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January 23, 2018

Ms. Kavita Kale
Executive Secretary
Michigan Public Service Commission
7109 W. Saginaw Highway
P.O. Box 30221
Lansing, Michigan 48909

Re: MPSC Case No. U-18444

Dear Ms. Kale:

Attached for electronic filing in the above-referenced matter, please find the Direct Testimony and Exhibits of Alexander Zakem on behalf of Energy Michigan, Inc., as well as Proof of Service. Thank you for your assistance in this matter.

Sincerely yours,

VARNUM

Timothy J. Lundgren

TJL/kc
Enclosures
c. ALJ
All parties of record.

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion,)
to open a contested case proceeding for)
determining the process and requirements for a)
forward locational requirement under)
MCL 460.6w.)
_____)

Case No. U-18444

DIRECT TESTIMONY & EXHIBITS OF

ALEXANDER J. ZAKEM

ON BEHALF OF

ENERGY MICHIGAN, INC.

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1 **Q. Please state your name and business address.**

2 A. My name is Alexander J. Zakem and my business address is 46180 Concord, Plymouth,
3 Michigan 48170.

4

5 **Q. On whose behalf are you testifying in this proceeding?**

6 A. I am testifying on behalf of Energy Michigan, Inc. (“Energy Michigan”).

7

8 **Q. Please state your professional experience.**

9 A. Since January of 2004, I have been an independent consultant providing services to
10 various clients, including members of Energy Michigan.

11

12 From March 2002 to December 2003, I was Vice President of Operations for Quest
13 Energy, an alternative energy supplier in Michigan. My responsibilities included the
14 overall direction and management of Quest’s power supply to its retail customers. This
15 included power supply planning, development of customized products, negotiation with
16 suppliers, planning and acquiring transmission rights, and scheduling and delivery of
17 power. It also included managing risk with respect to market price movements and
18 variation of customer loads.

19

20 Prior to joining Quest, I was employed by Detroit Edison from 1977 to 2001, where from
21 1998 to 2001 I was the Director of Power Sourcing and Reliability, responsible for
22 purchases and sales of power for mid-term and long-term periods, planning for

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1 generation capacity and purchase power needs, strategy for and acquisition of
2 transmission rights, and related support for regulatory proceedings.

3
4 Additional experience, qualifications, and publications are provided in Exhibit EM-1
5 (AJZ-1).

6

7 **Q. Have you testified as an expert witness in prior proceedings?**

8 A. Yes. I have testified as an expert witness in several proceedings before the Michigan
9 Public Service Commission (“Commission”), on topics such as standby rates, retail rates
10 and regulations, recovery and allocation of costs and revenues, and the effects of rate
11 restructuring. I have also testified before the Federal Energy Regulatory Commission
12 (“FERC”). Case citations are provided in Exhibit EM-1 (AJZ-1).

13

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

15 A. Yes. I am sponsoring the following exhibits:

- 16 • Exhibit EM-1 (AJZ-1) Qualifications
- 17 • Exhibit EM-2 (AJZ-2) Resources that can qualify as a ZRC.

18

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

2 A. The Commission opened this docket as a contested case proceeding for determining the
3 process and requirement for a forward locational requirement under MCL 460.6w. The
4 Commission Staff, through the testimony of witnesses Ms. Catherine E. Cole and Mr.
5 Roger A. Doherty, proposed and explained an incremental approach for a forward
6 locational requirement, similar to the incremental approach the Staff described in the
7 Case No. U-18197 proceedings. The Staff's presentation is clear, thorough, and detailed.

8
9 In this proceeding, on behalf of Energy Michigan, I will offer a few additions to the
10 Staff's proposal to help make it more consistent with processes of the Midcontinent
11 Independent System Operator ("MISO") and more practical in actual implementation.

12
13 **Q. Does Energy Michigan support the Commission's concept of a forward locational**
14 **requirement?**

15 A. I have offered testimony on behalf of Energy Michigan in previous dockets dealing
16 directly with the interpretation of MCL 460.6w under MISO tariff rules, the
17 implementation of a forward locational requirement, and the use of MISO's Planning
18 Resource Auction. Energy Michigan is still in litigation on those issues. Although
19 Energy Michigan consistently has been opposed to the establishment of a forward
20 locational requirement as an interpretation of MCL 460.6w, that issue and other issues
21 are legal issues being debated in other forums. Here, Energy Michigan has requested me
22 to focus on workings of the Staff's proposal and to present any other proposals that I
23 believe may be more effective.

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1 **Q. What are you addressing in your testimony?**

2 A. I am addressing three aspects:

3 I. Offer perspectives on the components of Staff’s methodology for determining
4 incremental need.

5 II. Provide the context of MISO’s Resource Adequacy construct as it applies to
6 Staff’s methodology and propose modifications to be consist with MISO.

7 III. Propose an additional option for an LSE to satisfy its forward locational
8 requirement, that fits in with Staff’s methodology.

9

10 **I. Perspectives on Staff’s Methodology for Incremental Need**

11

12 **Q. Do you support the concept of “incremental need” for a forward locational**
13 **requirement?**

14 A. Michigan Zone 7 – the lower peninsula – presently has sufficient capacity to met MISO’s
15 Locational Capacity Requirement (“LCR”). If there is to be a forward locational
16 requirement for capacity for load serving entities (“LSEs”) in Michigan, then I agree with
17 Staff that it should be based on incremental need – the new capacity that has to be
18 installed to maintain the LCR of Zone 7.

19

20 Several aspects of the Staff’s analysis are consistent with my testimonies in previous
21 dockets and with Energy Michigan’s previous proposals and briefs. These include:

22

23 - Assessment of future capacity need on an incremental basis.

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- 1
- 2 - Effects of minimal load growth and 10% cap on Electric Choice in Zone 7.
- 3
- 4 - Market power resulting from hoarding of local resources.
- 5
- 6 - Share of future financial burden to be paid by Alternative Energy Suppliers
- 7 (“AESs”).
- 8
- 9 - Potential oversupply due to LSEs who own more local resources than their
- 10 nominal share of LCR obligation.
- 11
- 12 - Utilities do not presently have capacity that is being used by AES.
- 13
- 14 - Incremental need that is caused by replacement of capacity by utilities should be
- 15 met primarily by bundled utility customers.
- 16
- 17 - LCR for Zone 7 can be met by utility replacement plans.
- 18
- 19

20 **Q. Are there additional considerations that should be taken into account?**

21 A. Yes. Considerations relating to transfer of money and transfer of capacity obligation
22 should be taken into account also.

23

24 The issue of transfer of money arises from the situation where an LSE does not meet its
25 share of the forward locational requirement. Under those circumstances, the LSE will
26 pay a State Reliability Mechanism (“SRM”) charge to the local utility. The local utilities
27 – Consumers Energy and DTE Electric – have stated that since they may not have extra
28 capacity, their intent to acquire capacity through the MISO annual Planning Resource
29 Auction (“PRA”). However, the PRA is for one year out, while the local capacity
30 obligation is for four years. So if the situation arises where the LSE does not perform and
31 the allowed remedy by the utility is to go to the PRA, then the remedy by the utility is to
32 take the very action the LSE was prohibited from taking to meet its capacity obligation

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1 (assuming the non-performance is greater than the 5% PRA allowance proposed by the
2 Staff.

3

4 **Q. Is there a workable remedy for this situation?**

5 A. Yes, I propose one in Part III of my testimony.

6

7 **Q. What is the issue of transfer of capacity obligation?**

8 A. Under the Staff proposal, the local capacity obligation is set four years ahead. During
9 that time, customers may transfer from one LSE supplier to another, whether that LSE be
10 the local utility or an AES; or an AES could go out of business; or a new AES could
11 start up.

12

13 Staff partially recognizes the transfer issue with a recommendation for a re-assessment
14 proceeding every two years. Yet, this does not address the fundamental, underlying,
15 financial risk difficulty. Under the forward locational requirement, an LSE has to acquire
16 capacity four years out, regardless of its contractual commitment to its customers. If the
17 number of customers decreases, then the LSE is left with a contract for capacity but no
18 retail sale, and consequently would either sell the forward contract now, or hold it and
19 offer it into the MISO auction in the fourth year. These choices create financial risk.
20 Conversely, if the number of customers increases, then the LSE does not bear a
21 commensurate share of the locational capacity requirement until after the next re-
22 assessment case. Staff acknowledges “measurable impacts” on LSEs:

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1 Changes in load levels for a particular LSE taking place in between the time the
2 PLCs are finalized and the demonstration date may have measurable impacts on
3 the individual LSE, but little impact on the State's ability to maintain resource
4 adequacy so long as the LSEs comply with the forward requirements. [*Ms. Cole,*
5 *direct testimony, page 17, line 18-22, emphasis added.*]
6

7 **Q. Does Staff propose a remedy?**

8 A. Staff understands the situation clearly. As a remedy Staff recommends a show-cause
9 contested case be opened.

10 Q. Please explain the measurable impacts changing load levels may have for a
11 particular LSE.

12
13 A. The measurable impacts that changing load levels may have for a particular
14 LSE stem from the previous determination that the forward capacity obligations
15 four years into the future be determined based upon the prompt year PLC. It is
16 possible that following the determination of the PLC, customers could leave their
17 Alternative Electric Supplier (AES) for another supplier, however the AES would
18 still be required to demonstrate based upon its prompt year PLC, which included
19 the customers that have since left.

20
21 If the AES does not include resources to cover the entire capacity obligation
22 based upon the prompt year PLC, the Staff recommends that a show-cause
23 contested case be opened to show cause why its customers should not be assessed
24 the SRM charge.

25
26 These potential measurable impacts that changing load levels may have on
27 particular LSEs exist with the forward locational requirement as well as with the
28 four year forward capacity obligations that are not part of a locational
29 requirement.

30 [*Ms. Cole, direct testimony, page 18, lines 1-15, emphasis added.*]
31
32

33 **Q. What is your recommendation?**

34 A. While a show-cause proceeding would remedy the transfer quantity, a contested case can
35 be complex and can take a while. So there is still the issue of timing between the transfer
36 of a customer and the revision to capacity obligations.

37

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1 MISO has already solved this issue for one year, the Planning Year. If there is a transfer
2 of customers from one LSE to another, MISO decreases the losing LSE's capacity bill
3 and increases the gaining LSE's capacity bill as of the date of the change, and it uses the
4 Planning Year Auction Clearing Price ("ACP"). A solution here can use a similar
5 process.

6
7 My recommendation for the forward locational requirement is to offer the losing LSE and
8 the gaining LSE the option to settle with each other at the ACP. The gaining LSE would
9 pay the losing LSE the ACP times the PLC of the load switch, and this would continue
10 until the end of the next two-year re-assessment case. The ACP of each year in the
11 interim period would be used (not the same ACP for all interim years).

12
13 Thus, if the LSEs agree to settle under this option, (a) there is no need for a contested
14 show-cause case, (b) both LSEs are treated fairly financially, (c) both LSEs can assess the
15 value of serving or losing a customer without an unknown outcome of a contested case,
16 and (d) the total local capacity remains the same.

17
18 If the LSEs do not agree, then the show-cause contested case becomes the default
19 process.

20
21 **II. MISO's Resource Adequacy Construct**
22 **as it Applies to Staff's Methodology**

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1 **Q. How do the major components of the Staff’s proposal fit in with the MISO Tariff**
2 **requirements on resource adequacy?**

3 A. The Staff’s proposal has been formulated in the context of the Commission’s ruling on
4 the implementation MCL 460.6w. The issues that have been in contention in previous
5 proceedings and filing still exist. MISO does not have a forward obligation for Local
6 Capacity Requirement. MISO’s LCR is not an “obligation” on any LSE or any group of
7 LSEs – rather, it is a specified threshold on supply/demand reliability resulting from
8 statistical studies. The MISO LCR for a zone, if not met, results in a change in the
9 Auction Clearing Price, not a penalty charge on LSEs. The question of whether or not
10 MCL 460.6w or the Commission’s interpretation of that statute will have any effect at all
11 on supply/demand reliability in the Michigan zones is still open.

12
13 Again, parties including Energy Michigan are pursuing those issues in other forums.
14 Here, in this proceeding, I am focusing on the Staff’s proposal and will address how it
15 may fit into the MISO resource adequacy construct

16
17 **Q. Are there specific issues related to the relationship of the Staff’s proposal to MISO’s**
18 **tariff that should be addressed?**

19 A. Yes, there are two issues.

20
21 The first issue is Behind the Meter Generation (“BTMG”), and the quantification of this
22 resource under the MISO tariff and under the Staff’s proposal. The second issue is
23 MISO’s determination of the Local Capacity Requirement for a zone.

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Staff’s proposed calculation of incremental need uses both of these factors, and so it is essential that the MISO tariff and the forward locational requirement in Michigan be consistent.

Q. What is “Behind the Meter Generation”?

A. BTMG has been a common term in the electric industry for many years. The conventional understanding is that it means generation that is “behind” the utility meter – that is, generation on a retail customer’s site.

However, MISO’s definition is different. “Behind” means the MISO meter, so to speak, not the utility meter. That is, for MISO, BTMG is generation that is not included in its dispatch modeling. MISO’s definition is:

***Behind the Meter Generation (BTMG):** Generation resources used to serve wholesale or retail load located behind a CPNode that are not included in the Transmission Provider’s [MISO’s] Setpoint Instructions and in some cases can also be deliverable to Load located within the Transmission Provider Region using either Network Integration, Point-to-Point Transmission Service or transmission service pursuant to a Grandfathered Agreement. These resources have an obligation to be made available during Emergencies. [MISO Tariff, Module A, section 1.B, Definitions. Emphasis added.]*

The importance of BTMG is that BTMG (a) can qualify as a Zonal Resource Credit (“ZRC”) and (b) MISO includes BTMG in its analyses that determine the LCR. MISO’s explanation of its load modeling, which Staff submitted as Exhibit S-1, includes:

4.2.2 Behind-the-Meter Generation
Behind-the-Meter generation data came from the Module E Capacity Tracking (MECT) tool. These resources were explicitly modeled just as any other thermal

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1 generator with a monthly capacity and forced outage rate. Performance data was
2 pulled from the MISO Generator Availability Data System (GADS).
3 [*MISO “Planning Year 2018-2019 Loss of Load Expectation Study Report,”*
4 *included as Exhibit S-1, page 23 of 45.*]
5

6 **Q. How does BTMG qualify as a ZRC?**

7 A. MISO tariff Module E-1 includes the requirements for qualifying as a ZRC. Exhibit EM-
8 2 (AJZ-2) shows all the MISO-defined types of resources that can qualify as a ZRC.
9

10 **Q. In addition to inclusion in the Loss of Load Expectation studies, is BTMG included**
11 **in the MISO annual Planning Resource Auction?**

12 A. Yes. BTMG that has qualified as a ZRC is included as a resource in the PRA. Staff has
13 included MISO’s report of the PRA results as Exhibit S-4. Page 11 of that report (page
14 11 of 21 of Exhibit S-4) shows that 3,678 MW were offered into the 2017-2018 PRA, and
15 3,456 MW cleared. Page 19 of that report (page 19 of 21 of Exhibit S-4) shows that of
16 the 3,456 MW that cleared, 1,153 MW were in Zone 7.
17

18 **Q. How does Staff’s proposal use BTMG in the calculation of incremental need?**

19 A. Exhibit S-6 of Staff’s proposal shows the calculation of incremental need. BTMG on line
20 {C} is subtracted from the resources in the zone line {A} to get the projected resources
21 line {G}. The projected resources line {G} is subtracted from the projected LCR line
22 {H} to get the incremental need on line {I}.
23

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1 In short, Staff's proposal does not count BTMG as part of Zone 7 resources, despite
2 MISO doing so, and consequently the greater the BTMG in the Staff model, the fewer the
3 existing projected resources in Zone 7 and thus the greater the incremental need.

4
5 **Q. What is your recommendation?**

6 A. Under MISO rules, studies, and auction processes, BTMG is included as a Planning
7 Resource and a ZRC. I recommend that BTMG in Zone 7 should not be subtracted from
8 resources in determining the incremental need.

9
10 Staff's proposal does not define the BTMG that it uses. It is possible that the Staff is
11 counting a different type of resource than the BTMG that MISO counts. If so, then of
12 course my recommendation would be different, depending on the resource.

13
14 Nevertheless, in Staff's Exhibit S-3 page 10 of 13, BTMG is shown on lines 22 and 23.
15 These lines are included in the reported Total Planning Resources on line 27. UCAP
16 shortfall on line 28 is the difference between Total Planning Resources on line 27 and
17 Total Planning Reserve Margin Requirement – the "PRMR" – on line 11. Therefore,
18 BTMG in the Staff's proposal appears to be MISO BTMG that has qualified to be a ZRC.
19 The conclusion is the same: In order to be consistent with MISO's tariff, BTMG should
20 not be subtracted in the determination of incremental need.

21
22 **Q. You have referred to a second issue relating the MISO tariff to the Staff's proposal,**
23 **MISO's determination of the LCR for a zone. Would you explain?**

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1 A. MISO’s formula for calculating LCR contains an obvious error. I have explained this in
2 detail in my direct testimony in the Consumers Energy SRM case (U-18239, page 28, line
3 5 to page 30, line 3) and the DTE Electric SRM case (U-18248, page 29, line 10 to page
4 31, line 12). The error was also explained in the Federal Energy Regulatory Commission
5 (“FERC”) Docket No. ER13-2298. The FERC did not rule on the issue, considering it
6 beyond the scope of the proceeding at that time. MISO’s response in the docket was that
7 “MISO agrees with RESA that additional RAR Tariff changes are needed to address the
8 potential impact of the LRR changes on PRMR” and “MISO is committed to working
9 with its stakeholders to make additional RAR modifications so that they will be approved
10 by the Commission in time to be implemented for the 2014-2015 Planning Year.”
11 [*FERC Docket No. ER13-2298-000, Motion for Leave to Answer and Answer of the*
12 *Midcontinent Independent System Operator, Inc., October 4, 2013.*] But MISO did not
13 follow up with action.

14

15 **Q. Would you briefly explain the issue and how it affects the determination of**
16 **incremental need?**

17 A. In short, MISO determines a Local Reliability Requirement (“LRR”) for a zone by
18 statistical modeling. The LRR represents the amount of capacity that has to be within the
19 zone to maintain MISO’s reliability standard if the zone were isolated from other zones.
20 The LRR is generally greater than the PRMR, because the zone does not have as wide a
21 variety of sources compared to MISO as a whole. Then MISO subtracts from the LRR
22 the Capacity Import Limit (“CIL”) into the zone, and the result is the LCR.

23

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1 **Q. What is improper about that method?**

2 A. The results are improper. If the CIL equals the PRMR – meaning that the zone can
3 import all the capacity required to maintain the reliability standard – then MISO’s
4 method would still result in a need for capacity in the zone, a Local Capacity
5 Requirement. This does not make engineering sense.

6

7 **Q. How is the Staff’s incremental need proposal affected?**

8 A. Staff’s exhibits reveal the effect. Exhibit S-3, page 3 of 13, shows for 2023/24 for Zone 7
9 a LRR of 24,656 MW, a CIL of 3,785 MW, and a resulting LCR (=24,656 – 3,785) of
10 20,871 MW.

11

12 Exhibit S-3, page 4 of 13, shows a Planning Reserve Margin percentage (“PRM”) of
13 8.4%., and Exhibit S-6, line {J} shows projected Zone 7 peak demand of 21,284. Thus,
14 the PRMR for the zone – the MISO required capacity – would be (21,284 x 1.084 =)
15 23,072 MW. This ought to mean that if the CIL were also 23,072, then Zone 7 would
16 not need any local capacity.

17

18 However, the MISO formula says that with an LRR of 24,656 and a CIL of 23,072, Zone
19 7 would still need (24,656 – 23,072 =) 1,584 MW of local capacity. That is the error.

20

21 **Q. What is your recommendation?**

22 A. Staff expects that over time, that “Once all current and currently planned utility assets
23 have been retired, each LSE’s forward locational requirement will be 100% of its pro rata

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1 share of the LCR” [Ms. Cole direct testimony, page 27, lines 10-12.] In this
2 situation, due to the error in the LCR calculation, Zone 7 will end up with about 300 MW
3 excess capacity (see testimonies cited previously). The cost of this at \$600 per kW would
4 be about \$180 million investment, plus annual operating and maintenance expense.

5
6 Therefore, I recommend two actions for the Commission:

- 7 1. In the short-term, remove 300 MW from the LCR value when calculating
8 incremental need.
- 9 2. In the longer term, file with the FERC for a correction to the MISO LCR
10 calculation.

11
12 style="text-align:center">**III. Additional Option for an LSE**
13 **to Satisfy Its Forward Locational Requirement**

14
15 **Q. How can an LSE satisfy its forward locational requirement?**

16 A. Including the Staff’s proposal, there are three ways for an LSE to satisfy its forward
17 locational requirement:

- 18 1. Pay the SRM charge to the local utility.
- 19 2. Own a local resource that can be converted into ZRCs.
- 20 3. Contract to purchase ZRCs from a party who owns ZRCs in the local zone.

21
22 **Q. In your opinion, are these three methods workable in practice?**

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1 A. “Workable” should be assessed in the light of clear objectives. The Commission has
2 stated that one objective of MCL 460.6w is “to ensure that all energy providers –
3 including alternative electric suppliers, municipal utilities, electric cooperatives, and
4 regulated electric utilities – contribute to the state’s long-term electric capacity needs.”¹
5 A second objective should be to preserve Electric Choice.

6
7 Method 1 – pay the SRM charge – does nothing to contribute to the state’s long-term
8 electric capacity needs. The utility receiving the money merely will “purchase capacity
9 from the MISO auction,” as Consumers Energy and DTE Electric have stated. The
10 MISO auction is for one year, not long term. Further, the MISO auction does not “sell”
11 capacity, but rather determines the price that an LSE will pay MISO for a share of all the
12 capacity that clears in the MISO auction.

13
14 Method 2 – own a local resource that can be converted into ZRCs – may work for some
15 LSEs that are vertically integrated and both own generation and sell retail electricity.
16 AESs are retail suppliers, but often not owners of substantial generation. Therefore,
17 AESs are less likely to build new generation to meet incremental need, compared to local
18 utilities. And, AESs may have a local capacity obligation of a few tens of MWs.
19 Expecting new resources to be built in very small quantities may not be the most
20 economic and efficient way to add new capacity in Michigan.

21

¹ Case No. U-18444, Order October 11, 2017, page 1.

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1 Method 3 – contract to purchase local ZRCs – can work for all types of LSEs in theory,
2 but in practice has to overcome potential market power of LSEs who own more local
3 resources than their obligation and can result in overbuilding capacity. Method 3 can
4 result in Michigan Zone 7 meeting the MISO LCR for Zone 7 in total, yet individual
5 LSEs within Zone 7 not meeting the local capacity obligation specified by the
6 Commission.

7
8 In short, Method 1 satisfies the state requirement by paying a penalty charge. Method 2
9 satisfies the requirement by paying for ownership. Method 3 satisfies the requirement by
10 paying for a specific local purchase.

11
12 **Q. Do you recommend an additional method?**

13 A. Yes. I recommend that an LSE be allowed to meet its share of the incremental need by
14 paying money to those parties who are actually building new capacity, in a way that
15 avoids the exercise of market power and the potential of overbuilding. This option would
16 be in addition to the three methods described above.

17
18 **Q. Please explain.**

19 A. Under the Staff’s proposal, the determination that there is an “incremental need” in a
20 specified year means that more capacity will be needed in that year to meet MISO’s LCR
21 for the zone. Zone 7 presently meets MISO’s LCR. Staff maintains – and I agree – that
22 as long as rate-regulated utilities continue to replace retiring generation, Zone 7 will

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1 continue to meet MISO's LCR.² Therefore the issue of a workable methodology for a
2 forward locational requirement reduces to an issue of fair apportionment of cost. One
3 solution is to give each LSE the opportunity to pay a fair share of the cost of building
4 new capacity within Zone 7 to meet the incremental need, while avoiding being exposed
5 to market power of sellers and avoiding an outcome of overbuilding.

6
7 **Q. What is your recommendation?**

8 A. I recommend that an LSE be allowed to meet its forward locational requirement – that is,
9 its share of the incremental need – as determined by the Staff method, by the paying the
10 MISO Cost of New Entry, which MISO determines each year for each zone. The Cost of
11 New Entry represents the value of pure capacity.

12
13 **Q. Who would the money go to?**

14 A. The money would be split pro-rata by MW by those entities that fill the incremental need.

15
16 **Q. Would all LSEs be required to make such a payment?**

17 A. No. Paying the Cost of New Energy would be a fourth method of satisfying the forward
18 locational requirement. An LSE could still use any of the other three methods.

19
20 **Q. What are the benefits of this fourth method?**

21 A. There are a number of benefits:

² Direct testimony of Ms. Cole, page 26, line 13, to page 27, line 15.

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1 Clearing Price. This will eliminate the mismatch of changes in load served versus
2 a fixed forward locational requirement.

3
4 2. Behind the Meter Generation that qualifies as a MISO Planning Resource should
5 not be subtracted from local resources when determining the incremental need.
6 MISO counts BTMG as a local resource.

7
8 3. Based on MISO's error in calculating Local Capacity Requirement,
9 a. In the short term, remove 300 MW from the LCR value when calculating
10 incremental need in the Staff's proposal.
11 b. In the longer term, file with the FERC for a correction to the MISO LCR
12 calculation.

13
14 4. Add an option for an LSE to satisfy its forward locational requirement by paying
15 the MISO Cost of New Entry, which payment will be shared by the entities that
16 are building new local resources.

17
18 **Q. Does this complete your direct testimony?**

19 A. Yes, it does.

20

STATE OF MICHIGAN
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to open a contested case proceeding for)	
determining the process and requirements for a)	Case No. U-18444
forward locational requirement under)	
MCL 460.6w.)	
_____)	

EXHIBITS OF
ALEXANDER J. ZAKEM
ON BEHALF OF
ENERGY MICHIGAN, INC.

ALEXANDER J. ZAKEM

**46180 Concord
Plymouth, Michigan 48170
734-751-2166
ajzakem@umich.edu**

CONSULTANT – MERCHANT ENERGY AND UTILITY REGULATION

Provides strategies and technical expertise on competitive market issues, transmission issues, state and federal regulatory issues involving the electricity business, and associated legal filings. Scope includes the Midwest ISO Energy Market and Resource Adequacy, FERC proceedings on transmission and market tariffs, state rules for competitive supply, and negotiation of settlements.

PRIOR POSITIONS: Quest Energy, LLC – a subsidiary of Integrys Energy Services

Vice President, Operations

March 2002 to December 2003

Responsible for the planning, acquisition, scheduling, and delivery of annual power supply and transmission, to serve competitive retail electric customers.

- **Power Planning** -- Designed and negotiated customized long-term power contracts, to reduce power costs and exposure to spot energy prices.
- **Transmission** -- Revamped transmission strategy to reduce transmission costs.
- **Load Forecasting** -- Instituted formal short-term forecasting process, including weather normalization.
- **Risk Management** -- Developed summer supply strategy including call options to minimize physical supply risk at least cost. Instituted probabilistic assessment of forecast uncertainty to minimize transmission imbalance costs.
- **Contract Management** – Negotiated and recovered liquidated damages for power supply contracts. Included cost of transmission losses into customer contracts.
- **Operations Capability** -- Expanded the Operations staff. Oversaw daily activity in spot market purchases. Instituted back-up capability, including equipment and processes, enabling the company to schedule and deliver virtually all power during the August 2003 blackout in the Midwest.

PRIOR POSITIONS : DTE Energy / Detroit Edison — 1977 to 2001

Director, Power Sourcing and Reliability

May 1998 to April 2001

Director of group responsible for monthly, annual, and long-term purchases and sales of power for Detroit Edison, including procuring power for the summer peak season.

- **Planning** -- Planned summer power requirements for Detroit Edison, including mix of generation, option contracts, hub purchases, load management, and transmission, which balanced and optimized physical risk and financial risk.
- **Contract Management** – Established decision, review, and approval process for evaluation and execution of power transactions, including mark-to-market valuation.
- **Execution** -- Executed summer plans, contracting annually for purchased power and transmission services. Directed negotiations for customized structured contracts to provide the company with increased operating flexibility, dispatch price choices, and delivery reliability.
- **Risk Management** – Developed an optimizing algorithm using load shapes to minimize corporate exposure to volatile power prices. Developed a hedging strategy to fit power purchases to the corporation's risk tolerance level.
- **Acquisitions** -- Team leader for acquisition of new peakers.
- **Settlements** -- Negotiated and settled liquidated damages claims.

Relevant prior positions within Detroit Edison

<u>Position</u>	<u>Organization</u>	<u>Time Period</u>
Director, Special Projects	Customer Energy Solutions	Apr 97 to May 98

Leader of several special projects involving the transformation of the corporation's merchant energy functions into competitive business units, including merger explorations and the start up of DTE Energy Trading (DTE's power marketing affiliate).

Directed filings to the Federal Energy Regulatory Commission to establish DTE Energy Trading as a power marketer and to gain authority for sales, brokering, and code of conduct. The FERC used DTE's flexible utility/affiliate code of conduct as precedent for rulings for other power marketers.

Director, Risk Management	Huron Energy (temp affiliate)	Jan 97 to Apr 97
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Leader of team responsible for competitive pricing of wholesale structured contracts and for acquiring risk management hardware and software to support risk management policy. Prepared Board resolutions to implement risk management policy.

Director, Contract Development Customer Energy Solutions Jan 96 to Dec 96

Leader of team that formulated a business strategy for the corporation in competitive power marketing. Team leader on project evaluating an existing steam and electricity contract, recommending and gaining Board approval for revamping the corporation's Thermal Energy business and strategy.

Project Director Executive Council Staff Jan 91 to Dec 95
& Corporate Strategy Group

Project leader for competitive studies, including business risk, generation pooling, and project financing in the merchant generation industry. Team member and/or team leader for analyses of merger and acquisition opportunities

Special Assignment Executive Council Staff Mar 90 to Dec 90

Special assignment related to long-term industry strategies and mergers and acquisitions.

Pricing Analyst Marketing / Rate Aug 82 to Mar 90

Developed, negotiated, and implemented an innovative standby service tariff. Testified as an expert witness in regulatory proceedings and in state legislative hearings.

Engineer Resource Planning Aug 79 to Dec 81

Member of the company's electric load forecasting team, responsible for SE Michigan energy and peak demand forecasting, and for risk analysis. Developed the company's first residential end-use forecast model.

PRIOR POSITIONS: Prior to DTE Energy

Lear Siegler Corporation, ACTS Computing division, systems analyst and programmer from January 1973 to July 1977.

EDUCATION: M. A. in mathematics, University of Michigan, 1972
B. S. in mathematics, University of Michigan, 1968

MILITARY: U. S. Army, September 1968 to June 1970.
Viet Nam service from June 1969 to June 1970.
Honorably discharged.

PROFESSIONAL: Member, Engineering Society of Detroit (1979-present)

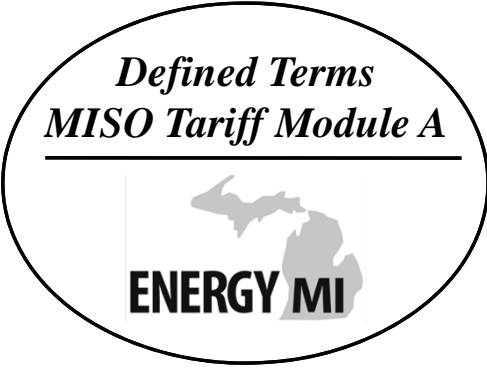
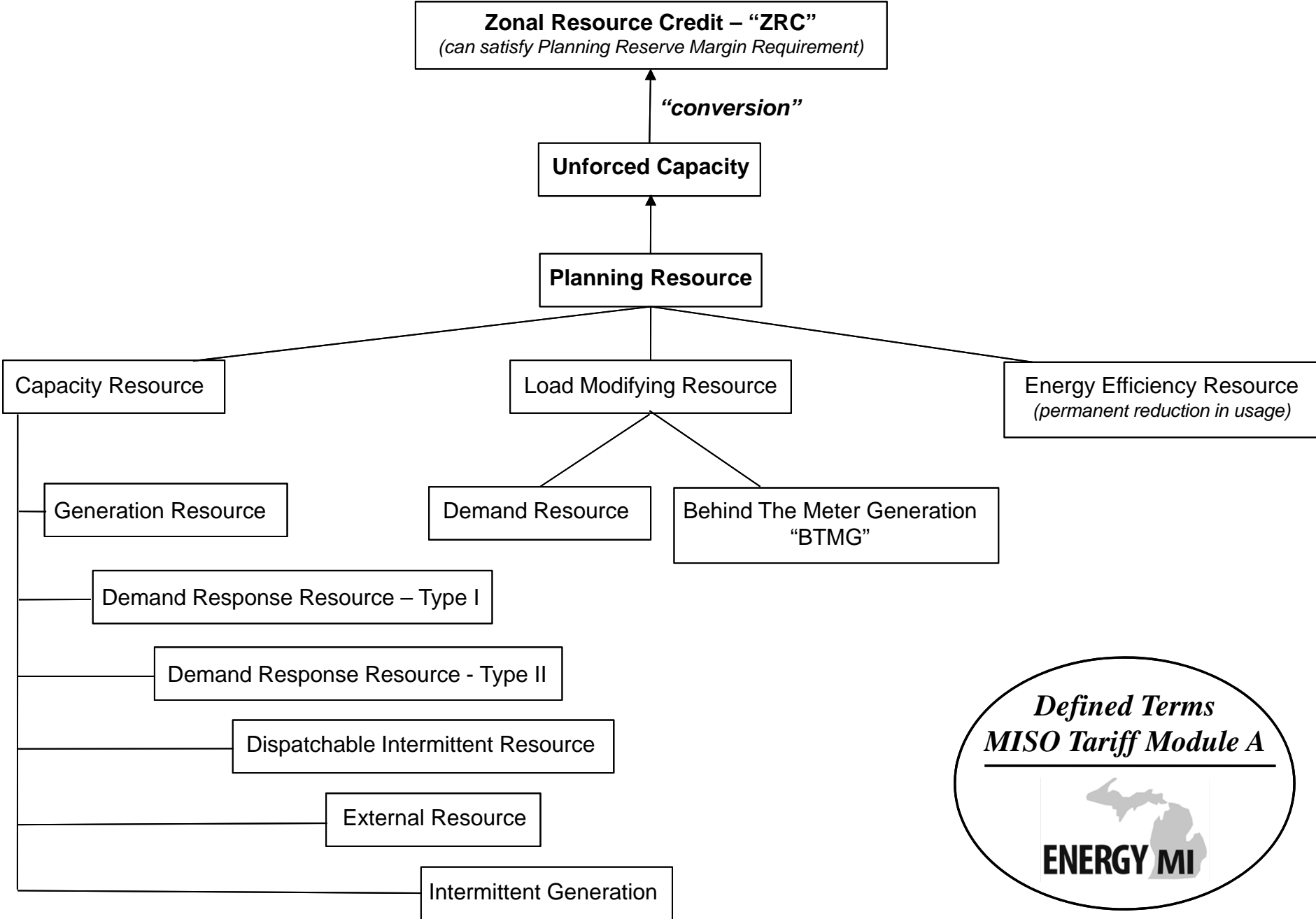
PUBLICATIONS & PAPERS:

- "Competition and Survival in the Electric Generation Market," published in *Public Utilities Fortnightly*, December 1, 1991.
- "Measuring and Pricing Standby Service," presented at the Electric Power Research Institute's "Innovations in Pricing and Planning" conference, May 3, 1990.
- "Assessing the Benefits of Interruptible Electric Service," presented at the 1989 Michigan Energy Conference, October 3, 1989.
- "Principles of Standby Service," published in *Public Utilities Fortnightly*, November 24, 1988.
- "Progress in Conservation," a satirical commentary published in *Public Utilities Fortnightly*, October 27, 1988.
- "Comparing Utility Rates," published in *Public Utilities Fortnightly*, November 13, 1986.
- "Uncertainty in Load Forecasting," with co-author John Sangregorio, published in *Approaches to Load Forecasting*, Electric Power Research Institute, July 1982.

PREVIOUS TESTIMONY:

- Michigan Public Service Commission, U-18248
- Michigan Public Service Commission, U-18239
- Michigan Public Service Commission, U-18014
- Michigan Public Service Commission, U-17990
- Michigan Public Service Commission, U-17767
- Michigan Public Service Commission, U-17735
- Michigan Public Service Commission, U-17689
- Michigan Public Service Commission, U-17688
- Michigan Public Service Commission, U-17429
- Michigan Public Service Commission, U-17087
- Michigan Public Service Commission, U-17032
- Michigan Public Service Commission, U-16794
- Michigan Public Service Commission, U-16566
- Michigan Public Service Commission, U-16472
- Michigan Public Service Commission, U-16191
- Michigan Public Service Commission, U-15768.
- Michigan Public Service Commission, U-15744.
- Federal Energy Regulatory Commission, Docket No. EL04-135 & related dockets.
- Michigan Public Service Commission, U-12489.
- Michigan Public Service Commission, U-8871.
- Michigan Public Service Commission, U-8110 part 2.
- Michigan Public Service Commission, U-8110, part 1.
- Michigan Public Service Commission, U-7930 rehearing.
- Michigan Public Service Commission, U-7930.

Types of Resources That Can Qualify as ZRCs



STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion,)
to open a contested case proceeding for)
determining the process and requirements for a) **Case No. U-18444**
forward locational requirement under)
MCL 460.6w.)
_____)

PROOF OF SERVICE

STATE OF MICHIGAN)
) ss.
COUNTY OF INGHAM)

Kimberly J. Champagne, the undersigned, being first duly sworn, deposes and says that she is a Legal Secretary at Varnum LLP and that on the 23rd day of January, 2018, she served a copy of the Direct Testimony and Exhibits of Alexander J. Zakem on behalf of Energy Michigan Inc. upon those individuals listed on the attached Service List via email at their last known addresses.

Kimberly J. Champagne

SERVICE LIST
MPSC CASE NO. U-18444

Administrative Law Judge

Hon. Dennis W. Mack
Administrative Law Judge
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