STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE VERIFIED PETITION OF INDIANA MICHIGAN POWER COMPANY FOR APPROVAL OF DEMAND SIDE MANAGEMENT (DSM) PLAN, INCLUDING ENERGY EFFICIENCY (EE) PROGRAMS, AND ASSOCIATED TREATMENT, INCLUDING TIMELY RECOVERY THROUGH I&M'S DSM/EE PROGRAM COST RIDER OF ASSOCIATED COSTS, INCLUDING PROGRAM OPERATING COSTS, NET LOST REVENUE, AND FINANCIAL INCENTIVES.	)	**CAUSE NO. 45285**

DIRECT TESTIMONY OF THEODORE SOMMER ON BEHALF OF THE CITY OF SOUTH BEND

The City of South Bend ("South Bend") hereby submits the Direct Testimony of Theodore Sommer in the above captioned Cause.

Respectfully submitted,

/s/ *R. M. Glennon*

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DIRECT TESTIMONY OF THEODORE SOMMER

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

A. My name is Ted Sommer. I am a Partner with the Firm of LWG CPAs and Advisors. My business address is 1776 North Meridian, Suite 500, Indianapolis, Indiana 46202.

Q. Please describe your educational and business experience.

A. I am a Certified Public Accountant with a diverse background of business experience. I have many years of experience regarding municipal and utility operations. I graduated from the University of Missouri in 1975 with a Bachelor of Arts Degree and in 1979 with a Master of Business Administration Degree. In February 1979, I accepted employment with the Missouri Public Service Commission as a Staff Accountant and worked there performing various duties entailing increasing levels of responsibility. In August of 1983, I accepted employment with the Indiana Office of Utility Consumer Counselor ("OUCC") as the first Director of Utility Analysis. While with the Indiana Office of Utility Consumer Counselor, I served as Director of the Technical Staff and testified on behalf of the public in many telephone, water, electric and natural gas proceedings before the Indiana Utility Regulatory Commission ("Commission"). In November of 1988, I accepted employment with London Witte & Company. I was a Partner with London Witte & Company, and am now a Partner with LWG CPAs and Advisors. As part of my employment, I monitor the actions of the Federal Reserve, the equity markets and the federal, municipal, and corporate bond markets. I am a Municipal Advisor registered with the Security and Exchange Commission and regularly participate in the issuance of

taxable and tax exempt bonds for our Municipal and Tax Exempt clients. I have attached a resume directly following this testimony that includes a summary of my experience along with the proceedings in which I have provided testimony before this Commission and other regulatory bodies.

Q. On whose behalf do you testify in this proceeding?

A. I am testifying on behalf of the City of South Bend ("South Bend").

Q. What is the purpose of your testimony?

A. In each of I&M's last two rate cases South Bend has expressed its interest in reasonable monthly rates for I&M converting its I&M owned municipal streetlights from the old, poorly illuminating, energy inefficient High Pressure Sodium ("HPS") and Mercury Vapor ("MV") lights to modern energy efficient, highly reliable, long lived, low maintenance cost, better illumination, safer LEDs. I am here pursuing the same goal.

Q. How have you prepared yourself for your testimony?

A. I have reviewed I&M's filings in this Cause and pertinent discovery responses.

Q. Have you previously testified before the Commission?

A. Yes, many times over the past 36 years. In the past seven years I have presented testimony several times concerning the mass retrofit of Investor Owned Utilities' (IOU's) streetlights within municipalities.

Q. Are you knowledgeable about and have experience in LED street lighting?

A. Yes. I am the director of the Indiana Municipal Utility Group ("IMUG"). That is an ad hoc membership of the Cities of East Chicago and Valparaiso, and the Towns of Highland, Schererville, Dyer, Munster, Griffith and Winfield.

Over the past 7 years I have worked with those and other municipalities in pursuing the mass retrofit of old technology streetlights to new energy efficient, safer, better illuminating, lower maintenance cost LED lights. In that entire time I have worked closely with Dr. Robert Kramer of Purdue's Energy Research Center and interacted with participants in the LED streetlight industry including streetlight contractors, suppliers and utility representatives. I have participated in field tests of LED lighting. My work in this area has made me familiar with LED streetlights, their replacement costs, O&M costs, energy use and other pertinent matters. I have worked closely with NIPSCO regarding the mass LED retrofit of its 42,000 NIPSCO owned municipal streetlights.

Q. Through what ratemaking mechanism was NIPSCO's mass LED conversion deployed?

A. NIPSCO utilized the Transmission Distribution System Improvement Charge ("TDSIC"). In doing so a material portion of the fixture and installation costs are socialized among all customer classes.

Q. Has that NIPSCO TDSIC program been successful in mass retrofitting NIPSCO LED streetlights?

A. Yes. As of the end of 2019 NIPSCO expects to have changed out 21,000 of its HPS lights to LED fixtures.

Q. Please summarize your testimony in this Cause.

A. My testimony addresses the following:

I. I will discuss several reasons why I&M's proposal to include some of the PES capital costs as an energy efficiency ("EE") rebate in its DSM/EE Rider is reasonable.

II. I will describe and support the adjustments needed to make I&M's proposed PES rates reasonable, to thereby foster municipal LED retrofit participation and meet the public service mandate of South Bend.

Q. Please summarize your recommendations.

A. My recommendations are:

I. I&M's proposal to include PES LED retrofit costs in the DSM/EE Rider is reasonable, so long as it is matched with reasonable monthly PES LED street light rates.

II. I&M's proposed PES rates for LED streetlight retrofits are excessive and should be reduced to reflect the much lower LED O&M and energy use costs, be fair and promote municipal participation and service.

III. I&M's PES proposal should be approved with the modifications proposed by South Bend.

I. I&M's PES Proposal.

Q. Please describe I&M's PES proposal.

A. Currently PES requires a per fixture upfront capital charge payment from each participating municipality and an additional monthly charge. I&M proposes that the PES program remain largely the same but the municipal upfront charge and the monthly adder are eliminated. The capital costs difference between old technology High Pressure Sodium lights and new high efficiency LED lights is the energy efficiency rebate that will be tracked through the DSM / EE tracker. The proposed monthly PES LED streetlight rates would be the same as the now current HPS, MV and incandescent rates for the Energy Conservation Lighting Service ("ECLS") and SLS in effect at the time this Cause was filed, for lights with comparable light output or lumens.

Q. Is it reasonable that the LED retrofit capital costs be recovered through the DSM EE tracker without the upfront municipal capital contribution?

A. Absolutely. I&M's decision to remove the municipal capital contribution is a step in the right direction. It is reasonable for several reasons including the following:

1. Energy Efficiency.

The energy use of LED streetlight retrofits can be as much as 70% lower than lumen equivalent HPS and MV lights. The energy savings available from LED streetlight conversion is "low lying fruit" that can be readily harvested by I&M while at the same time improving the safety, convenience and economic well-being of all of I&M's customers. Lighting efficiency has for many years been one of the focuses of the DSM activities. It is very appropriate that focus be placed on the 27,000 old technology inefficient I&M owned streetlights that illuminate public streets, roads and side walks.

2. Reduction of generation and green house gas emissions.

All I&M customers benefit from the reduction of electric generation plant carbon emissions from LED's much lower energy use.

3. All I&M customers directly benefit from LED streetlight retrofits' safety, economic and environmental improvements.

The direct beneficiaries of the improved nighttime vehicular and pedestrian safety provided from better illuminating LED streetlights are all of I&M's customers. The public at large, who drive or walk within municipalities are the direct beneficiaries. This includes those who drive into the municipalities for shopping, commercial services, sports, entertainment, social, religious or civic activities. All receive the enhanced visual acuity, safety and security of superior LED street lighting. Commercial businesses benefit from enhanced nighttime business patronage that is encouraged and can increase by improved street, pedestrian and commercial area lighting. Industrial customers enjoy the enhanced safety and reliability for their employees and contractors as they commute to and from work or conduct work out-of-doors in dark hours. Those who because of LED lighting's improved visibility are not killed, injured or suffer property damage while driving, biking or walking at night are LED street light beneficiaries. Those individuals and businesses that avoid criminal activity and violence because of much better illuminating street lighting are the beneficiaries of LED mass retrofits. All I&M customers benefit from the reduced electric generation and reduced carbon emissions tied to LED's lower energy use. The municipal governments that must each month pay for I&M's 27,000 streetlights are not the direct beneficiaries of the public safety, economic,

social and environmental improvements created by LED streetlight conversion. The beneficiaries are all people and entities in I&M's service area.

4. Closed financial loop non- profit public service providers.

Indiana's municipalities are closed financial loop providers of diverse critical public services and protections. These services include police protection, fire protection, road and sidewalk maintenance, provision of lighting and traffic control, sanitation, potable water, snow removal, education, child and adult sports and recreation, zoning, planning for development, urban renewal, citizen support, assistance to those in need, promotion of economic development / job growth, administration of city affairs, employment of municipal workers and essential contractors and the list of services and public benefits goes on. Municipalities do not generate a profit nor do they pay dividends to shareholders. Every municipal dollar is used to provide public service. Every dollar of municipal operating cost increase due to I&M electricity charges is a dollar taken away from a municipal program or service, while every dollar saved can be reinvested in municipal programs services to improve the lives of those who live and / or work in the municipality and to improve the area economy. That dedication to public service and our need to save money to maintain or improve public services makes South Bend and other municipalities unique among I&M customers. South Bend, and based on my experience municipalities in general, can ill afford to capitalize I&M's modernization of its outdated old technology street lights. Property tax caps have greatly increased budgetary pressure on municipalities and their need to be ever vigilant in stewarding their finances.

5. High LED retrofit charges and rates block I&M LED modernization.

An I&M LED retrofit upfront customer charge is a serious barrier for municipalities interested in LED mass conversion. As noted above South Bend and other municipal governments are financially and operationally tasked with the burden of providing diverse public services to their citizens. Municipalities are essentially not for profit public closed financial loop public service providers.

The current PES program rates and requirement of a capital contribution has proven to be too costly for municipalities. The PES record speaks for itself. After over three years of availability not one of the 71 municipalities in I&M's service area has agreed to pay I&M's current PES rates and capital charges. Not one of I&M's 27,000 municipal streetlights has been converted to use LED fixtures. South Bend considered participating in I&M's PES current program but could not identify a fiscally-responsible way to do so under the current tariff. Unless appropriately adjusted I&M's PES rates and charges will in my opinion continue to fail to attract municipal participants.

6. Full capitalization of LED retrofit by the utility can result in financially unacceptable high LED streetlight rates.

The streetlight rates that result from utility LED retrofits reflect the fixture cost, electric eye cost, installation cost and overhead loadings. Those costs eventually get reflected in increased streetlight rate base that can drive up streetlight rates in subsequent rate cases. Those rates can be unacceptably high to municipalities. Having the true beneficiaries of LED conversion help pay for those capital costs lowers the otherwise dramatic increase

retirement and replacement of old technology streetlights can cause. Needless to say, all the reasons I have listed here emphasize the importance of streetlight rates being properly allocated and designed in each rate case as detailed by Mr. Seelye.

7. High LED retrofit charges and LED rates stifle municipal requests for additional new street lights.

The willingness of Municipalities to request I&M to install streetlights at new locations is stifled by I&M's current PES charges as well as high LED rates. Combined retrofit and new light location installations performed in tandem can offer additional economy of scale results. Additional street lighting is one of the most frequent requests from South Bend Common Council members and neighborhood associations, in a program that the South Bend Department of Public Works has named "Light Up South Bend.": However, every new street light installed by I&M at the City's request, while adding to safety and quality of life in neighborhoods, is also a permanent increase to municipal ongoing operational costs, energy use, and carbon footprint. South Bend is caught between wanting to deliver good government via better-performing lighting and wanting to deliver good government via responsible use of taxpayer dollars. Excessive streetlight rates are the barrier. Reasonably pricing I&M's PES lighting rates will promote mass conversion to LED among I&M's municipal customers, while low LED rates will help Municipalities afford to add *new* lights

I&M has expressed desire to convert all of its street lights to LED within 3 years. More reasonable LED rates are required to facilitate that conversion.

An example of a creative "win win" by which I&M might better promote LED PES retrofits and better meet municipal customer needs for lower LED lighting rates would be an "upfit" option in tandem with PES LED retrofits, to offer municipalities new LED light installations on existing suitable I&M poles where requested. Existing suitable poles would be in good condition and already carry electrical conductors of suitable lighting voltage (e.g. 120V), but have no street light attached.

Such poles are presumably already in rate base for their primary function, carrying conductors, and their costs would not be recovered a second time in the "new LED-existing pole" streetlight rate. Such an upfit of new LED lights on existing poles would require a new I&M non-PES streetlight rate that excludes the cost of a pole, a rate I&M currently does not offer. LED lights and arms could be installed on existing poles at the same time as PES LED retrofits to garner an economy of scale. Except for the proposed PES LED retrofit program all I&M's current street lighting tariffs include the cost of a pole, a fixture, and associated equipment and labor.

I believe that I&M should develop and file a 30 day "upfitting" tariff that allows the City to put a light fixture on an existing suitable pole carrying suitable voltage wire, or even Outdoor lighting that at a minimum excludes the cost of a pole that would already be in base rates.

II. Necessary Adjustments to I&M's Proposed PES Rates.

Q. To be fair to municipal customers do I&M's PES rates proposed in this Cause need downward adjustment to reasonably reflect actual LED operating costs?

A. Yes, I&M's proposed PES rates for replacement LED fixtures are essentially the same as I&M's current rates for HPS MV and Incandescent ("old technology") streetlights lights of comparable luminescence. Those old technology rates reflect I&M's system average streetlight O&M costs, i.e. O&M for high maintenance cost HPS streetlights. LED O&M costs for replacement LED fixtures are much lower than old technology O&M. As proposed I&M's PES rates seriously overstate LED O&M and LED energy usage costs.

I&M's proposed monthly LED PES streetlight rates are erroneously priced to match old technology rates. They thereby include the same annual lamp maintenance costs as current old technology lights. The annual O&M maintenance cost contained in I&M's PES LED rates, includes the replacement of the bulb and the photocell every five years. That greatly overstates the necessary maintenance cost of LED streetlights and photocells that will last up to 20 years with little or no maintenance. The best LED fixtures come with 10-year manufacturer fixture replacement warranties. Once installed LED maintenance needs are primarily a function of damage occurrences, cars colliding with and destroying the poles, animal damage and lights being vandalized. The photoelectric cell, the light sensitive device that turns the light on at night and off at day, lasts 15 years or more and then it is a matter of simply unscrewing and replacing the small eye, not replacing the entire fixture. LED streetlights also have longer useful lives because they are less susceptible to vandalism. While old technology lights can be rendered inoperative by a single gunshot or other projectiles, an LED fixture is a

composite of many individual LED light cells. Absent damaging the LED driver, often the undamaged LED light cells will continue to illuminate.

LED streetlights' lower energy use also reduces stress on the utility distribution system. That helps reduce O&M distribution expense, reduces distribution demand and increases distribution equipment lives.

LEDs also require much less frequent washing. HPS and MV lights emit a lot of heat, they "burn hot." That results in dust and bugs sticking to their luminaire and unless washed regularly will over time emit much less light. By contrast LEDs operate at much cooler temperatures and do not have the debris accumulation problems of HPS and MV. Thus, applying an HPS washing maintenance schedule to LED streetlights overstates the LED's O&M costs. Because LED streetlight O&M costs are so much lower than the O&M of I&M's HPS and MV lights the PES rates must be reduced to reflect that O&M savings. In my opinion a 75% reduction is appropriate and reflective of actual LED O&M costs.

Through a recent 30-day filing Vectren South has received approval for new LED rates for its rate O.L. That filing which was made on June 5, 2019 and approved on July 10th 2019. Within that filing's Exhibit 1 Schedule C there is a calculation that concludes that for LEDs there is a 75% decrease in the O&M maintenance costs relative to HPS. Vectren's calculation shows that this decrease far outweighs the additional cost of the new LED fixture. This Vectren rate demonstrates the rate savings that should be reflected in pure LED rates, rather than LED rates based on old streetlight technology maintenance costs and replacement costs.

Q. In addition to lower LED O&M please address the lower LED energy use and costs you previously referenced.

A. Another fair and necessary rate reduction for replacement LED fixtures is for lower energy use. LED streetlights use about 70% less energy than old technology HPS streetlights. Monthly streetlight rates have built in them the unmetered monthly energy usage of each type of light. Each monthly streetlight rate collects the rate for each type of light's energy use based on the wattage of the light and the number of hours it will burn each month. By being the same as old technology streetlight charges the proposed PES charges fail to reflect that 70% LED energy use savings. In other words the proposed PES rates charge for inefficient old streetlight technology energy use that will not occur in modern LED streetlights.

As currently proposed, the reduced energy use cost savings would remain with I&M rather than reducing the monthly municipal charge for the PES LEDs. That reduction should be made. Mr. Seelye quantifies and discusses these adjustments in detail.

Q. Even with the plan improvements proposed by I&M and appropriate PES rate reductions to reflect LEDs lower O&M and energy costs will PES avoid future streetlight rate increases?

A. No, PES is not a panacea. The capital costs of a mass retrofit, less the amount collected by the DSM/EE rebate will in a subsequent I&M rate case likely be an addition to rate base that may support an increase in rates. Unlike not for profit municipal ownership,

I&M's ownership of streetlights charges customers, with a return on the investment and income taxes on the earnings. Recognizing the possible future rate impact from the non EE rebate LED capital cost addition to streetlight rate base is further justification for the O&M savings and reduced energy use savings from PES rates to be reflected in PES. For a municipality to do a cost benefit analysis of agreeing to convert to PES LEDs some reasonable certainty of future rates is necessary. While I&M's DSM programs run in three year cycles it may not be until year 2 or 3 that a municipality signs up for PES. Or it may be that the LED conversion process is not completed until year three or thereafter. It seems reasonable to me that given the public benefit and importance of LED lighting, the not for profit nature of I&M's streetlight public servant municipal customers, and the small portion of I&M's operating revenue arising from PES LEDs that a PES rate set for 10 years would be reasonable and further public convenience in I&M's service area.

Q. I&M has not asked to collect lost revenues or a DSM incentive for the PES program. Do you agree with I&M decision?

A. Yes I do. In my experience municipalities are very interested in the improvements made available from superior LED street lighting. I&M, like the other utilities that still use old HPS and MV municipal customer lighting technology, does not need an additional financial incentive or promise of lost revenues to replace its own old technology streetlights with LED's. The replacement need and interest in doing so already exists. What is necessary to promote LED conversion are lower ongoing PES rates and charges. I agree with I&M decision to not seek DSM incentives.

Q. What is your recommendation?

A. I recommend the Commission approve PES with the adjustments proposed by South Bend. Our adjustments are fair, give appropriate recognition to LED operating cost reductions and will provide the incentive needed to promote a mass change-out streetlight program for the municipal customers of I&M. I also recommend that those rates be approved for a period of 10 years.

I further recommend that I&M be required to keep separate accounting for the LED O&M costs, including depreciation so that the energy rate charged to streetlighting customers reflects the actual cost for the LED fixtures and bulbs and not the costs associated with the currently installed inefficient HPS fixtures and bulbs. I anticipate I&M's LED savings will be even higher than South Bend has depicted in its adjustments here.

Q. Does this conclude your Direct testimony?

A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that on this 28th day of May, 2020, copies of the foregoing have been served by electronic mail upon the following:

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