public Utility Regulatory Policies Act of 1978 ("PURPA") case to establish a method and calculation for avoided costs;
- MPSC Case No. U-17918-R (direct), the Company's 2016 PSCR Reconciliation Case, regarding 2016 RE Plan expenses recovered through PSCR;
- MPSC Case No. U-18241 (direct), the Company's 2016 Renewable Energy Cost Reconciliation Case, regarding 2016 RE Plan expenses recovered through PSCR;
- MPSC Case No. U-18402 (direct and rebuttal), the Company's 2018 PSCR Plan and five-year forecast, regarding long-term PPAs and capacity forecast;
- MPSC Case No. U-18231 (direct and rebuttal), the 2017 biennial review of the Company's RE Plan, regarding the Company's Request for Proposal ("RFP") process for new resources, the cost of new renewable energy resources included in the RE Plan, and the risks that may drive performance to vary, associated with these topics; and
- MPSC Case No. U-18351 (rebuttal), the Company's 2017 Application to comply with Section 61 of 2016 PA 342, regarding customer credits in voluntary renewable energy programs and competitive solicitations.

Q. What is the purpose of your direct testimony in this proceeding?

A. The purpose of my direct testimony is to:

- Provide an overview of the key input assumptions in this Integrated Resource Plan ("IRP") related to the Company's existing and anticipated PPAs;
- ~~• Provide an overview of the Company's implementation of PURPA avoided costs;~~
- ~~• Detail the proposed changes to the Company's PURPA avoided cost implementation; and~~

KEITH G. TROYER
DIRECT TESTIMONY

- Discuss the process by which the Company plans to implement the Financial Compensation Mechanism (“FCM”) proposed in the testimony of Company witnesses Srikanth Maddipati and Michael A Torrey.

Q. How is the remainder of your direct testimony organized?

A. First, I provide a summary of the existing PPAs that have been executed by the Company and approved by the Commission. Then, I will discuss the assumptions related to: (i) the extension of the Company’s PPA with Midland Cogeneration Venture, LLC (“MCV”); (ii) the treatment of PPAs with contract expirations that occur during a MISO Planning Year¹; and (iii) the expected execution of new PURPA-based contracts. Then, I will provide a summary of the Company’s most recent avoided cost proceeding including the methodology and implementation procedures approved by the Commission. I will discuss proposed changes to the avoided cost methodology and implementation procedures to better align with the Company’s long-term capacity needs included in this IRP. Lastly, I will provide an overview of the Company’s proposed implementation of the FCM for new PPAs and the process by which the Company plans to receive approval of the FCM for individual PPAs.

Q. Are you sponsoring any exhibits with your direct testimony?

A. Yes. I am sponsoring the following exhibits:

Exhibit A-39 (KGT-1) Summary of Consumers Energy’s PPAs; and

Exhibit A-40 (KGT-2) Comparison of Current and Proposed Alternative Full Avoided Costs.

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

A. Yes.

¹ MISO defines a Planning Year as the 12-month period beginning June 1 of one year and concluding May 31 of the following year.

KEITH G. TROYER
DIRECT TESTIMONY**SECTION I: KEY INPUTS ASSUMPTIONS RELATED TO PPAs**

Q. Are you familiar with the Company's PPAs for energy and capacity?

A. Yes. As the supervisor of the Electric Contract Strategies section at Consumers Energy, my department is responsible for the negotiation, execution, and administration of the Company's PPAs.

Q. Please summarize how the Company's PPAs are included in the modeling assumptions for this proceeding.

A. The Company has 55 long-term PPAs in place at the beginning of 2018 representing 2,947 MW of contract capacity with independent power producers for the purchase of energy, capacity, and/or RECs. Of the 55 PPAs the Company has in place, 34 PPAs are for the purchase of energy and capacity, 6 PPAs provide renewable energy under the Renewable Resource Program (aka Green Generation Program), 12 PPAs provide renewable energy under the RE Plan, and 3 PPAs are in place under the EARP-AD Program. Additionally, the Company has executed six contracts for the purchase of energy and has 379 contracts in place for the purchase of solar energy, capacity, and RECs as part of the EARP-Solar Program.

Q. Please explain Exhibit A-39 (KGT-1).

A. Exhibit A-39 (KGT-1) shows a list of the contracts that the Company currently has or expects to have in place during the IRP study period. Exhibit A-39 (KGT-1), column (a), lists the current counterparties with which the Company has previously executed a contract. Column (b) shows the amount of capacity that the Company purchases under each contract. Column (c) shows the Commission order that approved each PPA. Column (d) shows the termination date specified for each PPA. Column (e) shows the

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1 entities up to 20 MW in size that the Company anticipates will enter into new PURPA
2 contracts with the Company.

3 Q. What assumptions are included in the IRP modeling for PPAs?

4 A. The expected production and associated expense from the PPAs is included as part of the
5 Company's supply portfolio through the expected termination of the agreements shown
6 in Exhibit A-39 (KGT-1), column (d). The Company forecasts that at the conclusion of
7 their existing PPAs, the counterparties with renewable generators that have contracts for
8 energy and capacity or as part of the Renewable Resource Program shown on Exhibit
9 A-39 (KGT-1), pages 1 through 4, up to 20 MW in size will sign new PURPA contracts
10 with the Company at the rates specified in the Commission's November 21, 2018 Order
11 in Case No. U-18090. These facilities are identified in column (e).

12 Q. Are there any bilateral purchase agreements for energy or capacity included in this IRP?

13 A. Yes. The Company has contracted to purchase 20 ZRCs through Planning Year 2020 as
14 part of the reverse capacity auction that was conducted on September 23, 2014. These
15 transactions were approved by the Commission's January 27, 2015 Order in Case No.
16 U-17725. These bilateral purchases are shown in Exhibit A-11 (STW-2), sponsored by
17 Company witness Sara T. Walz.

18 Q. Are there any PPAs included in this IRP that have not been previously approved by the
19 Commission?

20 A. Yes. The Commission's February 22, 2018 Order in Case No. U-18090 ("February 22,
21 2018 Order") directed the Company to execute 150 MW of PURPA contracts in the
22 Company's PURPA queue. Currently, there is ambiguity regarding what is required for a
23 project to be in the PURPA queue, and the Company does not appear to have the

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1 discretion to determine who will receive the full avoided cost rate associated with the
2 150 MW of new PURPA capacity. Thus, the Company has not yet executed these
3 contracts. However, in anticipation of adding these resources to the supply portfolio, the
4 Company has included 75 MW of solar capacity beginning in Planning Year 2019 and
5 75 MW of solar capacity beginning in Planning Year 2020 as placeholders for the
6 additional capacity. These contracts are shown as a PURPA Aggregate in Exhibit A-39
7 (KGT-1), rows 35 and 36. Solar was selected as the anticipated resource, because the
8 majority of the Qualifying Facilities (“QFs”) that have expressed interest in a contract are
9 solar photovoltaic generators. The Company has received requests for QF contracts with
10 projects that have a variety of estimated commercial operation dates; therefore it is
11 appropriate to forecast that the facilities will begin operation across various Planning
12 Years.

13 Q. How are the PPAs represented in this filing with respect to their capacity contribution
14 towards the Company’s planning reserve margin requirements from MISO?

15 A. MISO requires the Company to fulfill its capacity needs for the entire Planning Year
16 which begins June 1st and ends May 31st. If a contract for energy and capacity or as part
17 of the Renewable Resource Program terminates before the end of the Planning Year, it
18 does not fulfill MISO’s requirements and is not included as a capacity resource for the
19 Planning Year. For example, the Company’s contract with the Palisades Nuclear Plant
20 ends on April 11th, 2022 which falls into the Planning Year that begins June 1, 2021.
21 Since the contract does not continue through May 31, 2022, the capacity is not included
22 in the forecast of Company resources for Planning Year 2021/2022 (aka Planning Year

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2021). The amount of capacity expected to be supplied by each PPA, as well as the new PUPRA solar contracts is shown on Exhibit A-11 (STW-2), sponsored by Ms. Walz.

Q. Exhibit A-39 (KGT-1) references an extension of the MCV PPA. Please explain how this extension is exercised.

A. The Amended and Restated PPA with MCV was approved by the Commission's June 10, 2008 Order in Case No. U-15320. Section 19 of this Amended and Restated PPA states:

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

Within this provision of the Commission-approved PPA, the Company may unilaterally extend the MCV contract an additional five years upon proper notice as outlined within this provision of the agreement. As discussed in the direct testimony of Thomas P. Clark, the Company's Proposed Course of Action (“PCA”) utilizes this provision of the MCV PPA to extend the existing agreement for the five-year period.

Q. Are there any PPA-related capacity additions included in the forecast over the 2019 through 2040 study period?

A. Yes. In addition to the 150 MW of new PURPA contracts discussed above, the Company anticipates that the T.E.S. Filer City Station Limited Partnership (“Filer City”) facility will add approximately 157 Zonal Resource Credits (“ZRCs”) to the Company's supply portfolio beginning June 1, 2020. Amendment No. 2 to the Filer City PPA (“Amendment

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No. 2”) was approved in the Commission’s February 2, 2018 Order in Case No. U-18392.

Amendment No. 2 provides Filer City with the ability to repower their facility from coal to natural gas. With this conversion under Amendment No. 2, the Company expects to see an increase in their capacity deliveries.

SECTION II: IMPLEMENTATION OF PURPA AVOIDED COSTS

~~Q. Are you familiar with the Company’s implementation of PURPA avoided costs in accordance with the most recent avoided cost proceeding for Consumers Energy, Case No. U-18090?~~

~~A. Yes. In Case No. U-18090, I have filed direct testimony, rebuttal testimony, reopened rebuttal testimony, second reopened rebuttal testimony, an affidavit, and third reopened rebuttal testimony. My team is responsible for administration of PPAs in accordance with the Standard Offer Tariff and negotiation of new PURPA agreements with QFs.~~

~~Q. What are avoided costs?~~

~~A. This term comes from the Federal Energy Regulatory Commission (“FERC”) rules established and embodied in the Code of Federal Regulations, where it defines “avoided costs” as “the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source.”~~

~~Q. What is a QF?~~

~~A. A QF can be either a small power production facility or cogeneration facility that meets certain size, fuel, and/or efficiency standards.~~

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1 ~~Q. Are QFs required to sell their energy and/or capacity at avoided costs?~~

2 ~~A. No. These generating facilities are able to enter into negotiated PPAs with the Company~~
3 ~~or others or to submit bids in response to RFPs issued by the Company or others that seek~~
4 ~~to acquire energy and/or capacity.~~

5 ~~Q. Do QFs have an obligation to execute contracts with the Company?~~

6 ~~A. No. QFs have the option to enter into PURPA contracts with the Company, but may also~~
7 ~~participate in the wholesale market or sell to other utilities at negotiated rates.~~

8 ~~Q. Does the Company have an obligation to execute PURPA contracts with QFs?~~

9 ~~A. Yes. The Company generally has an obligation to enter into contracts for energy and~~
10 ~~capacity with QFs up to 20 MW in size that are capable of delivering energy and capacity~~
11 ~~to the Company and that do not have access to the market. Throughout my direct~~
12 ~~testimony, when discussing QFs, I am referring to facilities up to 20 MW in size that~~
13 ~~meet the requirements to be certified as a QF, unless otherwise noted.~~

14 ~~Q. What is the status of the avoided cost proceeding in Case No. U-18090?~~

15 ~~A. On February 22, 2018, the Commission approved avoided costs which included several~~
16 ~~corrections to the Case No. U-18090 November 21, 2018 Order attachment. The~~
17 ~~Commission's February 22, 2018 Order, at page 11, reopened the proceeding a third time~~
18 ~~stating that the "proceeding should be reopened to address the terms of early termination~~
19 ~~in the Standard Offer Tariff and any disputes over the terms and conditions in the draft~~
20 ~~PPA to ensure conformance to the requirements of PURPA." Consumers Energy filed its~~
21 ~~Standard Offer Tariff and draft PPA on March 1, 2018 as directed by the Commission.~~
22 ~~The Commission has requested briefing to be completed by July 16, 2018 with an option~~
23 ~~for the Administrative Law Judge to extend the schedule by up to 30 days for good cause.~~

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~~In the February 22, 2018 Order, the Commission encouraged the parties to attempt to settle the remaining issues in the current reopened proceeding. On May 11, 2018, the Administrative Law Judge permitted the 30-day extension to accommodate settlement discussions between the parties to that proceeding.~~

~~Additionally, the Commission's February 22, 2018 Order continued the stay on the avoided cost rates stating, "pending the completion of this final phase in the proceeding, the implementation of avoided costs and the Standard Offer Tariff should continue to be stayed." The Commission's February 22, 2018 Order limits the full capacity avoided cost payment to the first 150 MW of new QF capacity in the Company's queue. The Company intends to notify the QFs associated with the 150 MW of their award of a PURPA contract at full avoided cost rates, as well as, notifying other QFs where their position is in the queue, as directed by the February 22, 2018 Order. However, the definition of the PURPA queue was undefined in the February 22, 2018 Order. There are currently several petitions for rehearing, clarification, and/or expanding the scope of the proceeding outstanding.~~

~~Q. What is meant by "full avoided costs," as discussed above?~~

~~A. Full avoided costs refers to the total amount of compensation provided to the QF when the Company executes a PURPA contract with a QF at the time the Company has a capacity need as determined by the Commission. In accordance with Case No. U-18090, when the Company does not have a capacity need, the capacity avoided costs are changed to market based pricing, or specific to Consumers Energy, MISO Planning Resource Auction ("PRA") rates.~~

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1 ~~Q. Please explain the avoided cost methodology approved by Case No. U-18090.~~

2 ~~A. In accordance with the Commission's May 31, 2018 Order in Case No. U-18090, the full~~
3 ~~capacity avoided cost is based on an estimated levelized cost of a Natural Gas~~
4 ~~Combustion Turbine ("NGCT") proxy facility. When the Company demonstrates that it~~
5 ~~does not have a capacity need, the capacity avoided cost is changed to the MISO PRA~~
6 ~~auction clearing price. There are five options for energy avoided cost each grossed up by~~
7 ~~an investment cost attributable to energy and the Company's average line losses on the~~
8 ~~primary electric distribution system: (i) real time MISO Locational Marginal Pricing~~
9 ~~("LMP"); (ii) forecast day ahead on-peak and off-peak MISO LMP; (iii) forecast variable~~
10 ~~energy cost of a Natural Gas Combined Cycle ("NGCC") proxy facility; (iv) a levelized~~
11 ~~forecast of the day ahead on-peak and off-peak MISO LMP; and (v) a levelized forecast~~
12 ~~of the variable energy cost of a NGCC proxy facility. QFs can elect any one of the~~
13 ~~energy avoided costs as the basis for compensation, except for options (iv) and (v), which~~
14 ~~are only available to run-of-river hydroelectric generators.~~

15 ~~Q. Is the avoided cost methodology adopted in Case No. U-18090 reflective of the~~
16 ~~Company's avoided costs?~~

17 ~~A. No, as shown by the PCA, this methodology is not reflective of the next generating unit~~
18 ~~that the Company would bring online. Avoided costs should be determined based on the~~
19 ~~costs the electric utility would actually avoid by purchasing energy and/or capacity from~~
20 ~~a QF.~~

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1 Q. ~~Are the Company's actual avoided costs consistent with the avoided costs approved in~~
2 ~~Case No. U-18090?~~

3 A. ~~No. The Company's actual avoided costs are lower than those rates approved by the~~
4 ~~Commission in Case No. U-18090. For example, in 2015, the Company entered into an~~
5 ~~agreement to purchase the output of the Apple Blossom wind generation plant at a~~
6 ~~levelized price less than \$45/MWh. In 2016, the Company received approval for a wind~~
7 ~~generation plant, Cross Winds II wind farm, at a levelized price of \$45/MWh. Recently,~~
8 ~~the Company received approval for construction of a new wind generation plant, Cross~~
9 ~~Winds III wind farm, with a levelized cost of \$46/MWh. As demonstrated by these~~
10 ~~facilities, the Company's actual avoided cost is significantly lower than the rates~~
11 ~~approved by the Commission.~~

12 Q. ~~What is the cost implication to customers of the avoided cost rates approved in Case No.~~
13 ~~U-18090 with respect to existing QFs?~~

14 A. ~~As shown in Exhibit A 39 (KGT-1), at the beginning of 2018, Consumers Energy had~~
15 ~~PPAs in place to purchase 123.9 MW of energy, capacity, and, if applicable, RECs from~~
16 ~~30 facilities that likely meet the requirements of a QF less than 20 MW in size. The~~
17 ~~Commission has indicated that regardless of the Company's capacity need, Consumers~~
18 ~~Energy is required to contract with these customers at the full avoided cost rate. Utilizing~~
19 ~~the methodology from Case No. U-18090, under these assumptions, the Company's~~
20 ~~customers would pay approximately \$56.7 million annually at an average cost of~~
21 ~~\$70.38/MWh over a 20-year contract length, which is substantially higher than the cost of~~
22 ~~the three wind farm projects discussed above.~~

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1 Q. Does the avoided cost rate have another implication to customers?

2 A. Yes. While the discussion above addresses the impact of the avoided cost rates for
3 existing QFs, the Commission approved an avoided cost methodology that provides for
4 capacity to be compensated based on the demonstrable capability available from the
5 resource to meet the Company's demand. This methodology provided a significant
6 change in financial benefits for potential solar QF resources. While the Company
7 supports the utilization of ZRCs for capacity compensation, this provides more attractive
8 economics for technologies, like solar, that have a higher capacity credit and a lower
9 capacity factor. The following table demonstrates average annual compensation for
10 1 MW of generation over a 20-year contract term for illustrative purposes.

Technology	Capacity Credit	Capacity Rate- (\$/ZRC)	Capacity Payment (\$)	Capacity Factor	Generation (MWh)	Energy- Rate- (\$/MWh)	Energy- Payment (\$)	Total Payment (\$)	Total Rate- (\$/MWh)
Solar	50.0%	140,505	70,253	17.0%	1,489	52.51	78,202	148,454	99.69
Wind	15.2%	140,505	21,357	30.0%	2,628	52.51	138,003	159,360	60.64
ROR Hydro	51.7%	140,505	72,672	56.0%	4,907	52.51	257,676	330,348	67.32

11 Q. Based on the new avoided cost rates, has the Company seen an increase in QFs interested
12 in solar development in its territory?

13 A. Yes. Subsequent to the Commission's May 31, 2017 Order in Case No. U-18090, the
14 Company began receiving numerous interconnection requests from potential solar QFs
15 due to updating the avoided cost methodology. From May 31, 2017 until May 31, 2018,
16 the Company has received 398 interconnection requests for 1.8 GW of generation
17 ranging in size from greater than 0.15 MW to 20 MW. The added cost of 1.8 GW of
18 PURPA-based payments to the projects that have requested interconnection would be
19 approximately \$263.3 million annually at an average cost of \$98.40/MWh over a 20-year

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1 ~~contract length, which is substantially higher than the cost of the three wind farm projects~~
2 ~~discussed above.~~

3 ~~Additionally, the Company began receiving numerous inquiries and offers from~~
4 ~~solar developers wishing to sell solar generation to the Company. To date, the Company~~
5 ~~has been contacted by 15 parties interested in establishing a PURPA-based PPA for~~
6 ~~260 projects with a total nameplate capacity of 1.2 GW. The added cost of 1.2 GW of~~
7 ~~PURPA-based capacity payments would be approximately \$175.6 million annually at an~~
8 ~~average cost of \$99.69/MWh over a 20-year contract length, which again is substantially~~
9 ~~higher than the cost of the three wind farm projects discussed above.~~

10 Q. ~~Should PURPA avoided costs and the Company's capacity demonstration be reviewed as~~
11 ~~part of this IRP proceeding?~~

12 A. ~~Yes. As explained by Company witness Richard T. Blumenstock, the Company's PCA~~
13 ~~deviates from the Company's historical approach to acquire new supply side resources in~~
14 ~~that the PCA proposes to build modular, renewable additions along with maximizing~~
15 ~~energy waste reduction and demand response programs. The PCA proposes to add~~
16 ~~capacity through smaller, more modular solar projects over a course of years, which is~~
17 ~~vastly different than the addition of large electric generation facilities powered by coal or~~
18 ~~natural gas. To effectuate this strategy, the Company is proposing a competitive bid~~
19 ~~methodology that is described more fully later in my direct testimony. Realizing the~~
20 ~~PCA's benefits of risk mitigation and cost competitiveness requires that the Commission~~
21 ~~approve a new method for determining avoided costs and determining the Company's~~
22 ~~capacity needs or sufficiency.~~

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1 Q. ~~Has the Commission previously indicated a willingness to examine avoided costs as part~~
2 ~~of an IRP proceeding?~~

3 A. ~~Yes. The Commission's November 21, 2017 Order in Case No. U-18090 states the~~
4 ~~following:~~

5 ~~"Going forward, the Commission believes that PURPA avoided~~
6 ~~costs should be integrated with capacity demonstration and IRP~~
7 ~~proceedings in order to more accurately assess capacity needs.~~
8 ~~The IRP proceedings are conducive to updating avoided costs,~~
9 ~~because the Commission will already be evaluating, in detail,~~
10 ~~utility specific plans for any incremental generation or purchases~~
11 ~~along with their associated costs."~~

12 ~~As the person responsible for administering PPAs, issuing solicitations for energy and~~
13 ~~capacity, and managing the Company's capacity position with MISO, I view this~~
14 ~~language support by the Commission to include both an update to avoided costs and~~
15 ~~review of the Company's capacity needs in this IRP, and all IRPs going forward.~~

16 ~~**SECTION III: AVOIDED COST METHODOLOGY**~~

17 Q. ~~Does the Company propose to modify the methodology and calculations for energy and~~
18 ~~capacity avoided costs as part of this IRP?~~

19 A. ~~Yes. As discussed by the direct testimony of Company witnesses Blumenstock and~~
20 ~~Clark, the PCA does not propose constructing new NGCTs or NGCC facilities for supply~~
21 ~~resources. Therefore, the avoided costs based on natural gas generation are not~~
22 ~~representative of the Company's actual avoided costs. The Company requests the~~
23 ~~Commission's approval to update the methodology and calculations for avoided costs as~~
24 ~~part of this IRP.~~

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1 Q. ~~What methodology does the Company propose to use as the basis for setting avoided~~
2 ~~costs?~~

3 A. ~~The Company proposes to use two different methodologies depending on whether or not~~
4 ~~it has a capacity need as identified in a capacity sufficiency demonstration discussed in~~
5 ~~my direct testimony. The Company proposes to compensate new QF PPAs at the full~~
6 ~~avoided cost rate when a capacity need exists as determined by the capacity~~
7 ~~demonstration, and to compensate new QF PPAs at a market based avoided cost when no~~
8 ~~capacity need exists.~~

9 Q. ~~What methodology does the Company propose to use as the basis for setting full avoided~~
10 ~~costs for new PURPA-based contracts when it has identified a capacity need?~~

11 A. ~~The Company proposes to utilize a competitive solicitation process to select any new~~
12 ~~supply side capacity resources. The resulting cost of the new capacity resources from~~
13 ~~this competitive solicitation process will be used as the basis for determining future~~
14 ~~avoided costs. In preparation of future IRP filings, the Company will determine if it has a~~
15 ~~need for new generation capacity over the next three years and the type(s) of generation~~
16 ~~that is most reasonable and prudent to procure (e.g., solar, wind, natural gas). Energy~~
17 ~~waste reduction measures (energy efficiency, demand response, etc.) and energy storage~~
18 ~~would be evaluated to determine if they can be implemented to offset any projected~~
19 ~~generation capacity need. The remaining capacity need would be offered through a~~
20 ~~competitive solicitation for the technologies that are most reasonable to procure.~~

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1 ~~Q. How would the Company's full avoided costs be established in the competitive~~
2 ~~solicitation?~~

3 ~~A. The competitive solicitation will be used to determine the Company's full avoided costs~~
4 ~~when there is a need for additional capacity resources. The proposals selected will be~~
5 ~~used to establish a capacity clearing price and energy price based on the highest cost~~
6 ~~proposal selected as part of the solicitation. The Company will use the highest cost~~
7 ~~proposal selected as the basis for the proposed avoided costs in the next IRP filing.~~

8 ~~Q. Please explain how the competitive solicitation process will work.~~

9 ~~A. If, prior to filing an IRP, Consumers Energy determines that it has a persistent need for~~
10 ~~new supply side generation capacity at any point over the first three years that the IRP~~
11 ~~would address, the Company will initiate a competitive solicitation for a specific amount~~
12 ~~and type(s) of new generation capacity needed in accordance with MCL 460.6t(6).~~
13 ~~Independent power producers may submit bids in response to the RFP for the specific~~
14 ~~type(s) of new generation capacity identified by Consumers Energy for the requested type~~
15 ~~of generation. The RFP will be administered by an independent third party, which will~~
16 ~~allow the Company to submit proposals in response to the solicitation for the specified~~
17 ~~technology as well. All of the proposals received in the RFP (including any FCM~~
18 ~~applicable to the proposals) will be evaluated against the cost of utility build options,~~
19 ~~which would have been submitted by the Company. Proposals will be selected based on~~
20 ~~the criteria within the competitive solicitation and the attributes of the proposal including,~~
21 ~~but not limited to, performance standards, contract terms, technical competence,~~
22 ~~capability, reliability, creditworthiness, past performance, and other applicable criteria.~~

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1 ~~This methodology would be used both to set full capacity and energy avoided costs and~~
2 ~~to allocate which projects are eligible to be paid full capacity prices.~~

3 ~~Q. What would be included in the competitive solicitation process?~~

4 ~~A. The Company would conduct its competitive solicitation in a similar manner as it~~
5 ~~currently undertakes RFPs. These RFPs would be tailored to the specific needs of the~~
6 ~~Company. Depending on the need identified, the Company may request proposals for~~
7 ~~development asset acquisitions, build transfer options, partnerships, joint ventures, and/or~~
8 ~~PPAs. Requesting proposals based on these various options will allow the Company to~~
9 ~~undertake a review of a variety of proposals to determine which option, if any, is the most~~
10 ~~reasonable and prudent choice for customers. If PPAs are included in the options that the~~
11 ~~RFP seeks and are selected as the best option available, the Company anticipates that it~~
12 ~~will file for approval of the FCM discussed in the direct testimony of Company witnesses~~
13 ~~Torrey and Maddipati.~~

14 ~~Q. How will the Company seek approval of the projects from the RFP?~~

15 ~~A. During an IRP proceeding, the Company will present its capacity demonstration and the~~
16 ~~results of any RFP issued prior to the IRP filing. If the capacity need is not filled entirely~~
17 ~~through the RFP, there will be a capacity need determined by the Commission in the IRP~~
18 ~~set for the next three years. QFs could fill the remaining capacity need at the avoided~~
19 ~~cost as set by the RFP. If the RFP fills all capacity needs and the Commission determines~~
20 ~~in its final order that the Company's IRP is the most reasonable and prudent manner to~~
21 ~~meet the Company's energy and capacity needs, no further capacity need exists, and the~~
22 ~~capacity avoided cost for QFs during the three-year period will be PRA rates. If the~~
23 ~~Commission determines in a final IRP order that the Company has a capacity need~~

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1 ~~greater than the need presented by the Company in the IRP, the Company will conduct~~
2 ~~another RFP following the Commission's order to address that incremental need. This~~
3 ~~RFP will be conducted in the same manner as the RFP process outlined above.~~

4 Q. ~~Will QFs be permitted to participate in the competitive solicitation?~~

5 A. ~~Yes. Each competitive solicitation will specify the amount of capacity that the Company~~
6 ~~is seeking to obtain. QFs up to 20 MW in size will be eligible to participate in these~~
7 ~~solicitations. These QFs will be permitted to submit proposals for any technology,~~
8 ~~regardless of the technology and any minimum project size requirements specified in the~~
9 ~~RFP.~~

10 Q. ~~Can QFs less than 20 MW pursue PURPA-based contracts without participating in the~~
11 ~~competitive solicitations?~~

12 A. ~~Yes. The Company has an obligation to purchase from QFs up to 20 MW in size at the~~
13 ~~avoided costs approved by the Commission at the time a Legally Enforceable Obligation~~
14 ~~("LEO") is established. The Company will execute PURPA-based contracts outside of~~
15 ~~the competitive solicitation in accordance with PURPA. However, as explained above,~~
16 ~~during an IRP proceeding, the Company will present its capacity demonstration and the~~
17 ~~results of any RFP issued prior to the IRP filing for the Commission's review. If the~~
18 ~~capacity need is not filled entirely through the RFP, there will be a capacity need over the~~
19 ~~next three years. During the IRP, the Commission would set the Company's capacity~~
20 ~~need and QFs could fill the remaining capacity need at the avoided cost established by~~
21 ~~the RFP.~~

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1 ~~Q. Is the Company obligated to contract with QFs up to 20 MW that request PURPA~~
2 ~~contracts when the Company does not have a capacity need?~~

3 ~~A. Yes. The Company's obligation to contract with QFs up to 20 MW for capacity can be~~
4 ~~removed through a FERC waiver. The Company has not requested a waiver from FERC~~
5 ~~to remove its obligation to purchase capacity at this time. However, the MPSC has the~~
6 ~~authority to set avoided costs, and in Case No. U-18090, the Commission has determined~~
7 ~~that it is appropriate to allow the Company's capacity avoided costs to be changed to the~~
8 ~~market rate (the MISO PRA) when no capacity need exists.~~

9 ~~Q. Is it reasonable for the Commission to change the capacity avoided cost rate to the market~~
10 ~~rates for new contracts with QFs, based on the Company's need determination?~~

11 ~~A. Yes. When the Company has secured its capacity need, it is appropriate to adjust the~~
12 ~~capacity avoided cost rates to the wholesale market rate based on the MISO PRA clearing~~
13 ~~price in order to prevent the Company's customers from incurring unnecessary expense~~
14 ~~associated with surplus generation capacity.~~

15 ~~Q. How does the Company propose to set the energy avoided costs through this competitive~~
16 ~~solicitation proposal?~~

17 ~~A. The competitive solicitation is expected to seek both a capacity and energy price as part~~
18 ~~of the proposal requirements. If a QF is entitled to the full avoided costs as explained in~~
19 ~~my direct testimony, their compensation will be based on the highest cost proposal~~
20 ~~selected as part of the competitive solicitation. In order to provide both a forecast and~~
21 ~~actual price at time of delivery, the QF can choose between the energy price forecast~~
22 ~~based on the solicitation, or the actual LMP rate at time of delivery.~~

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1 Q. The Company proposes to change the amount of compensation offered to QFs from the
2 competitive solicitation price to the MISO PRA for capacity when it demonstrates that no
3 capacity need exists. Is it also proposing to change the energy price if no capacity need
4 exists?

5 A. Yes. The Company proposes to offer two options for avoided energy costs that will be
6 made available to the QF. The first option is an energy avoided cost based on actual
7 MISO LMP for contracts up to 15 years in length. MISO LMPs are appropriate to use as
8 the rate for energy at time of delivery since, absent the QF, the Company would purchase
9 energy from the MISO market. The second option is a forecast energy avoided cost rate
10 based on the MISO LMP for contracts up to five years in length. A short term forecast of
11 the MISO LMP is appropriate to use as the rate for energy because, absent the QF, the
12 Company would expect to purchase energy from the MISO market. It is important to
13 note that the Company's forecast of LMPs is more accurate in the near term than in the
14 long term due to shifts in technology and generation fuel prices that affect the market.
15 By limiting the length of contracts offered to QFs that request the forecast LMP, the
16 Company is able to limit financial exposure to customers due to separations between the
17 forecast and actual market trends. For example, in the Company's RE Plan filed
18 February 2, 2009 in Case No. U-15805, the Company projected that average LMPs for
19 2017 were expected to be \$79.12/MWh. Actual day ahead LMPs for the Michigan Hub
20 in 2017 averaged \$29.58/MWh. The QF will be able to select from one of these two
21 options when requesting a PURPA contract.

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1 Q. Has the Commission determined that existing QFs with expiring PURPA-based contracts
2 be treated differently than new QFs that do not have existing PURPA-based contracts?

3 A. Yes. In MPSC Case No. U-18090, the Commission directed the Company to pay the full
4 capacity avoided cost rates to QFs with expiring PURPA contracts regardless of its need
5 for capacity.

6 Q. How does the Company propose to treat QFs with existing PURPA contracts that are
7 currently expiring?

8 A. The Company proposes to compensate existing QFs at the full avoided costs most
9 recently approved by the Commission. In the future, these full avoided costs are
10 expected to be based on the most recent competitive solicitation results approved by the
11 Commission.

12 ~~Q. Does the Company propose any other changes to the avoided cost methodology that is~~
13 ~~currently contemplated in Case No. U-18090?~~

14 ~~A. Yes. The energy avoided costs in Case No. U-18090 are adjusted for three different~~
15 ~~factors: the Investment Cost attributable to Energy ("ICE"), lines losses, and an~~
16 ~~administrative fee. The Company's methodology proposed in my direct testimony should~~
17 ~~not include any adjustment for ICE, because ICE is an adjustment made to theoretically~~
18 ~~increase the cost of energy based on the difference in capital costs between a NGCC and~~
19 ~~NGCT. Since natural gas will no longer be the basis of avoided costs, ICE should not be~~
20 ~~applied to the energy rate regardless of whether energy avoided cost is based on~~
21 ~~competitive solicitation, the alternative blended rate, market price forecasts, or actual~~
22 ~~market rates as presented in my testimony.~~

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DIRECT TESTIMONY

1 ~~The Company believes that both the line loss adjustment and administrative fee~~
2 ~~included in the Company's May 2, 2018 third reopened rebuttal filing in Case No.~~
3 ~~U-18090 are reasonable and therefore, the Company does not propose to change the way~~
4 ~~line losses or administrative fees are applied to the avoided cost rates.~~

5 ~~Q. Please summarize the Company's proposed avoided costs in this IRP.~~

6 ~~A. As explained in Section IV of my direct testimony, the Company's capacity~~
7 ~~demonstration should be reduced to a period of three years. As discussed in the direct~~
8 ~~testimony of Mr. Blumenstock, the Company does not have a capacity need over the next~~
9 ~~three years, therefore the Company's capacity avoided cost is the MISO PRA and the~~
10 ~~energy avoided cost will be either the five year forecast of monthly on-peak and off-peak~~
11 ~~LMPs or the actual MISO real time LMP at the choice of the QF. When a capacity need~~
12 ~~is identified over the next three years, the Company will issue a competitive solicitation~~
13 ~~and use the results of the solicitation to identify the appropriate capacity and energy rates~~
14 ~~to set its avoided costs. The following table summarizes the avoided costs that the~~
15 ~~Company intends to make available for new QF contracts based on the energy rate and~~
16 ~~capacity rate paid under the contract.~~

	Energy Rate Option 1	Energy Rate Option 2	Capacity Rate
No Capacity Need	MISO Real Time LMP	Forecast MISO Day Ahead LMP	MISO PRA Auction Clearing Price
Capacity Need	MISO Real Time LMP	Competitive Solicitation Results	Competitive Solicitation Results
Existing PURPA QF	MISO Real Time LMP	Competitive Solicitation Results	Competitive Solicitation Results

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1 ~~Q. With this modification to base avoided costs on a competitive solicitation, does the~~
2 ~~Company expect the avoided costs to change?~~

3 ~~A. Yes. The Company expects that through the proposed changes and new methodology~~
4 ~~that it is likely that the avoided costs will change for future PURPA QFs. Basing the~~
5 ~~avoided cost on a competitive solicitation is a more accurate way to determine avoided~~
6 ~~costs than using a hypothetical proxy plant, because the proposals received through a~~
7 ~~competitive solicitation will be based on actual offers for real projects. The Company~~
8 ~~believes that the updates proposed in this testimony will ensure that the avoided costs that~~
9 ~~customers will be obligated to pay accurately reflect the cost of adding new capacity~~
10 ~~while the capacity demonstration updates will ensure that customers are not burdened~~
11 ~~with paying for surplus capacity.~~

12 ~~Q. Does the Company propose an alternative avoided cost methodology in this IRP?~~

13 ~~A. Yes. While the Company maintains that a competitive solicitation process is the most~~
14 ~~accurate way to set full avoided costs, for the reasons stated above, there could be~~
15 ~~reasonable alternative methods used to calculate avoided costs. The avoided costs that~~
16 ~~are currently the subject of the ongoing proceeding in Case No. U-18090 are based on a~~
17 ~~combination of a proxy NGCT and a NGCC facility. As discussed earlier, the Company~~
18 ~~does not believe this is an appropriate representation of its actual avoided cost since it has~~
19 ~~no plans to build any natural gas fueled facilities in this IRP. But, if utilizing a proxy~~
20 ~~plant is the Commission's preferred method for establishing avoided costs, the~~
21 ~~technology used for the basis of this calculation requires updating.~~

KEITH G. TROYER
DIRECT TESTIMONY

1 ~~Q. Why does the proxy plant technology used to calculate avoided costs need to be updated?~~

2 ~~A. As demonstrated in the direct testimony of Mr. Blumenstock and Mr. Clark, the~~

3 ~~Company's PCA does not include the development of new natural gas resources.~~

4 ~~Therefore, it is inaccurate to base avoided costs on a natural gas proxy plant.~~

5 ~~Q. What proxy plant does the Company propose in this alternative full avoided cost~~

6 ~~methodology?~~

7 ~~A. As explained in Section IV of my direct testimony, the Company's capacity~~

8 ~~demonstration should be reduced to a period of three years. The Company's future~~

9 ~~capacity needs over the next three years will be filled with a combination of demand~~

10 ~~response, energy efficiency, and conservation voltage reduction resources. It would be~~

11 ~~more appropriate to base the full avoided costs on a blend of these resources, than on a~~

12 ~~natural gas resource.~~

13 ~~Q. What is the Company's full avoided cost rates based on the blend of these technologies?~~

14 ~~A. The full avoided cost rates for energy and capacity are presented in Exhibit A-8 (TPC-6)~~

15 ~~sponsored by Mr. Clark. These rates are the appropriate full avoided costs for this~~

16 ~~alternative proposal to the competitive solicitation.~~

17 ~~Q. Why are these values appropriate for establishing full avoided costs under this alternative~~

18 ~~proposal?~~

19 ~~A. These avoided costs are based on the blend of assets that the Company is intending to~~

20 ~~utilize for new capacity and energy resources, therefore the costs to customers under this~~

21 ~~alternative will be representative of the Company's planned expenses. It will allow the~~

22 ~~Company to enter into new PURPA PPAs with minimal impact to customer expenses~~

23 ~~which is the whole premise behind the PURPA avoided cost rate.~~

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DIRECT TESTIMONY

1 ~~Q. Does the Company expect this alternative proposal to result in changes to the full avoided~~
2 ~~cost from what is currently being considered in Case No. U-18090?~~
3 ~~A. Yes. Exhibit A-40 (KGT-2) shows a comparison of the full avoided cost rates currently~~
4 ~~being considered in Case No. U-18090 and the full avoided cost rates as supported by~~
5 ~~Mr. Clark. As shown in Exhibit A-40 (KGT-2), columns (d) and (g), this alternative~~
6 ~~proposal will result in a reduction in both the full capacity and energy avoided cost rates~~
7 ~~from the rates being considered in Case No. U-18090.~~

81 **SECTION IV: CAPACITY DEMONSTRATION**

92 Q. What is a capacity demonstration with respect to the Company's avoided costs under
103 PURPA?

114 A. A capacity demonstration relates to the Commission's determination of whether the
125 Company has a capacity need or sufficiency. If there is a need, contracts executed with
136 QFs before that need is filled must include compensation to the QF for the full avoided
147 cost of capacity. If there is no capacity need, the capacity avoided costs for contracts
158 executed with QFs at that time are provided the PRA rates. There are two critical aspects
169 of a capacity demonstration: (i) how far out the Commission looks when determining if
1710 there is a capacity need or sufficiency; and (ii) the mechanism for declaring when a
1811 capacity need exists.

1912 Previously, in its November 21, 2017 Order in Case No. U-18090, the MPSC
2013 established a 10-year outlook for determining if there is a capacity need, and established
2114 a Commission order as the mechanism to declare whether the Company has a capacity
2215 need. The Order states, "[i]f Consumers' capacity requirements are met over the

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1 subsequent 10 years, the company may make a filing so demonstrating and, after
2 Commission approval, the capacity rate will be reset to the MISO PRA.”

3 Q. Please describe how the determination is made as to whether the Company is required to
4 execute contracts for the full capacity avoided cost rate or the MISO PRA rate.

5 A. In accordance with the Commission’s Case No. U-18090 November 21, 2017 and
6 February 22, 2018 Orders, the Company is currently required to pay the full capacity
7 avoided cost to: (i) all QFs with existing PURPA-based PPAs under new PPAs following
8 the expiration of their existing contracts; (ii) the first 150 MW of QFs in the current
9 PURPA Queue; and (iii) any new QF when the Company shows a capacity need over the
10 next 10 years. The Company is relieved of its obligation to pay the full capacity avoided
11 cost rate upon demonstrating that it does not have a capacity need over the next 10 years
12 and the Commission’s approval of this demonstration. With the Commission’s approval
13 of this demonstration, the Company is obligated to pay the MISO PRA rate for the
14 applicable Planning Year.

15 Q. Does the Company have a capacity need over the next 10 years?

16 A. Currently, no. On December 20, 2017, the Company filed a capacity demonstration in
17 Case No. U-18491 showing that it had no capacity need over the next 10 years. Several
18 parties have filed petitions to intervene and/or comments in that proceeding but, at the
19 time that this direct testimony was filed, the case has not reached a conclusion. As
20 explained in the direct testimony of Company witness Blumenstock, the Company’s base
21 capacity position shows that no capacity need exists until Planning Year 2030. Thus, the
22 base capacity position is that the Company does not currently have a capacity need over
23 the next 10 years. Assuming Commission approval of the PCA, however, D.E. Karn

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1 (“Karn”) Units 1 and 2 will retire in 2023. This leads to the backfill plan included in
2 Mr. Blumenstock’s and Mr. Clark’s direct testimony. The Company’s PCA calls for
3 backfilling the capacity from the retirement of Karn Units 1 and 2 with a mixture of
4 Energy Waste Reduction, Conservation Voltage Reduction, and Demand Response
5 resources. As indicated by Company witnesses Blumenstock and Clark, the Company
6 does not have a capacity need; and in fact, absent approval of the PCA proposed in this
7 IRP, is long on capacity until 2030.

8 ~~Q. Is the Company proposing any changes to the 10 year outlook for making the capacity~~
9 ~~demonstration?~~

10 ~~A. Yes. The Company proposes to reduce the capacity demonstration from a period of~~
11 ~~10 years to three years because the three year forecast of capacity resources and demand~~
12 ~~better aligns with the reasonable and prudent determination related to cost recovery~~
13 ~~requested by the Company to implement the PCA in this IRP. As discussed by Company~~
14 ~~witnesses Blumenstock and Clark, one of the biggest advantages of the PCA is that the~~
15 ~~Company is proposing to meet its customer’s capacity needs through energy waste~~
16 ~~reduction, demand response, and Conservation Voltage Reduction Program, and then~~
17 ~~adding incremental solar generation to the system on a yearly basis. By relying on~~
18 ~~smaller, modular sources, the Company avoids constructing a large baseload plant and~~
19 ~~the significant capital investment that goes with it. The PCA allows the Company to~~
20 ~~adjust its plans in the future should lower cost technologies become available or demand~~
21 ~~not materialize as forecasted in this IRP. Such adjustments will allow the Company to~~
22 ~~provide the right amount of capacity at the right time. Such a shift in strategy also allows~~
23 ~~for a different capacity planning outlook. While the Company may still look out 10 years~~

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1 ~~into the future, the PCA contemplates that the Company will be able to adjust capacity~~
2 ~~decisions in a much more nimble manner. Adding smaller solar projects to the system on~~
3 ~~a yearly basis means that the Company will have a three-year outlook for capacity~~
4 ~~planning purposes. When the Company issues a solicitation for new supply resources,~~
5 ~~one of the criteria that is evaluated from a risk perspective is the status of the~~
6 ~~development process (permitting, interconnection, land acquisition). The proposals~~
7 ~~received include completion of some, if not all, of development that is required for the~~
8 ~~proposed projects. Developers complete part of the project development schedule in~~
9 ~~order to determine project feasibility before the proposals are submitted. Therefore, three~~
10 ~~years is the appropriate lead time to run a request for proposal process, select winning~~
11 ~~bidders, and bring solar projects online.~~

12 ~~A three year outlook also provides better alignment between the IRP schedule and~~
13 ~~future capacity needs that can be supplied by QF resources. As noted, the Commission~~
14 ~~has determined that a capacity demonstration must be recognized by a Commission order.~~
15 ~~In order to have an opportunity to fill capacity needs without several ad hoc and~~
16 ~~ever-changing regulatory filings, then there must be some type of established regulatory~~
17 ~~mechanism for the Commission to determine a capacity need or sufficiency. The IRP~~
18 ~~provides a framework for making such determinations. The IRP cost approval~~
19 ~~mechanism establishes a three year timeframe for prior approval of supply side~~
20 ~~proposals. Where the Company is proposing to add modular clean and lean renewable~~
21 ~~generation to the system on a yearly basis, the IRP three year window provides the~~
22 ~~logical avenue for the Company to seek approval of cost recovery of expenses incurred~~
23 ~~for new supply resources. To ensure similar treatment for new PURPA contracts and~~

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~~new non-PURPA supply, the capacity demonstration requirements should align to the same period of time for which the Company is seeking approval of costs associated with new resources as part of its IRP.~~

~~Additionally, the Company anticipates that there may be future declines in the cost of new solar generation, as discussed by Ms. Walz, with respect to cost assumptions used in modeling the IRP scenarios. If continued cost declines for new solar resources materialize, it would be prudent to procure additional resources through frequent competitive solicitation cycles to obtain the most current pricing available for future resources. It would not be reasonable to hold a solicitation to procure small, modular resources for supply 10 years in the future, like the 10-year capacity demonstration ultimately requires of the Company, because doing so would not allow customers to realize all of the cost savings that are projected for future resources.~~

~~Lastly, the capacity demonstration process established in the Commission's November 21, 2018 Order in Case No. U-18090, implies that if there is a capacity need in a single year over the next 10 years, the Company has an obligation to sign a 20-year contract with a QF at the full capacity avoided cost rate. This process results in the purchase of 19 years of surplus capacity to address a single year issue which could have been resolved through other, more cost-effective mechanisms such as the MISO PRA or a reverse capacity auction. Forcing the Company to take a 20-year commitment for a single year's need is not a cost-effective method to secure resources to meet future customer demand.~~

~~For all of these reasons, the Commission should use a three-year window when making a capacity demonstration finding. Thus, the Company should only be obligated~~

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1 ~~to pay the full capacity avoided costs when there is evidence of a persistent need over the~~
2 ~~next three years.~~

3 ~~Q. Why are you now proposing a three-year outlook when the Company proposed a~~
4 ~~five year outlook in its comments in Case No. U 20095?~~

5 ~~A. The Company's comments in Case No. U 20095 include the reasoning for the~~
6 ~~Company's position, and were based on the Company's planning methodologies and~~
7 ~~outlook at the time the comments were filed. In the Company's PCA in this proceeding,~~
8 ~~however, the Company is planning to drastically change how it procures resources to~~
9 ~~meet its customers' future energy and capacity needs. With that change comes a~~
10 ~~modification in how the Company plans for new supply side resources and should,~~
11 ~~therefore alter how the Commission should make capacity demonstration determinations.~~

12 ~~Q. What would be the consequences to the Company and its customers if the Commission~~
13 ~~approved the PCA but used a 10-year window for making a capacity demonstration~~
14 ~~determination?~~

15 ~~A. The PCA allows the Company to adjust its plans in the future should lower cost~~
16 ~~technologies become available or demand not materialize as forecasted in this IRP. Such~~
17 ~~adjustments will allow the Company to provide the right amount of capacity at the right~~
18 ~~time. These benefits, however, are reliant upon the Commission using a three-year~~
19 ~~window for capacity demonstration purposes. If the Commission were to use a 10-year~~
20 ~~outlook under the PCA, it could conclude that there is a persistent 407 ZRC need for~~
21 ~~Planning Year 2028 after retirement of Karn Units 1 and 2, as shown in Figure 2 of the~~
22 ~~direct testimony of Mr. Blumenstock. That need would be filled with approximately~~
23 ~~814 MW of solar QFs that have requested new PURPA contracts. Under that scenario,~~

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~~1 the benefit of being able to take advantage of lower cost technologies and adjusting to~~
~~2 demand is lost. It would also have a significant cost to customers by adding \$121 million~~
~~3 annually in PPA expenses to the PSCR now, while no need exists for many years. It~~
~~4 would also eliminate the need to do any competitive bidding to procure the best resources~~
~~5 for customers, as proposed by the Company and explained in my direct testimony.~~

61 Q. How should the Commission determine if there is a persistent need for additional
72 capacity?

83 A. A persistent need can be identified as a need that remains through the end of the capacity
94 demonstration period. The Company would not invest in additional permanent resources
105 when a capacity need exists for a short period of time. In anticipation of the early
116 retirement of the Palisades Nuclear Plant, the Company determined that in addition to the
127 increases in energy efficiency, demand response, acceleration of Cross Winds Energy
138 Park Phases II and III, and the Filer City Amendment, a 525 ZRC need existed for
149 Planning Year 2018. Therefore, the Company initiated a competitive solicitation to
1510 procure capacity through bilateral purchases. It would not have been reasonable to build
1611 a plant to provide 525 ZRCs of capacity for a single year of capacity shortfall. Similarly,
1712 the Company should not be obligated to enter into new long-term contracts for 525 ZRCs
1813 of capacity when the need is only for a short duration. The determination of a persistent
1914 need for capacity is correlated with the term length of contract offered to the QF. After
2015 the stay is lifted in Case No. U-18090, the Company will be currently required to offer
2116 contracts with term lengths up to 20 years. Therefore it would be reasonable to consider
2217 a persistent need as one that remains over the next 20 years. Similarly, if the need existed
2318 for only a period of five years it would be appropriate to only consider it a persistent need

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1 if the term offered to the QF for the full capacity avoided cost was limited to the same
2 five years. Otherwise, the Company's customers would be obligated to pay a higher cost
3 for unnecessary capacity.

4 ~~Q. How will the Company demonstrate whether or not it has a capacity need in the three~~
5 ~~years following approval of an IRP?~~

6 ~~A. As previously discussed, the Commission's November 21, 2017 Order in Case No.~~
7 ~~U-18090 identified the Company's IRP as the appropriate place to identify future~~
8 ~~capacity needs. When the Order is issued approving the Company's IRP, the amount of~~
9 ~~any capacity need demonstrated in the first three years that is not going to be filled~~
10 ~~through other capacity resources already approved by the Commission will be requested~~
11 ~~through the competitive solicitation process discussed previously in my direct testimony.~~

12 Q. The Company is only required by statute to file a plan review every five years after the
13 approval of a prior IRP. If at a time after the order is issued, but before the next IRP is
14 filed there becomes a capacity need ~~over the next three years~~, how will the Company
15 demonstrate the amount of capacity that will be available for QFs at the full avoided cost
16 rate?

17 A. Each year, the Company intends to file a forecast of its capacity demand and resource
18 supply at the time that it files an annual IRP update. ~~Additionally, the Company intends~~
19 ~~to file an update LMP projection with the capacity demonstration that can be utilized for~~
20 ~~QFs that request the five-year forecast energy price when no capacity need exists.~~
21 ~~Alternatively, the Company could file an amendment to its most recently approved IRP~~
22 ~~or a new IRP plan review every three years, which would allow consideration of the~~

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34 _____
35 _____ capacity need in the three year period subsequent to the three year approval of costs
36 _____
37 _____ period authorized in this proceeding.
38 _____

39 _____ SECTION VI: PURPA CONTRACT TERM
40 _____

41 _____ Q. Please describe the Company's current obligations regarding the term of new
PURPA

42 _____
43 _____ contracts.
44 _____

45 _____ A. In accordance with the Commission's May 31, 2017 Order in Case No. U-
18090, the

46 _____
47 _____ Company is required to offer new PURPA-based contracts with terms up to 20 years in
48 _____
49 _____ length to QFs up to 20 MW in size.
50 _____

51 _____ Q. Do you believe that the term length that the Company is required to offer
PURPA-based

52 _____
53 _____ contracts with should be addressed in this IRP?
54 _____

55 _____ A. Yes. The IRP, which lays out the Company's potential future supply needs and
resources

56 _____
57 _____ available to meet those needs, is the appropriate proceeding to determine a just and
58 _____

59 _____ reasonable PPA term under PURPA. The Company proposes to have different contract
60 _____
61 _____ terms based on whether or not a capacity need exists and whether the QF chooses to

62 _____
63 _____ receive a rate based on the time of delivery or a forecast energy price. For QFs that
64 _____
65 _____ request the MISO PRA and the actual LMP energy rates at time of delivery when the

66 _____
67 _____ Company does not have a capacity need, the contract term length should not exceed
68 _____
69 _____ 15 years, because the Company's customers are exposed to market changes. As an
70 _____

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71 ~~illustration, most of the existing PURPA contracts are based on the cost of a coal unit at a~~
72 ~~time when the MISO market did not exist. It is reasonable to limit the contracts to allow~~
73 ~~for new contracts to be executed that more appropriately reflect the outlook of market~~
74 ~~conditions.~~
75
76
77

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For QFs that request forecasted energy market prices when no capacity need

exists, the contract term length should not exceed five years, due to the volatility of

market price forecasts as well as other inputs that can significantly influence energy

prices like the cost of natural gas. As previously discussed, the LMP forecasts from the

Company's RE Plan projected that average LMP to be \$79.12/MWh in 2017, and actual

day ahead LMPs for 2017 were \$29.58/MWh. When energy forecasts are used as the

basis for determining QF compensation, the Company's customers would have been

burdened with paying \$49.54/MWh above market in 2017, using this example. To limit

the financial burden to customers associated with exposure to changes in market pricing,

the contract term offered to QFs needs to be reduced to a more reasonable timeframe.

The Company will be regularly updating its market price forecasts as part of its IRP

filings and proposes to update its market price forecast applicable to QF compensation on

an annual basis as previously discussed in my direct testimony.

For QFs that are awarded contracts as part of the competitive solicitation process

discussed previously in my direct testimony, the maximum contract term length will be

established in each solicitation. The following table summarizes the contract length that

the Company intends to make available for new QF contracts based on the Company's

capacity need, the energy rate, and the capacity rate paid under the contract.

	Ener	Maximum Contract Term
No	Fore	5 Years
No	Actu	20 Years
Ca	Com	Specified in Solicitation

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Ca	Actu	Specified in Solicitation
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SECTION VII: LEGALLY ENFORCEABLE OBLIGATION

Q. How does the Company propose to determine that a formal request has been received from a QF?

A. The date at which an LEO is created is the official date at which a QF requests a PURPA avoided cost contract and is entitled to receive the Company's current avoided cost rates approved by the Commission. The requirements for establishing an LEO is determined by the Commission. As noted in the Commission's February 22, 2018 Order, "[t]he issues surrounding the creation of an LEO are being addressed in another order issued today in Case No. U-20095."

SECTION VIII: ENVIRONMENTAL ATTRIBUTES

Q. Does the Company receive energy, capacity, and environmental attributes from new renewable QF contracts?

A. No, the Company is currently entitled to receive only the energy and capacity from new contracts that the Company signs with renewable QFs.

Q. Is the energy received from renewable QFs actually renewable energy?

A. Not necessarily. The Federal Trade Commission's Guides for the Use of Environmental Marketing Claims ("Green Guides") most recently published October 11, 2012, provides guidance on who is entitled to make renewable energy claims stating, "[i]f a marketer generates renewable electricity but sells renewable energy certificates for all of that electricity, it would be deceptive for the marketer to represent, directly or by implication, that it uses renewable energy." 16 C.F.R. 260.15(d). It follows then that it would be deceptive for the Company to claim that it is buying renewable energy from a renewable QF if the RECs are not conveyed to the utility. The entity that possesses, and ultimately

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1 retires, RECs is able to claim that they have used renewable energy. In the case of the
2 Company's renewable energy programs, such as the Company's Green Generation
3 Program, the Company retires the RECs on behalf of the participants, giving the
4 participants the right to claim that they are using renewable energy. The Company only
5 receives renewable energy from QFs that actually convey the RECs to the Company.

6 Q. Will an increase in new PURPA QFs assist the Company in meeting the renewable
7 portfolio standard of 15% by 2021 or its intention to meet the 35% goal by 2025?

8 A. Not necessarily. Although the renewable QFs are renewable generators, they do not
9 provide renewable energy to the Company if the RECs are not also received by the
10 Company, so the Company cannot retire the RECs as part of the energy supplied to retail
11 customers. The Company's customers are obligated to pay renewable QFs in accordance
12 with PURPA, but they do not receive the renewable benefits if the QF holds the RECs.
13 In contrast, when the Company enters into renewable PPAs with non-QFs or pursues
14 building Company-owned renewables, the Company receives the RECs which allows it
15 to retire the RECs as part of the supply to retail customers. For this reason, if the full
16 avoided costs are based on a competitive solicitation that requests proposals from a
17 renewable resource, the Company's obligation to buy from renewable QFs hinders our
18 ability to provide renewable energy to our customers by displacing resources that would

19 have added to the Company's REC supply. ~~Therefore, the energy avoided costs should~~
20 ~~be reduced by the market value of the RECs produced by the QF so that the Company~~
21 ~~can procure an equivalent number of unbundled RECs from the market. Absent a change~~
22 ~~in this treatment of RECs, the Company's customers will be disadvantaged if a renewable~~

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~~1 QF provides capacity in place of a renewable utility resource or non-PURPA renewable~~

~~2 PPA.~~

~~3 Q. Should this treatment of RECs or a reduced energy avoided cost rate apply to all
QFs?~~

~~4 A. No. For QFs that select to receive the actual LMP as their energy rate, the
Company~~

~~5 should not receive the RECs, because the LMP energy value in the market is not based on~~

~~6 the value of renewable energy, it is simply based on energy.~~

~~7 SECTION IX: STANDARD OFFER TARIFF~~

~~8 Q. Case No. U-18090 is undergoing a review of a Standard Offer Tariff for new-
PURPA~~

~~9 QFs. Are you familiar with the Standard Offer Tariff?~~

~~10 A. Yes. Portions of the Standard Offer Tariff are based on testimony that I provided
in Case~~

~~11 No. U-18090. I supervise the team that is responsible for implementing the Standard~~

~~12 Offer Tariff and was involved in the creation of the PURPA contract that is utilized for~~

~~13 QFs that elect the Standard Offer Tariff.~~

~~14 Q. What is the current status of the Standard Offer Tariff?~~

~~15 A. The rates and some of the rules contained in the Standard Offer Tariff have
been~~

~~16 approved through various Commission orders in Case No. U-18090. The Company has~~

~~17 not begun implementing the Standard Offer Tariff because it and the associated contract~~

~~18 are the subject of that ongoing contested proceeding.~~

~~19 Q. Please provide a description of how the Standard Offer Tariff works.~~

~~20 A. When the stay is lifted in Case No. U-18090, the Standard Offer Tariff will~~

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become

21 ~~available to QFs up to 2 MW in size that are pursuing new PURPA contracts at the~~

22 ~~Company's avoided cost rates. The Standard Offer Tariff is designed to help expedite the~~

23 ~~process for executing contracts with small QFs, and as currently filed by the Company on~~

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~~May 2, 2018 in Case No. U-18090, details the program availability, requirements, avoided cost rates, RECs, contract term, early termination security, and the process for executing a standard PPA.~~

~~Q. Does the Company propose to change to the Standard Offer Tariff as part of this IRP?~~

~~A. Yes. Elsewhere in my direct testimony I discuss proposed changes to avoided cost rates and contract term which will each have an impact to the Standard Offer Tariff. Additionally, the Company proposes to reduce the size of projects eligible for the Standard Offer Tariff from 2 MW to 150 kW. Standard Offer Tariff rates are most appropriate for small developers and customers that lack the experience and resources needed for larger forays into the electricity generation business. The current Standard Offer Tariff size extends to developers who have significant experience and resources that do not need to have their contracting facilitated through a Standard Offer Tariff. From December 1, 2017 through the end of April 2018, the Company has received requests for contracts up to 2 MW in size for 210 QFs totaling 411 MW. The majority of these requests come from large sophisticated solar project developers.~~

~~Q. What is the basis for determining that 150 kW is an appropriate limit for the size of projects that are eligible for the Standard Offer Tariff?~~

~~A. 18 CFR 292.304(e) requires the Company to implement a Standard Offer Program for QFs up to 100 kW in size. However, MCL 460.1173 specifies that the limit for the size of generators that customers are eligible to participate in the distributed generation program is 150 kW. It appears by this limit that the State of Michigan intends to treat facilities of this size differently than facilities of a larger generating capacity. To ensure that the Standard Offer Program aligns with the intent of the law for customer-owned~~

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~~1 distributed generation, the Company proposes to use the same size criteria for the~~

~~2 Standard Offer Program as well.~~

~~3 Q. Does the Company propose to use the same compensation structure for facilities that~~

~~4 meet the Standard Offer Program criteria?~~

~~5 A. No. The Company recognizes that systems of this size are generally owned and operated~~

~~6 by customers. These customers generally lack the experience to participate in the~~

~~7 competitive solicitation and contract negotiations that are common between utilities and~~

~~8 independent power producers. If the Standard Offer Program is limited to generators that~~

~~9 do not exceed 150 kW as proposed by the Company, Consumers Energy intends to offer~~

~~10 program participants the full avoided capacity and energy rates regardless of the~~

~~11 Company's capacity need.~~

121 **SECTION X: FCM IMPLEMENTATION**

132 Q. In the testimony of Company witness Maddipati, the Company proposes a FCM that

143 should be applied to new PPAs when approved by the Commission. Is the Company

154 proposing to receive a financial compensation for existing PPAs?

165 A. No. The FCM is intended to be applied to new PPAs that have not already been

176 approved by the Commission.

187 Q. Please describe how the Company proposes to apply the FCM to new contracts.

198 A. The FCM is a calculation that contains several inputs that change over time as discussed

209 by Company witness Maddipati. The Company will request approval of an FCM specific

2110 to each new PPA that is approved by the Commission. The Company's Application for

2211 approval of the PPA will include the applicable inputs for the FCM calculation to reflect

2312 the appropriate level of compensation at the time the PPA was filed for approval with the

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Commission. The FCM approved in the Commission's Order approving the PPA will be applied to the contract for the full contract term.

Q. How does the Company propose to apply the FCM to the PPA?

A. As the Company books the generation and associated expense according to the terms of the PPA on a monthly basis, the FCM will be added to the total PPA expense booked for the month. The counterparty will receive the compensation associated with the rates included in the PPA and the Company will retain the financial compensation. The FCM is determined on a \$/MWh basis, so the Company will multiply the approved FCM for the PPA by the amount of generation booked for the month, including any prior period adjustments.

Q. Which cost recovery mechanism is the Company proposing be utilized to recover the FCM?

A. As discussed by Company witness Torrey, the Company intends to recover the FCM through base rates.

SECTION XI: CONCLUSION

Q. Please summarize your direct testimony.

A. In this direct testimony, I have: (i) described the key inputs assumptions related to the Company's long-term PPAs for energy, capacity, and/or renewable energy attributes;
~~(ii) provided an overview of the Company's implementation of PURPA avoided costs;~~
~~(iii) detailed the proposed changes to the Company's PURPA avoided cost~~
~~implementation;~~ and (iv) explained the process by which the Company plans to apply the FCM to new PPAs.

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1 Q. What approvals does the Company request from the Commission regarding your direct
2 testimony?

3 A. As explained in my direct testimony, the Company requests approval of the following:

4 ~~1. Modification of the Company's PURPA capacity demonstration requirement~~
5 ~~from 10 years to a persistent need in the next three years;~~

6 ~~2. Reduction to the term length from 20 years to five years for QF contracts that~~
7 ~~choose the forecast LMP outside of a competitive solicitation process, or to~~
8 ~~15 years for QF contracts that choose the actual LMP;~~

9 ~~3. A determination that the full avoided energy costs paid to a renewable QF~~
10 ~~should be reduced to allow the Company to procure replacement RECs;~~

11 ~~4. Reduction in the size of the facilities eligible for the Standard Offer Tariff~~
12 ~~from 2 MW to 150 kW;~~

13 ~~5. A determination that when the Company has no capacity need, the avoided~~
14 ~~costs should be set to the actual MISO PRA clearing price for capacity and the~~
15 ~~QFs choice of either actual real-time LMPs for up to 15 years or forecast~~
16 ~~LMPs for up to five years;~~

17 ~~6. Approval of the competitive solicitation process to set full avoided cost rates~~
18 ~~when the Company has a capacity need, or alternatively, approval of setting~~
19 ~~the full avoided cost rates at the Company's blended resource cost;~~

20 ~~4~~
205 7. Approval of the method in which the Company proposes to implement the
216 FCM; and

227 8. Approval of any mechanisms necessary to implement these requests.

238 Q. Please summarize the Company's expectations related to the IRP, avoided costs, and
249 capacity demonstration.

2510 A. If the Commission issues an Order approving the Company's PCA in this IRP
26 ~~proceeding, the Company anticipates that it will receive approval of changes to the~~
27 ~~implementation of PURPA, fulfillment of its capacity demonstration, and an approved~~
28 ~~methodology for establishing avoided costs.~~

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| ~~29~~11 Q. Does this complete your direct testimony?

| ~~30~~12 A. Yes, it does.

**STATE OF MICHIGAN
MICHIGAN PUBLIC SERVICE COMMISSION**

In the Matter of the Application of CONSUMERS ENERGY COMPANY for approval of its integrated resource plan pursuant to MCL 460.6t and for other relief.))))))	Case No. U-20165
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PROOF OF SERVICE

I hereby certify that a true copy of the foregoing *Notice of Hearing, Motion to Strike Testimony of Certain Consumers Energy Company Witnesses, and Attachment 1* were served by electronic mail upon the following Parties of Record, this 15th of August, 2018.

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STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY) Case No. U-20165
for approval of its integrated resource plan)
pursuant to MCL 460.6t and for other relief)
_____)

PROOF OF SERVICE

STATE OF MICHIGAN)
) SS
COUNTY OF JACKSON)

Samantha J. O'Rourke, being first duly sworn, deposes and says that she is employed in the Legal Department of Consumers Energy Company; that on September 17, 2018, she served an electronic copy of the **Consumers Energy Company's Application for Leave to Appeal the Administrative Law Judge's September 10, 2018 Ruling** upon the persons listed in Attachment 1 hereto, at the e-mail addresses listed therein. She further states that she also served a hard copy of the same document to the Hon. Sharon L. Feldman at the address listed in Attachment 1 by depositing the same in the United States mail in the City of Jackson, Michigan, with first-class postage thereon fully paid.

Samantha J. O'Rourke

Subscribed and sworn to before me this 17th day of September, 2018.

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

ATTACHMENT 1 TO CASE NO. U-20165

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ATTACHMENT 1 TO CASE NO. U-20165 (Continued)

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