

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

FILED

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INDIANA UTILITY
REGULATORY COMMISSION

VERIFIED PETITION OF INDIANA MICHIGAN)
POWER COMPANY (I&M), AN INDIANA)
CORPORATION, FOR APPROVAL OF A CLEAN)
ENERGY SOLAR PILOT PROJECT (CESPP);)
FOR DECLINATION OF JURISDICTION OR)
ISSUANCE OF A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY FOR CESPP;)
FOR APPROVAL OF ACCOUNTING AND)
RATEMAKING, INCLUDING TIMELY)
RECOVERY OF COSTS INCURRED DURING)
CONSTRUCTION AND OPERATION OF CESPP)
THROUGH A SOLAR POWER RIDER; FOR)
APPROVAL OF CESPP DEPRECIATION)
PROPOSAL; FOR AUTHORITY TO DEFER)
CESPP COSTS UNTIL SUCH COSTS ARE)
REFLECTED IN THE SOLAR POWER RIDER OR)
OTHERWISE REFLECTED IN I&M'S BASIC)
RATES AND CHARGES; AND FOR APPROVAL)
OF A GREEN POWER RIDER.)

44511

CAUSE NO. _____

SUBMISSION OF INDIANA MICHIGAN POWER COMPANY'S
DIRECT TESTIMONY AND EXHIBITS

Petitioner, Indiana Michigan Power Company (I&M), by counsel, respectfully submits the testimony and exhibits of Paul Chodak III, Joseph A. Karrasch, and Christopher M. Halsey in this Cause.

Respectfully submitted,



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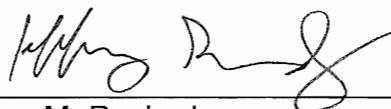
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COMPANY

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing was served this 7th day of July, 2014, via email transmission to:

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INDIANA MICHIGAN POWER COMPANY

VERIFIED PRE-FILED DIRECT TESTIMONY

OF

PAUL CHODAK III

**VERIFIED PRE-FILED DIRECT TESTIMONY OF PAUL CHODAK III
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY**

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

2 A. My name is Paul Chodak III. My business address is One Summit Square, P.O.
3 Box 60, Fort Wayne, Indiana 46801. I am President and Chief Operating Officer
4 of Indiana Michigan Power Company (I&M or Company).

5 **Q. What are your principal areas of responsibility with I&M?**

6 A. I am responsible for the safe, reliable, and efficient day-to-day operation of I&M,
7 which is an operating company subsidiary of American Electric Power Company,
8 Inc. (AEP). I am accountable and responsible for I&M's financial performance
9 and the quality of the services we provide to our customers. My responsibilities
10 include I&M's community involvement and economic development, and ensuring
11 compliance with federal regulatory and statutory rules, as well as laws of Indiana
12 and Michigan, the states comprising the Company's electric service territory.
13 Essentially, I am accountable for the Company's distribution, customer service,
14 transmission, and generation functions to ensure the safe delivery of reliable
15 electric energy to I&M's customers.

16 **Q. Please describe your educational and professional background.**

17 A. I received a Doctorate Degree in nuclear engineering from Massachusetts
18 Institute of Technology in 1996. I received a Master's Degree in civil engineering
19 from Virginia Polytechnic Institute and State University, and a Bachelor of

1 Science Degree in chemical engineering with honors from Worcester
2 Polytechnic Institute.

3 Prior to joining American Electric Power Service Corporation (AEPSC), I
4 was a Staff Scientist at Los Alamos National Laboratory conducting research on
5 technology and policy issues surrounding nuclear power and proliferation risks. I
6 served more than seven years as a U.S. Naval officer and completed both chief
7 engineer and submarine officer qualifications.

8 I joined AEPSC in 2001 as a Senior Project Manager. In 2002, I was
9 named Director - Regional Engineering for Regulated Generation, working with
10 the team providing engineering support to many of AEP's plants. I was named
11 Managing Director - Corporate Technology Development in 2003, and was part
12 of a team that evaluated existing pollution control technologies, and the
13 application of those technologies in meeting new and evolving environmental
14 compliance requirements.

15 In 2004, I helped implement AEP's system-wide environmental
16 compliance plan as Director - Environmental Programs, responsible for more
17 than \$2 billion of capital investments. In early 2007, I was named Director - New
18 Generation, responsible for the installation of several natural gas simple- and
19 combined-cycle plants. During my tenure as Director - New Generation, I
20 directed the team that successfully commissioned the first two units at
21 Southwestern Electric Power Company's (SWEPCo) Harry D. Mattison Plant. I
22 was also responsible for SWEPCo's J. Lamar Stall (Stall) project.

1 In July 2008, I was named President and Chief Operating Officer of
2 SWEPCO, which like I&M is an operating company subsidiary of AEP. I became
3 President and Chief Operating Officer of I&M on July 1, 2010.

4 **Q. Have you previously testified before any regulatory commissions?**

5 A. Yes. I have submitted pre-filed testimony before the Indiana Utility Regulatory
6 Commission (IURC or Commission) in Cause Nos. 44000, 44033, 44075, 44182
7 and 44331. I have also provided testimony before the Michigan Public Service
8 Commission (MPSC) in Case Nos. U-16180, U-16801, U-17026, and U-17524.
9 In addition, I have testified before the Louisiana Public Service Commission and
10 provided testimony on various matters to the Arkansas, Texas, Virginia, and
11 West Virginia regulatory commissions.

12 **Q. What is the purpose of your testimony in this cause?**

13 A. The purpose of my testimony is to provide an overview of I&M's Clean Energy
14 Solar Pilot Project (CESPP) that would deploy approximately 16 MWs of utility-
15 scale solar generation to serve I&M's customers. My testimony supports I&M's
16 request for approval of the CESPP as a Clean Energy Project and for timely
17 recovery of the costs incurred during construction and operation of the CESPP. I
18 also provide an overview of the Company's request for approval of a Green
19 Power Rider through which I&M's customers may voluntarily provide additional
20 support for the CESPP.

1 **Q. Please summarize the relief I&M is seeking in this Cause.**

2 A. I&M is requesting that the Indiana Utility Regulatory Commission (IURC or
3 Commission) approve its proposal to construct and own approximately 16 MW of
4 utility owned solar generation (CESPP) in accordance with Indiana's Utility
5 Generation and Clean Coal Technology Statute, Ind. Code § 8-1-8.8 (also
6 referred to as "Senate Bill 29"). As contemplated by Senate Bill 29, I&M is
7 seeking assurance of timely cost recovery for the CESPP pursuant to the
8 proposed Solar Power Rider.

9 I&M also requests that the Commission approve certain ratemaking and
10 accounting treatment for the CESPP, including: (1) timely recovery of its
11 construction and operating costs incurred in connection with the CESPP; (2)
12 approval of a (20-year) depreciable life for the CESPP; and (3) deferral of post in-
13 service carrying costs and O&M costs (including depreciation, property taxes,
14 third-party forecasting costs, etc.) on an interim basis until such costs are
15 reflected in I&M's retail rates. The specific accounting and ratemaking requests
16 are discussed in greater detail in the testimony of Company witness Christopher
17 M. Halsey, Senior Regulatory Consultant for I&M.

18 I&M also seeks approval of a Green Power Rider that will allow customers
19 the opportunity to support the development of solar power by voluntarily
20 subscribing each month to a specific number of Solar Renewable Energy
21 Certificates (SREC). The Green Power Rider is discussed by Company witness
22 Halsey.

1 Last, because the CESPP is a relatively small renewable energy pilot
2 project, I&M seeks an exemption from the Powerplant Construction Act (IC 8-1-
3 8.5), as permitted by the alternative utility regulation statute (IC 8-1-2.5-5), to the
4 extent appropriate to allow I&M to proceed with the pilot project. In the
5 alternative, I&M requests that the Commission grant a certificate of public
6 convenience and necessity (CPCN) for the CESPP.

7 **Q. Please explain I&M's request that the Commission decline to exercise its**
8 **jurisdiction with regard to granting a CPCN under the Powerplant**
9 **Construction Act (IC 8-1-8.5) for the CESPP.**

10 A. I&M requested that the Commission decline to exercise its jurisdiction under the
11 Powerplant Construction Act because the CESPP is a small renewable project
12 similar to an alternative energy production facility that is exempt from the
13 Powerplant Construction Act. The CESPP is, as its name suggests, a pilot
14 project designed to afford I&M and its customers an opportunity to make a
15 meaningful step to integrating solar power into I&M's integrated resource
16 portfolio. Because of the small size of the CESPP, it is unnecessary for the
17 Commission to exercise the Commission's jurisdiction under the Powerplant
18 Construction Act. Declining jurisdiction under this statute and reviewing the
19 project in accordance with SB 29 is administratively efficient and would otherwise
20 benefit I&M, our customers and the State by reasonably advancing the
21 integration of solar power as an energy resource. As such, it is sensible to
22 regulate the CESPP in the manner of other renewable projects constructed by
23 non-utilities, for which the Commission has declined to exercise its jurisdiction.

1 Granting I&M's request does not mean that the project would be
2 unregulated or that I&M would not be accountable for reasonably constructing
3 and operating the CESPP; it simply would be an efficient manner in which to
4 review a project of this nature. That said, if the Commission decides to not
5 decline to exercise its jurisdiction, I&M requests, as an alternative, that the
6 Commission find that the public convenience and necessity requires or will
7 require I&M's construction of the CESPP as a reasonable means for I&M to
8 further the renewable energy policy objectives of the State and to diversify I&M's
9 resource portfolio. As solar power becomes more prevalent as an energy
10 resource, I&M needs the skills and ability to safely, reliably and efficiently operate
11 solar facilities and the CESPP would meet that need.

12 **Q. Please describe I&M's Clean Energy Solar Pilot Project.**

13 A. The CESPP consists of the development and commercial operation by I&M of
14 approximately 16 MW of solar photovoltaic (PV) generation facilities. I&M has
15 identified five (5) sites located on land in close proximity to existing I&M
16 substations and within I&M load centers as potential host sites for small utility
17 scale solar installations of 1-5 MWs each, which mitigates the overall cost of the
18 CESPP by reducing the cost of interconnecting to the grid. I&M anticipates the
19 facilities would be ground-mounted solar PV systems that can be aligned with the
20 available sunlight to maximize system production. Company witness Joseph A.
21 Karrasch, Manager-Asset Investments/Renewables for American Electric Power
22 Service Corporation (AEPSC), provides more details on the CESPP in his
23 testimony.

1 The CESPP will provide I&M an opportunity to gain valuable experience in
2 the design and construction of utility-scale solar projects. In addition, the CESPP
3 will enable I&M to become proficient in operating solar generation and integrating
4 it reliably into the PJM Interconnection, LLC (PJM) transmission grid. This
5 knowledge would be of use to I&M and its customers as I&M moves toward
6 adding utility-scale solar in the coming years.

7 A utility-scale generating resource is an energy output designed to broadly
8 serve the Company's customer load. "Utility-scale" resources are not necessarily
9 defined to be a specific size, but rather can be developed at any appropriate size,
10 given a range of resource planning and site specific needs and characteristics.
11 "Utility scale" defines a purpose, rather than a size. As part of the
12 implementation of the CESPP, I&M states that it anticipates the utility-scale solar
13 photovoltaic installations ranging in size from 1 MW to 5 MW.

14 Overall, I&M seeks approval to invest approximately \$38 million through
15 2016 to develop approximately 16 MW of solar generation capacity. The actual
16 cost of the solar installations will be based on a competitive procurement process
17 and vary somewhat with the size and location of system facilities. I&M expects to
18 acquire the equipment and begin installation of the solar projects beginning in
19 2016. I&M intends to have the CESPP in commercial operation no later than
20 December 31, 2016 so that the pricing will benefit from the higher level of federal
21 investment tax credit available through that date.

1 **Q. Please describe the transmission of the solar energy from the CESPP sites**
2 **to I&M's customers.**

3 A. The solar installations will be located in close proximity to I&M's transmission
4 network, which is within the PJM footprint. As such, it will be relatively easy to
5 transmit the solar power from the installation to I&M's customers. Moreover, the
6 request for interconnections of four of the five installations to the network is
7 already in the queue for study and approval by PJM. The fifth installation (~1
8 MW) will connect directly to I&M's distribution system. In addition, I&M's
9 membership in PJM enhances the value of the renewable energy purchase due
10 to PJM's Generation Attributes Tracking System (GATS). GATS is a system of
11 tracking emissions data, fuel source and Renewable Portfolio Standard (RPS)
12 qualification information and creates certificates that can be used to demonstrate
13 compliance with an RPS or other regulations.

14 **Q. Is the CESPP a "clean energy project" consistent with Indiana public**
15 **policy?**

16 A. Yes. It is a clean energy project as defined in I.C. 8-1-8.8-2(2) because it is a
17 "renewable energy resource" under IC 8-1-37-4(a) (2). As such, I&M has been
18 encouraged by Indiana's energy policy to develop this project, which will allow
19 I&M to diversify its generation portfolio and develop expertise in the construction
20 and operation of solar generation. In particular, the following provisions of
21 Indiana law (IC 8-1-8.1-1) were important to I&M's determination to move forward
22 with the project:

23 (1) The development of a robust and diverse portfolio of energy production
24 or generating capacity, including...the use of renewable energy resources,

1 is needed if Indiana is to continue to be successful in attracting new
2 businesses and jobs.

3 (2) Indiana has considerable natural resources that are currently
4 underutilized and could support development of new energy production or
5 generating facilities...at an affordable price.

6 (3) It is in the public interest for the state to encourage the construction of
7 new energy production or generating facilities that increase the in-state
8 capacity to provide for current and anticipated energy demand at a
9 competitive price.

10 In addition, the Governor has supported an “all of the above” energy
11 strategy for Indiana¹ and the Commission has also supported renewable energy
12 in its various orders concerning wind generation for I&M.²

13 **Q. Were there other considerations that motivated I&M to move forward with**
14 **the CESPP?**

15 A. Yes. I&M evaluates emerging technologies and our customers’ evolving needs
16 on an ongoing basis. The Company is interested in serving our customers in the
17 manner in which they want to be served. For years, wind energy has been a
18 more economical renewable energy resource than solar, but recent
19 advancements in technology have allowed gains in the efficiency and cost-
20 effectiveness of solar energy. As solar energy is becoming more viable and
21 customers are more interested in it as a resource, now is the right time to move
22 forward with a solar power pilot.

23 The increased efficacy of solar is evidenced in I&M’s Integrated Resource
24 Plan (IRP) and its selection of solar as the supply-side resource to be added in

¹ See, Governor Pence letter to IURC Chairman Atterholt dated March 27, 2014.

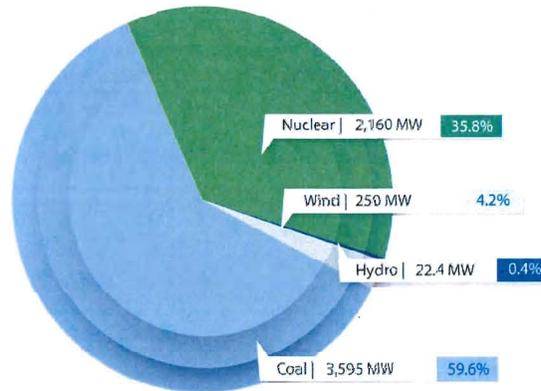
² Fowler Ridge I Wind Farm REPA (IN Cause No 43328); Fowler Ridge II Wind Farm REPA (Cause No. 43750); Wildcat Wind Farm REPA (Cause No. 44034); Headwaters Wind Farm REPA (Cause No. 44362).

1 significant quantities going forward. While the IRP is subject to change if
2 circumstances change over time, it is clear that solar will be part of the energy
3 equation going forward and it is important that I&M become skilled at integrating
4 solar into its generation portfolio, at both a utility-scale and distributed generation
5 levels.

6 I&M has a significant amount of wind energy in its portfolio that is
7 providing a reasonable percentage of energy to I&M's customers. The CESPP
8 will further broaden the diversity of I&M's generation portfolio by adding solar to
9 our existing wind and hydroelectric resources. This is particularly important
10 because the EPA proposed carbon regulations on carbon emissions
11 contemplates a substantial expansion of renewable energy as a potential
12 compliance measure.

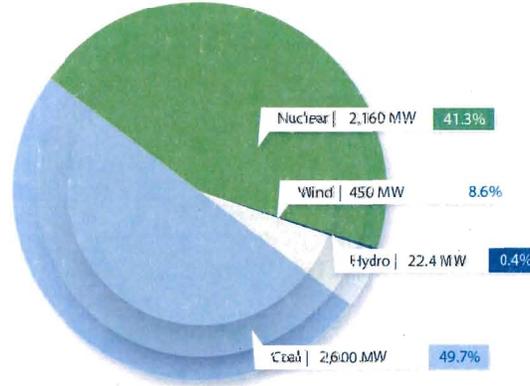
13 **Q. Please describe I&M's current supply resources.**

14 A. To reliably and cost-effectively meet its native load customers' demand and
15 energy requirements, over the years I&M has assembled a diverse portfolio of
16 on-system generation, energy efficiency and demand response programs, and
17 wholesale power purchases. The chart below illustrates the components of
18 I&M's current resource mix:



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After the addition of 200 MWs of wind energy from the Headwaters Wind Farm (as approved by the Commission in Cause No. 44362 and the closure of the fossil-fueled Tanners Creek Plant in 2015 due to federal environmental regulations, I&M's resource mix in 2015 will be:



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Q. Is it important to have a diverse portfolio of supply resources?

A. Yes. A portfolio approach to resource planning is most likely to produce the best economic mix of resources while at the same time mitigating risk through diversification. I&M's portfolio approach facilitates the deployment of the most cost-effective combination of resources from a variety of options, such as a

1 combination of on-system generating assets, power purchases and demand-side
2 options. Because so many variables are uncertain in the future, satisfying load
3 obligations with a diversified portfolio provides options that, taken together,
4 provide a significant amount of flexibility to economically and reliably meet load
5 obligations under a multitude of potential circumstances.

6 **Q. Please describe I&M's interest in adding solar energy to its generation**
7 **portfolio.**

8 A. I&M's interest in solar power arises for many reasons. Importantly, I&M supports
9 the use of solar energy as a means for creating a diverse portfolio of generating
10 resources. Solar energy is emerging as a technology of increasing efficiency and
11 heightened public interest that will become a more significant resource as
12 installation costs for utility scale solar generation continues to decline and as
13 utilities evolve their generation away from coal. It is important to I&M as a
14 company that it embraces the change toward solar energy in a logical,
15 progressive and disciplined manner.

16 While solar generation as an intermittent energy resource has certain
17 operational challenges, it is a zero-carbon source of electricity that can further
18 diversify I&M's generation portfolio, which now consists of coal, nuclear, wind
19 and hydro generation. At the same time, I&M can gain experience in integrating
20 solar generation into its operations so as to build the knowledge base it will need
21 going forward to reliably and affordably meet the needs and expectations of our
22 customers.

23 Our customers are increasingly interested in the use of more renewables

1 to meet their needs. Adding a modest amount of solar energy to I&M's
2 generation portfolio at this time allows I&M to meet customer expectations with a
3 relatively small impact on customers' overall electricity bills. It also provides I&M
4 with the opportunity to educate I&M's customers about renewable energy. In
5 addition, the generation of solar power encourages the further development of
6 solar technology, which continues to evolve into a more competitive efficient
7 technology.

8 As the regulation of greenhouse gases (GHG) by the Environmental
9 Protection Agency (EPA) appears imminent, it is important to develop an
10 emission strategy that will comply with reasonably-anticipated regulations
11 through the use of zero-carbon generation. I&M and AEP will actively participate
12 in the opportunity to comment on the EPA's proposed requirements under
13 Section 111(d) (42 U.S.C. § 7411(d)) of the Clean Air Act and will work closely
14 with the State of Indiana to develop compliance plans. At this point, the plans for
15 Indiana are not known, but it is clear that an increased use of renewable energy
16 will necessarily be part of any plan. Investing in solar generation resources now
17 is a reasonable and economic hedge against the cost of GHG regulation.

18 **Q. What are the benefits of increasing the amount of renewable energy in**
19 **I&M's portfolio?**

20 A. I&M and its customers benefit from the inclusion of renewable resources in a
21 manner that balances the slightly higher cost of that power with the benefits of
22 further diversification, the "home grown" location of supply and demand from
23 customers for utilities to use more renewable resources. Customers and

1 increasingly communities want more access to renewable energy and further
2 reductions in carbon dioxide. Some of our communities want to differentiate
3 themselves and include electric supply alternatives in their sustainability and
4 climate action plans. Other customers are more focused on cost and prefer a
5 diverse fuel mix that helps to keep prices low or stable in their minds. The
6 bottom line is that our individual customers and communities have varying
7 perspectives, beliefs and objectives about climate change, renewable energy,
8 fossil fuels, and the resources they want used to supply their energy.

9 Given the prevalence of divergent customer and community demands and
10 preferences, I&M seeks to further diversify its generation portfolio. It is an “all of
11 the above” approach.

12 **Q. How does I&M’s CESPP fit into this “all of the above” approach?**

13 A. To respond to customer and communities differences and preferences, I&M is
14 undertaking this CESPP to further educate ourselves and provide another option
15 that can be accessed by our customers. Customers will also benefit from
16 learning more about the use of renewable energy/solar energy to meet their
17 energy needs and I&M will gain operating experience with integrating solar
18 energy. Indiana also benefits from the approval of I&M’s CESPP by supporting
19 the development of the economy. I&M’s CESPP will add solar facilities to
20 Indiana in a cost effective manner thereby allowing I&M to diversify its generation
21 portfolio.

1 **Q. Please elaborate on how the CESPP fits into I&M's Integrated Resource**
2 **Plan.**

3 A. I&M's 2013 IRP, submitted to the Commission on November 1, 2013, recognizes
4 the imminent economic viability of utility-scale solar. The CESPP is directionally
5 consistent with I&M's Preferred Portfolio which reflects the addition of 50 MW
6 (nameplate) of solar capacity per year beginning in 2020 and totaling 700 MW by
7 2033. However, I&M's request recognizes it is facing a rapidly changing
8 environment including the growth of utility-scale and distributed renewable
9 resources. To thrive in this ever changing environment, I&M must recognize that
10 the utility's traditional role in power supply is also changing with the increased
11 penetrations of renewable energy resources and energy efficiency. I&M has
12 worked to continue to grow our energy efficiency and demand-side management
13 programs, such that these programs are offsetting a significant portion of our
14 sales and demand growth every year. The energy produced by the CESPP also
15 reduces electric energy that otherwise would be supplied by I&M's more
16 traditional generating resources, e.g. coal and nuclear. The solar generation will
17 also modify I&M's load shape in that most of these solar resources typically will
18 be generating during on-peak periods.

19 **Q. How do I&M and its customers benefit from I&M owned solar generation?**

20 A. Utility-owned solar generation will allow I&M to learn more about renewable
21 energy. The benefits to I&M and its customers include:

- 22 • Obtain cost efficiency through the deployment of larger scale solar resources.
- 23 • Exercise quality control over construction, operation, and maintenance of
24 solar projects;

- 1 • Leverage existing relationships and procurement expertise with potential
2 suppliers to obtain volume discounts and lower costs;
- 3 • Utilize the Company's experience in operating existing generation assets for
4 the benefit of operating new solar generation projects likely to be built going
5 forward;
- 6 • Locate utility-owned solar PV facilities close to load centers, which, when
7 located strategically, could reduce the need for energy delivery infrastructure
8 development;
- 9 • Provide support for meeting summer peak loads;
- 10 • Contribute to meeting I&M's PJM capacity obligations;
- 11 • Lower I&M's variable cost of fuel by displacing fossil-fired generation;
- 12 • Obtain investment tax credits that reduce revenue requirements;
- 13 • Obtain financing supported by the Company's balance sheet.

14 Solar energy is now more suitable for utility ownership because the
15 systems can be installed quickly as compared to other types of generation
16 resources. Further, the various solar energy technologies themselves are more
17 mature, and costs have come down making solar systems more economically
18 attractive. In addition, these systems are the most versatile of the utility-scale
19 generation technologies as they can be designed to consider various shapes and
20 sizes of available land, can be located in the Company's distribution system
21 where feeders are close to capacity or where transmission congestion may be an
22 issue, and can also be scaled to meet the resource needs of the area in which
23 they are situated.

24 Last, the CESPP will provide diversification of I&M's renewable portfolio
25 that today consists primarily of Power Purchase Agreements (PPA) to include
26 utility-owned renewable resources. In addition, rating agencies currently impute

1 debt related to PPAs. With no corresponding equity, the mere signing of a PPA
2 may weaken the Company's credit profile. Conversely, ownership of solar
3 assets, such as proposed by I&M, will allow I&M to finance the program with a
4 mixture of both debt and equity, which will maintain the Company's financial
5 health.

6 **Q. Is I&M proposing a means for individual customers to demonstrate their**
7 **support for increased use of solar energy?**

8 A. Yes. As part of this filing, I&M is proposing to implement a Green Power Rider
9 that will allow interested customers voluntarily to support the CESPP. Under the
10 Green Power Rider, which is discussed in more detail in the testimony of
11 Company witness Halsey, interested customers would pay a monthly market-
12 based fee, in addition to the applicable tariff rate, that would enable them to
13 subscribe to a block of SRECs to be retired by I&M. The revenue produced by
14 the subscription fees will be flowed through in the Solar Power Rider as a credit
15 toward the CESPP revenue requirement and thus reduce the rates charged
16 under the Solar Power Rider. In this manner, interested customers would
17 essentially become sponsors of the CESPP and be able to demonstrate their
18 individual support for solar energy.

19 **Q. What are I&M's plans regarding the SRECs associated with the CESPP?**

20 A. Any SRECs not subscribed to by customers under the Green Power Rider will be
21 maintained and counted toward I&M's compliance with a RPS or GHG
22 regulations to which it is, or may be, subject. Regardless of any future RPS or
23 GHG mandates, receiving the SRECs helps voluntarily reduce GHG emissions

1 per megawatt hour. Also, I&M intends to monitor the value of SRECs in the
2 market and may occasionally monetize unsubscribed SRECs and flow the
3 benefits back to customers through the Solar Power Rider.

4 **Q. How does I&M propose to reflect the costs of the CESPP in its retail rates?**

5 A. As further explained by Company witness Halsey, I&M is proposing that the
6 revenue requirement for the CESPP be recovered through the Solar Power Rider
7 until the investment is included in base rates or other recovery mechanism. This
8 approach reflects SB 29, which was enacted to encourage the development of
9 renewable energy projects like the CESPP by providing incentives for utility
10 investment in clean energy projects. I&M is seeking the timely recovery of its
11 costs as an incentive available under the law. I&M is not seeking an enhanced
12 return on its investment, as the law permits, and considers a return based on the
13 most recently approved rate of return to be a sufficient incentive under the
14 circumstances.

15 It should be noted that the exact revenue requirement is not known at this
16 time because the final PJM interconnection and Engineering, Procurement and
17 Construction (EPC) cost estimates will be further refined upon receipt of the final
18 PJM studies and the completion of the EPC request for proposals. I&M will
19 provide revised cost estimates to the IURC and the parties as soon as they
20 become available and make any revisions necessary through the annual Solar
21 Power Rider filings.

1 **Q. Will I&M and its customers benefit from the Investment Tax Credit (ITC)?**

2 A. Yes. A key development that makes utility ownership appropriate to consider
3 from a customer economics perspective is the federal tax laws that allows
4 utilities, among others, to claim a 30% Investment Tax Credit (ITC) for certain
5 renewable technologies such as solar (the 30% ITC decreases to 10% after
6 2016). This was enacted through the Emergency Economic Stabilization Act of
7 2008, and ultimately provides for a reduction in a utility's overall tax liability for
8 investments in solar technology that was not available to utilities prior to that
9 time. As Company witness Halsey describes, any ITC value that I&M receives
10 from its investment in solar properties will benefit customers by reducing the
11 revenue requirement over the depreciable life of the solar property in accordance
12 with federal tax laws.

13 **Q. In your opinion, is the CESPP reasonable and in the public interest?**

14 A. Yes. For the reasons set forth in my testimony, I&M believes that pursuing utility
15 ownership of solar resources is in the best interest of its customers and the
16 Company and is requesting approval of the proposed CESPP. The CESPP
17 produces real benefits for I&M, its customers and the state of Indiana. The
18 CESPP further diversifies I&M's generation portfolio, supports a "home grown"
19 renewable resource, encourages economic development and meets the
20 increasing interest of customers in the use of more renewable resources. It also
21 provides an opportunity for I&M and its customers to learn more about the use of
22 renewable resources as a means for serving their energy needs.

1 **Q. What specifically is I&M asking the Commission to approve?**

2 A. I&M requests the Commission find that the CESPP is a “clean energy project” as
3 defined in 8-1-8.8-2 and that I&M is eligible for the financial incentives set forth in
4 8-1-8.8-11. I&M requests the Commission decline to exercise its jurisdiction
5 under the Powerplant Construction Act for the CESPP or in the alternative, grant
6 a CPCN under this statute for the CESPP. Last, I&M seeks approval of the Solar
7 Power Rider to provide timely recovery of the costs of the CESPP and of the
8 Green Power Rider, as described above.

9 **Q. Does this conclude your verified direct testimony?**

10 A. Yes.

VERIFICATION

I, Paul Chodak III, President and Chief Operating Officer of Indiana Michigan Power Company, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Date: July 7, 2014

A handwritten signature in black ink, appearing to read "Paul Chodak III". The signature is stylized with a large, looped initial "P" and "C".

Paul Chodak III

INDIANA MICHIGAN POWER COMPANY

PRE-FILED VERIFIED DIRECT TESTIMONY

OF

JOSEPH A. KARRASCH

**PRE-FILED VERIFIED DIRECT TESTIMONY OF JOSEPH KARRASCH
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Joseph A. Karrasch. My business address is 1 Riverside Plaza,
3 Columbus, Ohio 43215.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am employed as Manager – Asset Investments / Renewables by American
6 Electric Power Service Corporation (AEPSC), a wholly owned subsidiary of
7 American Electric Power Company, Inc. (AEP). AEP is the parent company of
8 Indiana Michigan Power Company (I&M or Company). AEPSC supplies
9 engineering, financing, accounting and similar planning and advisory services to
10 AEP's six regulated electric operating companies, including I&M.

11 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
12 BUSINESS EXPERIENCE.**

13 A. I earned a Bachelor's degree in Mechanical Engineering from West Virginia
14 University and a Master's degree in Business Administration from Ohio
15 University. I have twenty eight years of electric utility experience with AEP. I
16 spent the first 22 years of my career with AEP working in several of AEP's power
17 generation facilities. During my career in generation, I held a variety of positions
18 including Performance Engineer, Maintenance Superintendent, Energy
19 Production Manager, and General Plant Manager. In addition to these numerous
20 operating plant roles, as General Plant Manager of a new gas fired simple cycle
21 plant, I was involved in construction activities and lead the facility's operations

1 team through start-up and commissioning of the facility. In 2008, I took a
2 position with AEPSC in my current role as Manager – Asset Investments /
3 Renewables. As Manager – Asset Investments / Renewables, I am responsible
4 for managing AEP's and its regulated subsidiaries' portfolio of over 2,000 MW of
5 Renewable Energy Purchase Agreements (REPAs). I have also managed
6 numerous requests for proposals (RFP) for renewable generation and have been
7 involved in the development and review of renewable energy development
8 projects. I have also been involved in the evaluation of asset (generation plants)
9 acquisition opportunities.

10 **Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?**

11 A. As Manager – Asset Investments / Renewables, I support due diligence efforts
12 on asset (power plant) acquisition opportunities, am involved in the development
13 of renewable energy opportunities, and am responsible for supporting the
14 management of AEP's and its subsidiaries' portfolio of REPAs.

15 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY**
16 **COMMISSIONS?**

17 A. Yes. I filed testimony before the Indiana Utility Regulatory Commission (IURC or
18 the Commission) in Cause No. 44362 and Cause No. 44313. I also filed
19 testimony before the Michigan Public Service Commission in Case No U-17375.
20 In addition, I filed supplemental testimony and testified before the Kentucky
21 Public Service Commission (KPSC) in Case No. 2012-00578. I also filed
22 testimony in Case No. 2013-00430 before the KPSC.

23 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

1 A. The purpose of my testimony in this proceeding is to support I&M's request for
2 the Commission's approval of I&M's proposed Clean Energy Solar Pilot Project
3 ("CESPP" or "Project"). I will discuss AEP's continued experience with wind and
4 solar energy projects and technology, an overview of the CESPP, the planned
5 Engineering, Procurement and Construction (EPC) request for proposals (RFP)
6 Process associated with the EPC contract(s) for the Project's facilities and the
7 numerous benefits of the proposed CESPP.

8 **Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS PROCEEDING?**

9 A. Yes. I am sponsoring the following exhibits, which are:

- 10 • JAK-1: Proposed CESPP Siting Summary
- 11 • JAK-2: Proposed CESPP Timeline

AEP RENEWABLE ENERGY EXPERIENCE

12 **Q. DOES I&M HAVE EXPERIENCE IN RENEWABLE ENERGY?**

13 A. Yes. I&M has executed four wind REPAs totaling 450 MW (see Table 1).

Table 1

Wind Farm	MW	Regulatory Cause / Case No.
Fowler Ridge I Wind Farm	100 MW	IN: Cause No. 43328 MI: Case No. U-15361
Fowler Ridge II Wind Farm	50 MW	IN: Cause No. 43750 MI: Case No. U-15808
Wildcat Wind Farm	100 MW	IN: Cause No. 44034 MI: Case No. U-16584
Headwaters Wind Farm	200 MW	IN: Cause No. 44362 MI: Case No. U-17375

1 **Q. PLEASE SUMMARIZE THE MAGNITUDE AND NATURE OF AEP'S EXISTING**
2 **RENEWABLE GENERATION RESOURCES.**

3 A. The AEP regulated operating companies currently have 2,764 MW of long-term
4 REPAs. The various AEP operating companies also own and operate
5 seventeen hydro facilities located in Indiana, Michigan, Ohio, Virginia and West
6 Virginia totaling 283.5 MW. In addition, AEP also owns and operates the 586
7 MW Smith Mountain Pumped Storage Hydro facility in Virginia.

CLEAN ENERGY SOLAR PILOT PROJECT

8 **Q. PLEASE SUMMARIZE THE MAJOR FEATURES OF THE PROPOSED CLEAN**
9 **ENERGY SOLAR PILOT PROJECT.**

10 A. The I&M CESPP is a pilot program under which I&M will build, own, and operate
11 up to five separate utility scale solar facilities totaling ~16 MW, with each facility
12 sized in the range of 1 - 5 MW_{ac} (see Exhibit JAK-1). Four of the solar facilities
13 will be directly interconnected to the PJM RTO system and be required to follow
14 all associated PJM interconnection and operational rules. The remaining fifth
15 facility (~1 MW) will be directly connected to the I&M distribution system. In
16 addition, I&M desires to establish a Technology and Operational Analysis
17 Program with support from American Electric Power Service Corporation
18 (AEPSC) and potential involvement with local Indiana colleges. The Project's five
19 solar facilities will be designed and constructed by one or more qualified third
20 party turn-key contractors via a competitive RFP process. The primary benefits
21 of the CESPP include the following:

- 22 1. Experience gained from the engineering, procurement, and construction
23 (EPC) process of utility scale solar facilities;

- 1 2. Generation forecasting, scheduling and operations experience gained by
2 operating the solar generation facilities in the PJM competitive wholesale
3 market;
- 4 3. Operational insight into how utility scale solar facilities will impact the I&M
5 transmission and distribution systems;
- 6 4. Technical evaluation of different inverter and solar panel manufacturers
7 and technology with respect to reliability and performance.

8 The benefits outlined above combine to make the CESPP a unique opportunity
9 for the Company, its customers, and other stakeholders (e.g. local Indiana
10 colleges). The experience and knowledge gained as a result of this program will
11 provide significant customer benefits as the Company expands its solar
12 generation portfolio as outlined in the Company's Integrated Resource Plan
13 (IRP).

14 **Q. WHERE WILL THE FIVE SOLAR FACILITIES BE LOCATED?**

15 A. All of the facilities will be located on I&M controlled land in close proximity to I&M
16 owned substations. Three of these four sites will be located in Indiana and one
17 in Michigan (See Exhibit JAK-1). The location of the fifth site (~1 MW), which will
18 be interconnected to the distribution level voltage, has yet to be finalized.

19 **Q. WHAT CRITERIA DID THE COMPANY USE TO DEVELOP THE PROJECT
20 SITE LIST AND PROPOSED PROJECT SIZING?**

21 A. The Company went through an iterative process with internal subject matter
22 experts (Real Estate / Asset Management, Engineering & Electrical
23 Interconnection Planning, Major Projects East, Renewable Energy, and I&M
24 Regulatory and External Affairs) to select a short-list of proposed I&M owned
25 sites. The prospective sites were required to have a footprint large enough to

1 support a small utility scale project and had to be located in close proximity to an
2 I&M substation.

3 **Q. DESCRIBE HOW THE CESPP WILL BE INTEGRATED INTO THE PJM RTO**
4 **SYSTEM?**

5 A. PJM Interconnection Requests have been submitted for four of the five short-
6 listed sites. Each of the four sites will be subject to a PJM multi-step review
7 process wherein PJM will complete a Feasibility Study, a System Impact Study,
8 and a Facility Study for interconnection of a solar generation facility at each of
9 these four short-listed sites. The PJM studies will evaluate different factors
10 associated with the facilities and their subsequent impact on the transmission
11 system. The results of the studies will include required system upgrades (if any)
12 and associated costs. The remaining fifth site, a smaller 1 MW project, will be
13 connected directly to I&M's distribution system.

14 **Q. DESCRIBE HOW THE ESTIMATED COST OF THE CESPP WAS**
15 **DEVELOPED?**

16 A. The cost of the Project was based on an average of indicative pricing from three,
17 experienced solar EPC contractors for the engineering, procurement, and
18 construction of a small utility solar facility at two of the selected sites – plus an
19 adder for PJM interconnection application costs, potential system upgrades (if
20 any), interconnection costs, and internal development costs. These indicative
21 costs were then used to determine an estimated cost for building out each of the
22 five target sites. Recognizing that the Company does not have final PJM
23 interconnection cost estimates, and likewise does not have final EPC cost

1 estimates, it has established a cost estimate of approximately \$38M for the
2 Project. This cost estimate will be further refined upon receipt of the final PJM
3 studies and the completion of the competitive EPC RFP. As further discussed in
4 Company witness Chodak's testimony, the Company will update the IURC as
5 these cost estimates are revised.

6 **Q. WHAT WILL BE THE NAMEPLATE RATING, (MW_{AC}), OF EACH OF THE FIVE**
7 **FACILITIES?**

8 A. Exhibit JAK-1 includes a preliminary nameplate rating (MW_{ac}) for each of the five
9 sites. The values shown for the four sites with PJM interconnection requests is
10 the same value included in the interconnection applications to PJM, and thus
11 limits the maximum size of these facilities to these values. Final facility sizes will
12 not be known until the competitive EPC RFP process has been completed. In
13 developing their proposals, the Qualified Bidders will create detailed site layouts
14 and associated facility sizes.

15 **Q. PLEASE DESCRIBE THE MAJOR MILESTONES AND SCHEDULE**
16 **ASSOCIATED WITH THE CESPP.**

17 A. A high level project milestone schedule is included in Table 2. A more
18 comprehensive Project timeline is attached as Exhibit JAK-2. A critical milestone
19 of note is the expiration date for the Federal Section 48 Investment Tax Credit
20 (ITC), which is January 1, 2017. Solar projects that are commissioned (placed in
21 service) prior to January 1, 2017 are eligible for a 30% ITC, however, if a project
22 is commissioned on or after January 1, 2017 it will only be eligible for a 10% ITC.

Table 2

Activity	Target Date
Site Short-List Developed	Q2 – 2014 (completed)
PJM Interconnection Applications	Q2 – 2014 (completed)
Regulatory Filing	Q3 – 2014
Begin Qualified Bidder Selection Process	Q4 - 2014
Develop Solar Panel & Inverter Approved List	Q1 – 2015
Regulatory Approval	Q1 – 2015
Qualified Bidders Notified	Q1 - 2015
EPC RFP Issuance to Qualified Bidders	Q2 - 2015
Proposal Submittal Due Date	Q3 - 2015
EPC Contract(s) Awarded	Q3 – 2015
Construction Start	Q1 - 2016
Commercial Operation	Q3 - 2016

EPC RFP PROCESS FOR EPC CONTRACTOR SELECTION

1 **Q. HAS THE FINAL EPC RFP BEEN DEVELOPED?**

2 A. The competitive EPC RFP will be issued in Q2-2015. The development of the
3 EPC RFP will include an “approved” list of acceptable inverter and solar panel
4 manufacturers, a Bidder Qualification process, and other standards for balance
5 of plant equipment and construction of the facility. AEP manages numerous
6 RFPs each year and will use this expertise along with its experience in building
7 tens of thousands of MWs of power generating stations to develop the RFP for
8 the CESPP.

1 **Q. WHY IS THE COMPANY IDENTIFYING AN “APPROVED” LIST OF**
2 **INVERTER AND SOLAR PANEL MANUFACTURERS?**

3 A. The Company and AEPSC recognize the importance of using proven and
4 reliable equipment in all of its generating facilities. There are numerous solar
5 panel and inverter manufacturers, many of which are new to the industry and / or
6 poorly capitalized. To mitigate the risk associated with a new or unproven
7 product or a manufacturer new to the industry, the Company and AEPSC will
8 develop a list of only proven and reliable manufacturers for inclusion in the EPC
9 RFP document. Since the Company will have up to five facilities constructed, it
10 may elect to use multiple manufacturers of the inverters and solar panels –
11 assuming there is not a large variance in pricing and / or performance. The
12 advantage of using multiple equipment manufacturers is that the Company will
13 evaluate the different equipment through its proposed Technology and
14 Operational Analysis Program. The results of this program will likely influence
15 future purchases as the Company expands its portfolio of utility scale solar
16 generation over the next decade.

17 **Q. HOW WILL THE COMPANY SOLICIT AND QUALIFY BIDDERS TO**
18 **PARTICIPATE IN THE EPC RFP PROCESS?**

19 A. The Company and AEPSC will research and contact only reputable EPC
20 contractors that have proven utility scale solar experience to participate in the
21 EPC RFP process. The Company will also reach out to potential Indiana based
22 bidders to include them in this review process. To become a Qualified Bidder to

1 participate in the competitive EPC RFP, the solicited companies must
2 demonstrate at a minimum the following:

- 3 • Qualified Bidders will be required to show that they have successfully
4 completed the engineering, equipment procurement, construction, and
5 commissioning of at least one grid connected utility scale solar energy
6 project (1 MW or greater); and have also completed a total of 10 MWs of
7 solar energy projects in the United States.
- 8 • Qualified Bidders will be required to document their financial and
9 technical capabilities. Qualified Bidders must have the financial
10 wherewithal to complete and warrant all EPC activities.

11 **Q. HOW WILL THE PROPOSALS RECEIVED BE EVALUATED?**

12 A. Proposals will first be evaluated for completeness; and then evaluated in
13 accordance with a defined set of evaluation criteria. The final evaluation criteria
14 have yet to be defined, however, it will include factors such as pricing,
15 technology, expected output, performance, pass-through warranties by the
16 manufacturers and sub-contractors, and the experience and financial
17 wherewithal of the Qualified Bidder. In addition, the Company will attempt to
18 diversify some of the equipment selected for the different facilities - provided this
19 can be accomplished at a reasonable price.

20 **Q. WILL ONLY ONE EPC CONTRACTOR BE SELECTED FOR ALL OF THE**
21 **SITES?**

22 A. The Company may not use the same EPC contractor for all sites. Similar to the
23 Company evaluating different equipment manufacturers, the Company will also

1 benefit from using multiple EPC contractors provided that it does not materially
2 increase the overall cost of the Project.

TECHNOLOGY AND OPERATIONAL ANALYSIS PROGRAM

3 **Q. DESCRIBE THE TECHNOLOGY AND OPERATIONAL ANALYSIS PROGRAM**

4 A. The Company will establish a formalized Technology and Operational Analysis
5 Program in order to take advantage of this unique opportunity. The program's
6 goals will be to 1) monitor and analyze the performance of the different
7 technologies used at the facilities, 2) establish and refine the PJM Day-Ahead
8 forecasting techniques, and 3) assess the impact to the I&M transmission and
9 distribution systems due to the installation of these variable energy resources.

PROJECT BENEFITS

10 **Q. WHAT ARE THE BENEFITS OF THE CESPP?**

11 A. As discussed by Company witness Chodak the benefits of the CESPP are
12 numerous. In addition to further diversifying the Company's generation portfolio,
13 experience will be gained through the EPC phases, as discussed further below,
14 and by owning and operating the facilities. Additional details of some of the
15 many benefits of the CESPP follow:

16 **Equipment Selection:** As previously discussed, the Company plans to develop
17 an "approved" list of acceptable inverter and solar panel manufacturers to be
18 included in the EPC RFP. Through the operation of the selected equipment at
19 each of the facilities, the Company will be able to gain first-hand experience of
20 the benefits and shortcomings associated with different equipment
21 manufacturers or technologies. To support this effort and the Technology and

1 Operational Analysis Program, the EPC RFP will include requirements for
2 minimum control and monitoring capabilities. The monitoring and analysis will
3 enable the Company to evaluate the selected inverters and solar panels under
4 various operating and system conditions. The results of these studies will
5 provide valuable information to the Company as it expands its portfolio of solar
6 generation assets in the next decade.

7 **EPC Activities:** The AEPSC Projects Group has an extensive resume of
8 engineering, equipment procurement and construction of large power generation
9 facilities across the AEP footprint. In addition, their experience includes the
10 completion of major retrofits of power generation facilities. The AEPSC Projects
11 Group will work closely with the selected EPC contractor(s) to gain additional
12 experience in the engineering, procurement and construction activities specific to
13 utility scale solar facilities. This additional experience will enable AEP and the
14 Company to better manage these activities on future solar projects.

15 **Operation (PJM Activities):** AEPSC on behalf of the Company will be
16 responsible for submitting daily a "Day-Ahead Forecast" to PJM - which is
17 defined as the expected production (MWh) for each clock hour of the next day.
18 At the heart of developing the Day-Ahead Forecast is predicting the solar
19 resource (how sunny it will be) for each hour of the next day. The accuracy of
20 the Day-Ahead Forecast is significant due to the importance of minimizing
21 potential PJM deviation charges to the Company. When a generating resource
22 participates in the PJM Day-Ahead Market, they are responsible for PJM
23 deviation charges (or credits) which are associated with the deviation between

1 the actual production of the facility and the Day-Ahead forecast submitted to
2 PJM on the previous day. Initially, the Company will utilize the services of a third
3 party to assist in developing the Day-Ahead Forecast – similar to the same
4 services currently being utilized for the Company's and its affiliates wind REPAs.
5 The CESPP is a tremendous opportunity for the Company and AEPSC to
6 develop, implement and refine its Day-Ahead Forecasting strategy on this
7 smaller scale Project prior to the potential future installation of much larger solar
8 projects (e.g. 50 MW) as outlined in the Company's Integrated Resource Plan.

9 **Operation (Transmission / Distribution):** All variable energy resources bring
10 unique challenges to how the resource will impact transmission and distribution
11 systems. Having five different solar projects disbursed across multiple locations
12 within the I&M service territory will provide valuable information to I&M on how
13 the systems will react. This experience will be extremely beneficial as additional
14 variable energy resources are scaled up over time.

15 **Capacity, Energy, and SRECs:** I&M's customers will benefit from the additional
16 capacity, energy and solar renewable energy certificates (SRECs) received as a
17 result of the operation of the Project. The capacity¹ and energy will be used to
18 provide service to I&M customers; and the SRECs net of the SRECs used in
19 conjunction with the Green Power Rider, as further described by Company
20 witness Halsey, will be banked for future use.

¹ The effective class average capacity factor defined by PJM (Manual 21) for solar resources (38%) is much greater than wind resources (13%). Solar resources inherently have a high production profile during the middle of the day - which is coincident with the Peak Hours (2:00 pm – 6:00 pm) as defined by PJM.

1 **Q. WHY DOES THE GPR USE THE PRICE OF PENNSYLVANIA SRECS AS A**
2 **BASIS FOR ESTABLISHING THE PRICE OF SREC BLOCKS?**

3 A. The Pennsylvania (PA) SREC was chosen as a basis for establishing the price
4 for a single SREC Block because 1) it was liquid (traded by multiple brokers), 2)
5 it is transparent (daily quotes or average quotes are published), and 3) IN or MI
6 SRECs generated within PJM would qualify to be sold into the PA SREC
7 compliance market at a similar pricing and thus is the best proxy for market
8 value.

9 As discussed in the testimony of Company witness Halsey, the GPR used as
10 the initial basis the average price of PA SRECs which were priced at
11 approximately \$60 in recent quotes. Since an SREC represents one megawatt
12 hour (1 MWh) or one thousand kilowatt hours (1,000 Kwh), a 50 Kwh block is
13 1/20th of a MWh or SREC. To establish the initial price for SREC Blocks under
14 the GPR, the Company used the \$60 per PA SREC price recently observed and
15 divided that price by 20 to arrive at a \$3.00 price per 50 Kwh SREC block.

16 **Q. DOES THE CLEAN ENERGY SOLAR PILOT PROJECT DESCRIBED HEREIN**
17 **REPRESENT A VALUABLE AND BENEFICIAL INITIATIVE FOR I&M?**

18 A. Yes, it does. The CESPP is a unique opportunity for the Company and others to
19 gain a tremendous amount of information and knowledge from the EPC process;
20 the actual scheduling and operation of the facility; and the impact of the facilities
21 on the operation of I&M's transmission and distribution systems.

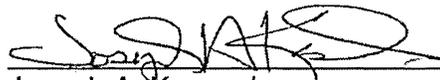
22 **Q. DOES THIS CONCLUDE YOUR PRE-FILED VERIFIED DIRECT TESTIMONY?**

23 A. Yes, it does.

VERIFICATION

I, Joseph A. Karrasch, Manager - Asset Investments / Renewables by American Electric Power Service Corporation (AEPSC), affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Date: 6/20/14

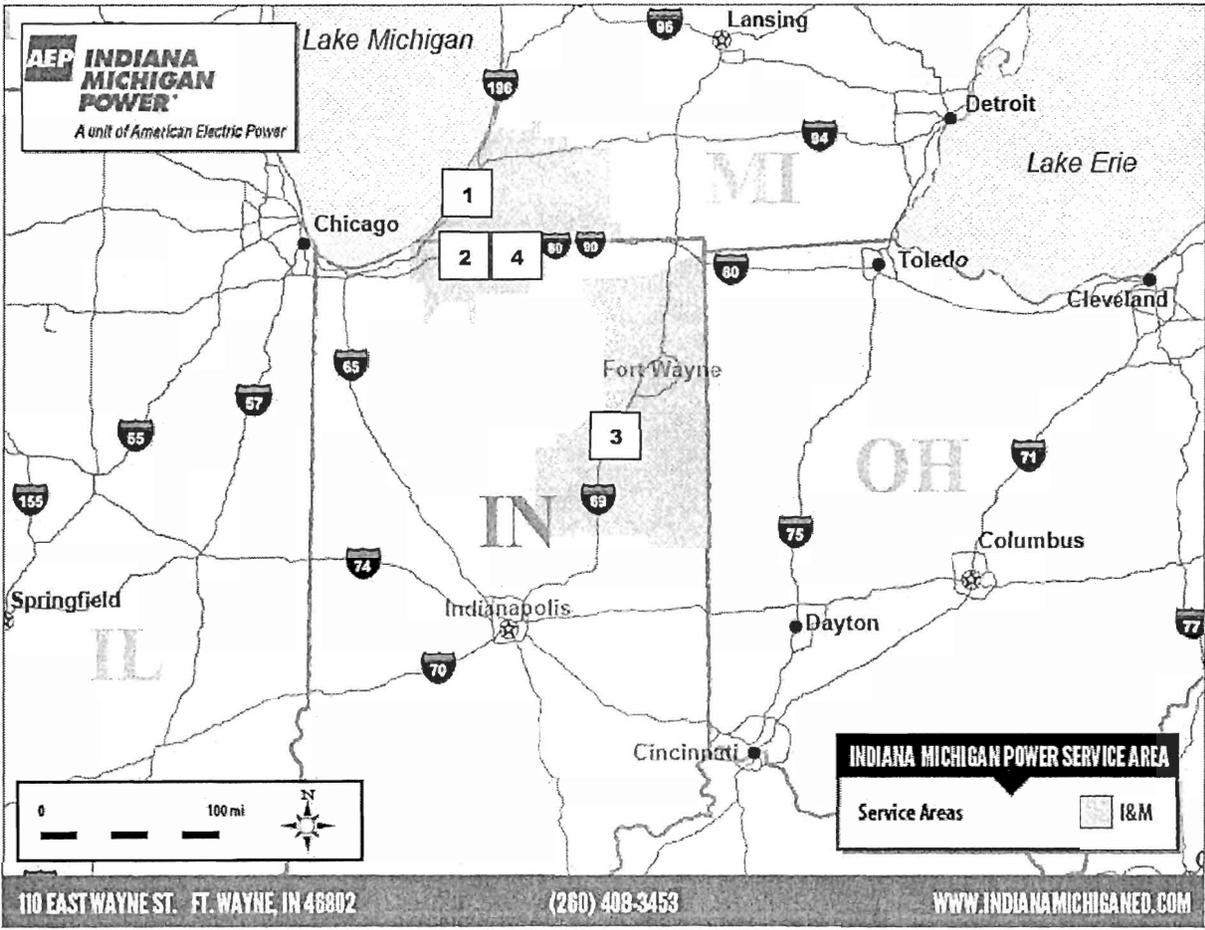


Joseph A. Karrasch

Exhibit JAK-1 (Proposed Solar Pilot Project Siting Summary)

Facility #	Name	Location	MW(ac)	PJM Interconnection Queue #
1	Watervleit	Berrien County, MI	4.6 MW	Z2-113
2	Olive	St Joseph County, IN	5.0 MW	Z2-114
3	Deer Creek	Grant County, IN	2.5 MW	Z2-115
4	Twin Branch	St. Joseph County, IN	2.6 MW	Z2-116
5	tbd ¹	tbd (IN) ¹	1.0 MW	n/a ¹
Total =			15.7 MW	

Note 1: The final site selection for Project #5 has not been determined. This Facility will have a Nameplate capacity of ~1.0 MW and will interconnect to the I&M distribution system.



I&M Solar Installation 2016

Activity ID	Activity Name	Orig Dur	Start	Finish	2014				2015				2016				2017
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1		
I&M Solar Installation LEVEL 1 SCHEDULE					620d	31-Mar-14 A	13-Sep-16										
Project Management					620d	21-Mar-14 A	12-Sep-16										
LVL1-1000	Project Start	0d	31-Mar-14 A														
LVL1-1010	Establish 183 account work order	10d	04-Apr-14 A	08-Apr-14 A													
LVL1-1020	Trip to Wyandot facility	1d	08-Apr-14 A	08-Apr-14 A													
LVL1-1030	Phase 1 CI in Routing	0d		01-Dec-14*													
LVL1-1040	Phase 2 CI in Routing	0d		29-May-15*													
LVL1-1050	Solar Plants COD	0d		13-Sep-16													
Site Selection					200d	16-Apr-14 A	02-Feb-15										
LVL1-2000	Environmental Site Evaluation to determine fatal flaws	10d	16-Apr-14 A	17-Apr-14 A													
LVL1-2010	Site trip to 5 potential sites	2d	16-Apr-14 A	17-Apr-14 A													
LVL1-2020	Final Site Selection (Up to 5)	0d		24-Apr-14 A													
LVL1-2030	Geotechnical Site Evaluation	20d	01-Dec-14	30-Dec-14													
LVL1-2040	Environmental Site Evaluation	43d	01-Dec-14	02-Feb-15													
PJM					348d	16-Apr-14 A	01-Sep-15										
LVL1-4000	Prepare PJM Requests for Generation Interconnection	14d	16-Apr-14 A	29-Apr-14 A													
LVL1-4010	PJM Interconnection Request	0d		29-Apr-14 A													
LVL1-4020	Submit up to 5 PJM System Impact Studies	0d		29-Apr-14 A													
LVL1-4030	Receive and Review 5 PJM Feasibility Studies	8d	02-Jan-15*	13-Jan-15													
LVL1-4040	Prepare PJM System Impact Study Requests	14d	15-Jan-15	03-Feb-15													
LVL1-4050	Receive and Review PJM System Impact Studies	11d	02-Mar-15*	16-Mar-15													
LVL1-4060	Prepare PJM Facilities Engineering Study Requests	10d	17-Mar-15	30-Mar-15													
LVL1-4070	Submit PJM Facilities Engineering Study Requests	0d		30-Mar-15*													
LVL1-4080	Receive and Review PJM Facilities Engineering Studies	7d	01-Jul-15*	10-Jul-15													
LVL1-4090	Negotiate Construction and Interconnection Service Agreements	37d	13-Jul-15	01-Sep-15													
LVL1-4100	Execute Construction Service and Interconnection Service Agreements	0d		01-Sep-15													
AEP Engineering					72d	01-Dec-14	13-Mar-15										
LVL1-5000	Perform Site Survey	22d	01-Dec-14	02-Jan-15													
LVL1-5010	Evaluate & Select Inverter technology/equipment	30d	01-Dec-14*	14-Jan-15													
LVL1-5020	Evaluate & Select Solar Panel technology/equipment	30d	02-Feb-15*	13-Mar-15													
RFP Process					183d	01-Dec-14	20-Aug-15										
LVL1-6000	Develop bid evaluation criteria	20d	01-Dec-14*	30-Dec-14													
LVL1-6010	Evaluate bidders for EPC work	30d	01-Dec-14*	14-Jan-15													
LVL1-6020	Prepare RFP	110d	01-Dec-14*	07-May-15													
LVL1-6030	Approve bidders list for EPC Contractors	10d	15-Jan-15	28-Jan-15													
LVL1-6040	Issue RFP	0d		07-May-15													
LVL1-6050	Contractor Develop/Submit Proposal	43d	08-May-15	09-Jul-15													
LVL1-6060	Evaluate Proposal	20d	10-Jul-15	06-Aug-15													
LVL1-6070	Award EPC	10d	07-Aug-15	20-Aug-15													
EPC Contractor					268d	21-Aug-15	13-Sep-16										
LVL1-7000	EPC Contractor to Design/Procure	129d	21-Aug-15	25-Feb-16													
LVL1-7010	Construction Start	0d		25-Feb-16													
LVL1-7020	Build Interconnection Facility	65d	26-Feb-16	27-May-16													
LVL1-7030	Main Solar Plant Construction	129d	26-Feb-16	29-Aug-16													
LVL1-7040	Construction Finish	0d		29-Aug-16													
LVL1-7050	Facility & Interconnection Testing	10d	30-Aug-16	13-Sep-16													

Actual Work
 Critical Remaining Work
 Remaining Work
 Milestone

STATE OF INDIANA

PRE-FILED VERIFIED DIRECT TESTIMONY

OF

CHRISTOPHER M. HALSEY

ON BEHALF OF

INDIANA MICHIGAN POWER COMPANY

**PRE-FILED VERIFIED DIRECT TESTIMONY OF CHRISTOPHER M. HALSEY
ON BEHALF OF
INDIANA MICHIGAN POWER COMPANY**

1 **Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Christopher M. Halsey and my business address is One Summit
3 Square, P.O. Box 60, Fort Wayne, Indiana 46801.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am employed by Indiana Michigan Power Company (I&M or Company) as a
6 Senior Regulatory Consultant in the Regulatory Services Department.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
8 BACKGROUND.**

9 A. I graduated from Kent State University in 2003 with dual Bachelor's degrees in
10 both Accounting and Justice Studies. I obtained my MBA from Ashland
11 University with a core concentration in Finance in 2007.

12 I started with American Electric Power (AEP) in Canton, Ohio in the AEP
13 Service Corporation (AEPSC) accounting department as a contractor in 2002
14 and was later hired by AEPSC into the payroll department in 2003. In August
15 2004, I accepted a position in the Commercial Accounting group of AEPSC as
16 an accountant. In August 2007, I transferred to the AEPSC Regulatory
17 department as a Regulatory Analyst. In July 2010, I transferred to the AEP
18 Transmission organization to work on transmission related matters, and in
19 January 2012, I returned to the AEPSC Regulatory group. In July 2013, I
20 assumed my current position as a Senior Regulatory Consultant in I&M's
21 Regulatory Services department.

1 **Q. WHAT ARE YOUR RESPONSIBILITIES AS SENIOR REGULATORY**
2 **CONSULTANT?**

3 A. I am responsible for the preparation of regulatory filings and analyses for
4 Indiana Michigan Power Company.

5 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY**
6 **COMMISSIONS?**

7 A. Yes. I have testified on behalf of I&M before the Indiana Utility Regulatory
8 Commission (IURC or Commission) in the first phase of Cause No. 44182-LCM
9 1. In addition, I have submitted testimony before the Indiana Utility Regulatory
10 Commission on behalf of I&M in Cause Nos. 43774-PJM 4, 43992-ECCR 3,
11 and Cause No. 44182-LCM 2.

12 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CAUSE?**

13 A. The purpose of my testimony is to explain I&M's requested accounting and
14 ratemaking treatment for the proposed Clean Energy Solar Pilot Project
15 (CESPP). I will discuss I&M's proposed Solar Power Rider (SPR), which
16 provides for timely recovery of the CESPP costs, including depreciation
17 expense, carrying costs on the post in-service investment, taxes and operating
18 and maintenance costs including solar forecasting costs. I will also discuss
19 I&M's proposed Green Power Rider (GPR), which establishes a separate rate
20 schedule allowing I&M customers to voluntarily support the development of
21 electricity generated by solar resources by subscribing to blocks of Solar
22 Renewable Energy Certificates (SRECs).

1 **Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS CAUSE?**

2 A. Yes. I am sponsoring Exhibit CMH-1, which is a calculation of the estimated rate
3 impact of the CESPP, Exhibit CMH-2, which is the proposed Solar Power Rider
4 (SPR), and Exhibit CMH-3, which is the proposed Green Power Rider (GPR).

5 **Q. WERE THESE EXHIBITS PREPARED OR ASSEMBLED BY YOU OR UNDER**
6 **YOUR DIRECTION AND SUPERVISION?**

7 A. Yes.

8 **Q. ARE I&M'S BOOKS AND RECORDS KEPT IN ACCORDANCE WITH THE**
9 **FEDERAL ENERGY REGULATORY COMMISSION (FERC) UNIFORM**
10 **SYSTEM OF ACCOUNTS (USOFA) ADOPTED BY THIS COMMISSION?**

11 A. Yes. I&M's books and records are maintained according to the FERC USofA as
12 adopted by this Commission at 170 IAC 4-2-1.1.

13 **Q. WILL I&M'S BOOKS AND RECORDS BE CONSISTENT WITH THE FERC**
14 **USOFA IF THE PROPOSED ACCOUNTING FOR THE CLEAN ENERGY**
15 **SOLAR PILOT PROJECT IS IMPLEMENTED?**

16 A. Yes.

17 **Q. PLEASE SUMMARIZE THE RATEMAKING AND ACCOUNTING RELIEF I&M**
18 **IS REQUESTING IN THIS PROCEEDING FOR THE CESPP.**

19 A. As explained in I&M's Petition in this Cause, in accordance with Ind. Code § 8-
20 1-8.8-11, I&M requests the Commission to authorize the necessary accounting
21 and ratemaking to permit I&M to timely recover through rates the project costs
22 incurred for the CESPP. I&M requests the timely cost recovery to occur

1 through the proposed SPR and for the rates to be established on forecasted
2 costs aligning with the rate period consistent with other I&M riders

3 More specifically, I&M proposes that timely cost recovery include
4 depreciation expense, carrying costs on the post in-service investment, taxes
5 and operating and maintenance costs, including solar forecasting costs. The
6 cost recovery will also reflect credits for the amortization of the Investment Tax
7 Credit (ITC) and GPR credits as discussed below. I&M requests the
8 Commission authorize the depreciation of the Clean Energy Solar Pilot Project
9 over a period of 20 years. The carrying costs to be recovered in the Solar
10 Power Rider will be computed by applying I&M's weighted average cost of
11 capital to I&M's investment as each solar project is placed into electric plant in
12 service.

13 Cost recovery through the SPR will be subject to reconciliation to actual
14 costs. I&M proposes to perform traditional over/under- recovery accounting
15 consistent with I&M's current tracker reconciliations. I&M also requests
16 authority to create a regulatory asset of post in service carrying costs, both
17 debt and equity, depreciation expense, taxes, and operating and maintenance
18 (O&M) expense, including forecasting costs associated with the CESPP, and
19 maintain those deferrals until they are recovered through the ratemaking
20 process.

21 **Q. I&M WITNESSES CHODAK AND KARRASCH EXPLAIN THAT THE CESPP**
22 **INCLUDES FIVE SOLAR PROJECTS. WILL THE FIVE PROJECTS**
23 **COLLECTIVELY REFERENCED AS "CESPP" HAVE THE SAME IN-**

1 **SERVICE DATE?**

2 A. No. These projects will be completed individually and as a result will enter in-
3 service dates at different times. Company witness Karrasch provides further
4 details regarding the in-service dates of the proposed projects. The varying in-
5 service dates will also vary the timing of incurrence of the aforementioned
6 costs.

7 **Q. DOES THE COMPANY'S PROPOSED COST RECOVERY APPLY TO EACH**
8 **OF THE FIVE SOLAR PROJECTS REFERRED TO COLLECTIVELY AS THE**
9 **"CESPP"?**

10 A. Yes.

11 **Q. WHAT IS THE CONSTRUCTION PERIOD FOR THE CESPP?**

12 A. The construction schedule for the CESPP is shown on Table 2 of Company
13 witness Karrasch's.

14 **Q. IN WHAT ACCOUNT ARE THE COSTS OF THE CESPP INITIALLY**
15 **RECORDED DURING CONSTRUCTION?**

16 A. During construction these costs are recorded in Account 107, Construction Work
17 in Project (CWIP), in accordance with the USofA.

18 **Q. WILL I&M ACCRUE AFUDC ON THE CESPP PROJECT?**

19 A. Yes. I&M will record AFUDC on CESPP CWIP in accordance with the FERC
20 USofA. The rate I&M uses for equity funds is the return established in the last
21 Indiana basic rate case (Cause No. 44075). The debt rate reflects the
22 Company's current cost of debt.

1 **Q. WHAT ACCOUNTING DOES THE FERC USofA REQUIRE UPON THE IN-**
2 **SERVICE AND COMPLETION OF CONSTRUCTION OF THE CESPP?**

3 A. When a project is placed in-service I&M will transfer the costs from Account
4 107, CWIP, to Account 106, Completed Construction Not Classified. Then the
5 costs will be transferred into Account 101, Electric Plant in Service, and
6 classified by appropriate 300 level plant sub-accounts provided in the USofA.
7 Also, upon the in-service date, I&M will discontinue recording AFUDC and the
8 month following, begin recording depreciation of the capital investment. The
9 in-service date of the project will also trigger applicable property tax expense
10 according to the state and local rules associated with the situs of the capital
11 investment, and amortization of ITC in accordance with the IRC.

12 **Q. WILL I&M DEFER ANY PORTION OF THE CESPP COSTS?**

13 A. Yes. As stated above, I&M proposes to defer the post in service carrying
14 costs, depreciation, taxes, and associated O&M on the project from the in
15 service date until these costs are reflected in the factors established in the
16 annual SPR filings or otherwise reflected in I&M's basic rates.

17 **Q. PLEASE EXPLAIN I&M'S REQUESTED DEPRECIATION TIME PERIOD FOR**
18 **THE CESPP CAPITAL INVESTMENTS.**

19 A. I&M requests the Commission authorize I&M to depreciate the CESPP over a
20 period of 20 years. As discussed in the testimony of Company witness
21 Karrasch, the useful life of the Solar Pilot Project is expected to be 20 years.
22 Therefore, a 20 year depreciation period is appropriate to match the recovery
23 of this investment over the remaining life of the investment.

1 **Q. PLEASE EXPLAIN I&M'S ACCOUNTING FOR DEPRECIATION EXPENSE**
2 **ON THE CESPP.**

3 A. Once each solar project is placed into service depreciation expense will be
4 recorded by charging Account 403, Depreciation Expense, and crediting
5 Account 108, Accumulated Provision For Depreciation of Electric Plant. The
6 specific asset location and depreciation group assigned to each project will
7 permit the depreciation of each project to be tracked. Depreciation
8 commences the month following the in-service date of the equipment.

9 **Q. PLEASE EXPLAIN I&M'S AMORTIZATION OF THE INVESTMENT TAX**
10 **CREDIT (ITC).**

11 A. The timely cost recovery through the Solar Project Rider will reflect a credit for
12 the ITC amortization earned on the proposed CESPP. The Solar Tax Credits
13 are considered to be Investment Tax Credits (ITCs) under the tax regulations.
14 In March 1972, I&M made an election to apply Internal Revenue Code Section
15 46(f) (2) to Investment Tax Credits that have been claimed for eligible property
16 additions on the Federal income tax returns of I&M. Under the tax
17 normalization rules, these credits must be deferred and amortized over the life
18 of the property through cost of service via income tax expense. The Company
19 has been following this ITC Election in all rate proceedings since that time.
20 This regulatory treatment has been accepted by the IURC in earlier
21 proceedings.

1 **Q. PLEASE EXPLAIN THE CALCULATION OF I&M'S PRE-TAX WEIGHTED**
2 **AVERAGE COST OF CAPITAL (WACC) THAT WILL BE USED FOR THE**
3 **CARRYING COSTS FOR THE POST IN SERVICE INVESTMENT IN THE**
4 **FUTURE SPR FILINGS.**

5 A. I&M proposes to calculate the WACC using I&M's current cost of debt and the
6 cost of equity approved by the Commission in Cause No. 44075, I&M's last
7 base rate case proceeding, or as established by the Commission in a future
8 proceeding involving I&M's basic rates and charges. I&M's WACC as of March
9 31, 2014, is shown on Exhibit CMH-1 page 2 of 2.

10 **Q. PLEASE EXPLAIN I&M'S PROPOSAL REGARDING OPERATION AND**
11 **MAINTENANCE (O&M) COSTS.**

12 A. I&M proposes to include the O&M costs associated with operating and
13 maintaining the CESPP in its SPR, including solar forecasting costs as
14 discussed by Company witness Karrasch.

15 **Q. PLEASE EXPLAIN I&M'S PROPOSAL REGARDING TIMELY COST**
16 **RECOVERY OF PROPERTY TAX EXPENSE.**

17 A. I&M requests the Commission authorize timely cost recovery of the property
18 tax expense associated with the CESPP. Property tax expense will be
19 determined by applying the appropriate local tax rate to the net taxable costs of
20 the associated CESPP.

21 **Q. HAS I&M ESTIMATED THE PROPOSED INCREMENTAL PROPERTY TAX**
22 **EXPENSE FOR THE CESPP?**

23 A. Yes. I&M estimates the incremental property tax expense for all 5 solar

1 projects included in the CESPP to be \$400,000. This estimate was calculated
2 based on estimates of each solar project's costs and timing, siting, and local
3 tax rates. The assessed value of each project was estimated based on the
4 parameters specific to Indiana and Michigan and then multiplied by the
5 estimated local tax rate to get the estimated annual taxes for the Indiana and
6 Michigan project locations.

7 **Q. YOU STATED ABOVE THAT THE TIMELY COST RECOVERY THROUGH**
8 **THE SPR WILL REFLECT GREEN POWER RIDER CREDITS. PLEASE**
9 **EXPLAIN.**

10 A. As customers sign up for the GPR tariff (discussed below), the associated
11 revenues will be reflected as a reduction to the SPR revenue requirement.

12 **Q. HOW DOES I&M PROPOSE TO DETERMINE THE OVER/UNDER-**
13 **ACCOUNTING FOR THE SPR?**

14 A. Annual SPR filings will include an actual period and forecasted period. The
15 SPR over/under balance will be determined on a monthly basis by comparing
16 actual period-to-date rider revenues to actual period-to-date rider costs.

17 **Q. WHEN DOES I&M PROPOSE TO RECONCILE THE OVER/UNDER-**
18 **BALANCE INTO CUSTOMER RATES?**

19 A. I&M proposes to reconcile the over/under balance into customer rates annually
20 as new rates are established under the SPR. When setting new SPR rates,
21 I&M will utilize the most recent actual over/under balance and amortize that
22 balance over the twelve-month period associated with the new rates.

1 **Q. HOW DOES I&M PROPOSE TO RECOVER ANY DEFERRED COSTS**
2 **INCURRED PRIOR TO THE EFFECTIVE DATE OF SPR FACTORS?**

3 A. I&M proposes to recover any costs deferred prior to the implementation of the
4 SPR factor over twelve months starting with the effective date of the Rider.

5 **Q. DOES I&M PROPOSE TO ESTABLISH FACTORS FOR THE SOLAR**
6 **POWER RIDER IN THIS CAUSE?**

7 A. No. I&M seeks approval of the timely cost recovery and associated Rider, but
8 the initial Rider factors will be zero. I&M proposes to file its first Solar Power
9 Rider filing approximately six (6) months prior to the first CESPP project going
10 into electric plant in service, based on the forecasted costs for the following
11 twelve month period. The timing of this filing should allow sufficient time for
12 review and issuance of an Order contemporaneous with the in-service date of
13 the first CESPP project.

14 In the event an order is not issued by the time the initial or subsequent
15 CESPP Project is placed into service, I&M requests authority to defer the
16 carrying costs on post in service investment, depreciation expense, property
17 tax expense, ITC amortization, and associated O&M. I&M proposes to file
18 Solar Power Rider proceedings on an annual basis thereafter.

19 **Q. HOW DOES I&M PROPOSE TO TREAT THE RETURN ASSOCIATED WITH**
20 **THE SPR RATEMAKING TREATMENT IN ITS FUEL COST ADJUSTMENT**
21 **PROCEEDINGS COMMONLY REFERRED TO AS “FAC” PROCEEDINGS?**

22 A. I&M proposes to reflect the authorized return (also referred to herein as the
23 post in service carrying costs) on the CESPP from its most recent SPR Order

1 in determining the total authorized net operation income level to be utilized in
2 the I.C. 8-1-2-42(d)(3) test.

3 **Q. HOW LONG WILL THE REQUESTED RATEMAKING TREATMENT REMAIN**
4 **IN EFFECT?**

5 A. The requested ratemaking treatment will continue until the CESPP is included
6 in rate base in a proceeding that involves the establishment of I&M's basic
7 rates and charges.

8 **Q. PLEASE EXPLAIN THE GPR THE COMPANY IS PROPOSING IN**
9 **CONJUNCTION WITH THE CESPP.**

10 A. The Company is proposing the introduction of the Green Power Rider (GPR)
11 as shown on Exhibit CMH-3, which will be available to all classes of retail
12 customers in good standing as set forth in Exhibit CMH-3. Customers who
13 wish to support the development of electricity generated by solar resources
14 may voluntarily subscribe each month a specific number of Solar Renewable
15 Energy Certificate (SREC) blocks in increments of 50 kWh per block. The
16 SREC blocks will be limited to those available from the output of the
17 Company's solar generation resource(s), initially sourced from the CESPP
18 generation resources described above. Payment for the block subscription will
19 be billed to the customer on their normal monthly bill and will appear as a
20 separate line item on their monthly bill. Customers may subscribe to as little as
21 one block per month.

22 Although there are minimum notification start and stop periods, the
23 minimum subscription time period could be as small as one billing month. The

1 charge per block will initially be based upon the most appropriate vintage of
2 Pennsylvania Solar REC, as published by SNL Energy in its Power Daily
3 Newsletter RECs Index, as discussed by Company witness Karrasch. The
4 Company will update the fixed block rate annually through the 30 day filing
5 process.

6 **Q. IS THERE A MAXIMUM AMOUNT OF BLOCKS THAT CUSTOMERS MAY**
7 **SUBSCRIBE TO UNDER GPR?**

8 A. All customers will be limited to 90% of the Company's Indiana retail jurisdictional
9 share of projected SRECs available during the same period. Should the 90%
10 limit be reached, the Company will suspend the availability of subscriptions under
11 GPR until such time as additional blocks of SRECs become available. The
12 Company will not be obligated to make available additional solar resources or
13 SRECs. Should the Company's available solar resources generating SRECs
14 become fully subscribed, the Company will maintain a list of customers
15 interested in block subscriptions and subscriptions will be offered on a first-come
16 first-serve basis as blocks become available.

17 **Q. WILL I&M BE RETIRING THE SOLAR RENEWABLE ENERGY**
18 **CERTIFICATES SOLD UNDER THE GREEN POWER RIDER?**

19 A. Yes. I&M will retire the SRECs that are subscribed to by participating GPR
20 customers on an annual basis in PJM's Generation Attributes Tracking System
21 (GATS).

1 **Q. HAVE YOU CALCULATED AN ESTIMATED OVERALL RATE IMPACT FOR**
2 **I&M'S INDIANA CUSTOMERS OF THE SOLAR PILOT PROJECT?**

3 A. Yes. As shown on Exhibit CMH-1, I&M estimates the average total impact for
4 all rate classes at the full value of investment on Indiana retail jurisdictional
5 revenues at the end of the project. As shown on Exhibit CMH-1 the estimated
6 annual overall rate impact is 0.3%.

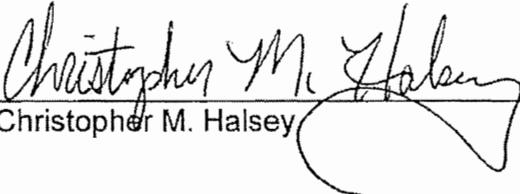
7 **Q. DOES THIS CONCLUDE YOUR PRE-FILED VERIFIED DIRECT**
8 **TESTIMONY?**

9 A. Yes, it does.

VERIFICATION

I, Christopher M. Halsey, Senior Regulatory Consultant of Regulatory Services for Indiana Michigan Power Company, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Date: July 2, 2014.


Christopher M. Halsey

INDIANA MICHIGAN POWER COMPANY
ESTIMATED RATE IMPACT
CLEAN ENERGY SOLAR PILOT PROJECT

(DOLLARS IN THOUSANDS)

LINE	ITEM	INDIANA MICHIGAN POWER
1	TOTAL CAPITAL INVESTMENT SOLAR (\$000) - UPDATEE	\$ 38,099
2	WEIGHTED AVERAGE COST OF CAPITAL CAUSE NO. 44075	9.35%
3	REVENUES FOR CARRYING COSTS	\$ 3,473
4	ALLOCATED INVESTMENT FROM LINE 1	\$ 38,099
5	RECOVERY PERIOD - 20 YEARS	<u>20</u>
6	ANNUAL DEPRECIATION - CAPITAL INVESTMENT	\$ 1,905
7	ANNUAL INCREMENTAL O&M & SOLAR FORECASTING	\$ 236
8	PROPERTY TAXES	\$ 400
9	NET IMPACT OF ITC AMORTIZATION	\$ (733)
10	CREDIT FROM GREEN POWER RIDER**	<u>0</u>
11	REVENUE REQUIREMENT BEFORE UTILITY RECEIPTS & IURC FEES	\$ 5,281
12	UTILITY RECEIPTS TAX AND IURC FEES	<u>\$ 82</u>
13	TOTAL ANNUAL REVENUE REQUIREMENT	\$ 5,363
14	INDIANA JURIS DEMAND ALLOC FACTOR	<u>64.65519%</u>
15	INDIANA ANNUAL RETAIL REVENUE REQUIREMENT	<u>\$ 3,468</u>
16	TOTAL ANNUAL INDIANA RETAIL REVENUES CAUSE NO 44075	<u>\$ 1,160,068</u>
17	APPROXIMATE OVERALL % INCREASE IN RATES	<u>0.3%</u>

*Estimated Revenue Requirement excludes recovery of the costs deferred prior to the implementation of the Rider.

**Currently in this example this estimate includes zero for ease of calculation. As Customers sign up for this Rider, the Credit will flow through Solar Power Rider.

Indiana Michigan Power Company
Rate of Return Summary
12-Month Period Ended 3/31/14

Exhibit CMH-1
Page 2 of 2

Line No.	(a) Description	(b) Total Company Capitalization	(c) Percent of Total	(d) % Cost Rate	(e) % Weighted Average Cost Rate	Tax Gross-Up Factor	Carrying Cost Rate
1		\$					%
2	Long Term Debt	1,597,959,380	34.44%	5.67%	1.95%	1.0000	1.95%
3	Common Equity	1,984,709,532	42.77%	10.20%	4.36%	1.6587	7.24%
4	Customer Deposits	31,083,002	0.67%	6.00%	0.04%	1.0000	0.04%
5	Acc. Def. FIT	984,601,255	21.22%	0.00%	0.00%	1.6587	0.00%
6	Acc. Def. JDITC	<u>41,980,339</u>	<u>0.90%</u>	8.18%	<u>0.07%</u>	1.6587	<u>0.12%</u>
7							
8	Total	<u>4,640,333,508</u>	100.00%		<u>6.43%</u>		<u>9.35%</u>
9							
10							
11							
12	<u>Cost of Investor Supplied Capital</u>						
13	Long Term Debt	1,597,959,380	44.60%	5.67%	2.53%	1.0000	2.53%
14	Common Equity	<u>1,984,709,532</u>	<u>55.40%</u>	10.20%	<u>5.65%</u>	1.6587	9.37%
15	Total	<u>3,582,668,912</u>	100.00%		8.18%		<u>11.90%</u>

Computation of Gross Revenue Conversion Factor

	Tax Rates	% of Incremental Gross Revenues
Income Before Income Taxes		100.0000%
Less: Indiana Utility Receipts Tax		
Public Utility Assessment Fee (IURC)		0.0000%
Base Subject to State Income Taxes		100.0000%
Less: State Income Taxes	7.2500%	7.2500%
Income Before Federal Income Taxes		92.7500%
Less: Federal Income Taxes	35.0000%	32.4625%
Operating Income Percentage		<u>60.2875%</u>
Gross Revenue Conversion Factor		<u>1.6587</u>

Note: ROE Source = Cause No. 44075

I.U.R.C. NO. 16
 INDIANA MICHIGAN POWER COMPANY
 STATE OF INDIANA

ORIGINAL SHEET NO. XX

SOLAR POWER RIDER (SPR)

In addition to the rates and charges set forth in the above mentioned rates, a Solar Power Rider (SPR), applicable until superseded by a subsequent factor, shall be applied in accordance with the following provisions:

The SPR adjustment per kilowatt-hour (kWh) shall be calculated by multiplying the kWh billed by an adjustment factor established according to the following formula:

$$SPR = \frac{RR}{S} \text{ (For each rate class)}$$

where:

RR is the revenue requirement calculated as follows:

- (a) The revenue requirement for SPR investment; plus
- (b) Depreciation expense on in-service SPR property; plus
- (c) Operation & maintenance expenses on SPR property; plus
- (d) ITC Amortization Credit
- (e) Associated Taxes including Property Tax

S is the estimate of kWh sales for the same estimated period set forth in RR.

The adjustment factor to be effective for all bills for electric service rendered will be:

Tariff Class	¢/kWh
RS, RS-TOD, RS-TOD2 and RS-OPES	0.0000
GS, GS-TOD and GS-TOD2	0.0000
LGS and LGS-TOD	0.0000
IP and CS-IRP2	0.0000
MS	0.0000
WSS	0.0000
IS	0.0000
EHG	0.0000
OL	0.0000
SLS, ECLS, SLC, SLCM AND FW-SL	0.0000

ISSUED BY
 PAUL CHODAK III
 PRESIDENT
 FORT WAYNE, INDIANA

COMMENCING WITH THE FIRST BILLING CYCLE
 OF THE MONTH OF _____

ISSUED UNDER AUTHORITY OF THE
 INDIANA UTILITY REGULATORY COMMISSION
 DATED _____
 IN CAUSE NO. _____

**I.U.R.C. NO. 16
INDIANA MICHIGAN POWER COMPANY
STATE OF INDIANA**

ORIGINAL SHEET NO. XX

GREEN POWER RIDER (GPR)

Availability of Service.

Available on a voluntary basis to customers who are in good standing and desire to purchase renewable energy credits from the Company's owned solar resources. Participation under this Rider shall be limited by the availability of Solar Renewable Energy Certificates (SRECs). If the annual total of all kWh under this Rider equals or exceeds 90% of the Company's Indiana retail jurisdictional share of projected SRECs to be produced by the CESPP, the Company shall suspend the availability of this Rider to new participants.

Conditions of Service.

Customers who wish to support the development of electricity generated by solar resources may voluntarily subscribe to purchase each month a specific number of fixed SREC blocks in increments of 50 kWh per block. The Company will retire the SRECs associated with the energy purchased by participating customers on an annual basis upon receipt of payment from the customer.

Monthly Rate.

In addition to the monthly charges determined according to the Company's rate schedule under which the customer takes service, the customer shall participate in the Green Power Rider by subscribing to a specific number of fixed blocks at a rate of:

\$X.XX for each 50 kWh block subscribed.

The Company will update the fixed block rate on an annual basis, based on the most appropriate vintage of Pennsylvania Solar REC, as published by SNLEnergy in its Power Daily Newsletter RECs Index. If the SREC product index is no longer available or the state of Indiana adopts a Renewable Portfolio Standard that includes solar, the Company will select a replacement SREC product as the basis for establishing the monthly rate.

Terms of Service.

This is a voluntary program. Customers eligible for this Rider may participate by applying to the Company for service under this Rider. Once approved for service under this Rider, service will begin within a minimum of fifteen (15) days of the customer's regular scheduled meter reading date. Customers may terminate service under this Rider by notifying the Company with at least thirty (30) days notice prior to the customer's regular scheduled meter reading date.

(Cont'd on Sheet No. XX.1)

**ISSUED BY
PAUL CHODAK III
PRESIDENT
FORT WAYNE, INDIANA**

**EFFECTIVE FOR ELECTRIC SERVICE RENDERED
ON AND AFTER XXXX**

**ISSUED UNDER AUTHORITY OF THE
INDIANA UTILITY REGULATORY COMMISSION
DATED XXXX
IN CAUSE NO. XXXXX**

I.U.R.C. NO. 16
INDIANA MICHIGAN POWER COMPANY
STATE OF INDIANA

ORIGINAL SHEET NO. XX

GREEN POWER RIDER (GPR)

(Cont'd from Sheet No. XX)

Special Terms and Conditions.

Customer specific information, including, but not limited to the specific number of fixed SREC blocks purchased under this Rider, shall remain confidential.

This Rider is subject to the Company's Terms and Conditions of Service and all provisions of the standard rate schedule under which the customer takes service, including all payment provisions.

Service under this Rider provides for the generation of renewable solar energy by the Company, but not for actual physical delivery to customers receiving service under this Rider.

ISSUED BY
PAUL CHODAK III
PRESIDENT
FORT WAYNE, INDIANA

EFFECTIVE FOR ELECTRIC SERVICE RENDERED
ON AND AFTER XXXX

ISSUED UNDER AUTHORITY OF THE
INDIANA UTILITY REGULATORY COMMISSION
DATED XXXX
IN CAUSE NO. XXXXX