STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANA MICHIGAN POWER COMPANY (I&M), AN INDIANA CORPORATION, FOR APPROVAL OF A CLEAN ENERGY PROJECT AND QUALIFIED POLLUTION CONTROL PROPERTY AND FOR ISSUANCE OF CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR USE OF CLEAN COAL TECHNOLOGY; FOR ONGOING REVIEW; FOR APPROVAL OF ACCOUNTING AND RATEMAKING, INCLUDING THE TIMELY RECOVERY OF COSTS INCURRED DURING CONSTRUCTION AND OPERATION OF SUCH PROJECT THROUGH I&M'S CLEAN COAL TECHNOLOGY RIDER; FOR APPROVAL OF DEPRECIATION PROPOSAL FOR SUCH PROJECT; AND FOR AUTHORITY TO DEFER COSTS INCURRED DURING CONSTRUCTION AND OPERATION, INCLUDING CARRYING COSTS, DEPRECIATION, TAXES, OPERATION AND MAINTENANCE AND ALLOCATED COSTS, UNTIL SUCH COSTS ARE REFLECTED IN THE CLEAN COAL TECHNOLOGY RIDER OR OTHERWISE REFLECTED IN I&M'S BASIC RATES AND CHARGES.	)	**CAUSE NO. 44871**

OUCC PREFILED TESTIMONY

OF

EDWARD T. RUTTER – PUBLIC'S EXHIBIT NO. 1

ON BEHALF OF THE

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

Respectfully Submitted,

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

Lorraine Hitz-Bradley

Lorraine Hitz-Bradley, Atty. No. 18006-29
Deputy Consumer Counselor

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing ***Office of Utility Consumer Counselor Prefiled Testimony of Edward T. Rutter*** has been served upon the following counsel of record in the captioned proceeding by electronic service on February 3, 2017.

Teresa Morton Nyhart
Jeffrey M. Peabody
BARNES & THORNBURG, LLP
11 S. Meridian St.
Indianapolis, IN 46204
Email: teresa.nyhart@btlaw.com
Jeffrey.peabody@btlaw.com

Jennifer W. Terry
LEWIS KAPPES, P.C.
One American Square, Suite 2500
Indianapolis, Indiana 46282-0003
Email: JTerry@Lewis-Kappes.com

Jennifer A. Washburn
CITIZENS ACTION COALITION
603 East Washington Street, Suite 502
Indianapolis, Indiana 46204
Email: jwashburn@citact.org

Lorraine Hitz-Bradley
Lorraine Hitz-Bradley
Deputy Consumer Counselor

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
115 West Washington Street
Suite 1500 South
Indianapolis, IN 46204
kkrohn@oucc.in.gov
infomgt@oucc.in.gov
317-233-3235 - Office
317/232-2494 – Phone
317/232-5923 – Facsimile

TESTIMONY OF OUCC WITNESS EDWARD T. RUTTER
CAUSE NO. 44871
INDIANA MICHIGAN POWER COMPANY

I. INTRODUCTION

Q: Please state your name, employer, current position and business address.

A: My name is Edward T. Rutter. I am employed by the Indiana Office of Utility Consumer Counselor ("OUCC") as a Chief Technical Advisor in the Resource Planning and Communications Division. My business address is 115 West Washington St., Suite 1500 South Tower, Indianapolis, Indiana 46204. My educational background and professional experience is detailed in Appendix ETR-1 attached to this testimony.

Q: What is the purpose of your direct testimony?

A: I review and analyze the modeling results provided by Indiana Michigan Power Company ("I&M") witness Mr. Scott Weaver in his prefiled direct testimony and accompanying attachments SCW-1 through SCW-7. Mr. Weaver presents the results of I&M's economic analysis performed to evaluate the installation of Selective Catalytic Reduction ("SCR") technology on Rockport Unit 2, designed to reduce emissions of nitrogen oxides ("NOx").

I discuss the business risks inherent for the two alternatives (Option 1 and Option 2), with one alternative posing two sub-options: Option 1A and Option 1B.

I also discuss the risk of higher rates for ratepayers inherent in the decision to approve I&M's requested installation of SCR technology on Rockport Unit 2, how business risk is shifted to ratepayers should the decision to install SCR technology on Rockport Unit 2 be abandoned, or if the lease for Rockport Unit 2 is terminated prior to the existing termination date. Ratepayers assume the risks of the options presented. In addition, it is difficult to find environmental project certainty while there is uncertainty around important inputs such as load growth or reduction; the impact and sustainability of energy efficiency measures adopted; fuel source availability and price; and changing environmental rules and regulations.

My testimony does not address the necessity for the proposed changes to reduce emissions of NOx at Rockport Unit 2. Those issues are discussed by OUCC witness Ms. Cynthia Armstrong.

Q: Who else will be testifying on behalf of the OUCC in this proceeding?

A: Mr. Wes R. Blakley, Senior Utility Analyst in the Electric Division, renders an opinion on I&M's request for ratemaking and accounting treatment for the installation of an SCR on Rockport Unit 2 and recovery through the Clean Coal Technology Rider ("CCTR").

Ms. Cynthia Armstrong, Senior Utility Analyst in the Electric Division, presents the OUCC's review of I&M's installation of an SCR on Rockport Unit 2. Ms. Armstrong also describes future environmental regulations that may impact Rockport Unit 2.

II. OVERVIEW OF ISSUES

Q. What are the key issues impacting I&M's proposal in this case?

A. There are several key issues:

1. I&M must file its next integrated resource plan ("IRP") in November 2018, which will require I&M to state its plans and assumptions for capacity and

generation for the next twenty (20) years.

2. I&M is subject to a Consent Decree with the U.S. Environmental Protection Agency ("EPA") that requires I&M to retrofit Rockport Unit 2 with SCR technology by December 31, 2019.

3. I&M and American Electric Power Generating Company ("AEG") are parties to a lease agreement for Rockport Unit 2, which terminates on December 7, 2022. The lease requires AEG and I&M to install whatever equipment is necessary to keep Rockport running and to comply with all applicable laws and regulation. In the absence of the SCR installation, I&M and AEG would have to shut down Rockport Unit 2 because it would not be in compliance with the Consent Decree.

4. If I&M and AEG shut down Rockport and terminate the lease agreement early (assuming January 1, 2020, because the SCR installation deadline is December 31, 2019), AEG and I&M would owe the Lessors a Termination fee of approximately $716 million, I&M's 85% share is $608.4 million. The cost of the SCR retrofit technology is estimated at $274.2 million. I&M's ownership share of the SCR retrofit is approximately $137.1 million.

III. REVIEW OF I&M'S MODELING RESULTS

Q. Did you review I&M's modeling of the alternative options regarding the installation of SCR technology on Rockport Unit 2?

A. Yes. I&M used the Plexos® long term resource optimization tool to perform its evaluation. I&M performed the economic evaluations from the perspective of the nearer term disposition option the Rockport Unit 2 SCR Project and did not encompass a full IRP re-model. Because the OUCC does not have access to the

Plexos® planning software model, my analysis concentrated on determining overall reasonableness for model inputs and results. The objective of the modeling performed by I&M was to identify the relative least cost alternative among the two alternatives and two sub-options selected by I&M. This methodology is determined by the calculation of the cumulative present worth ("CPW") over a thirty year period. Historically, the least cost option analysis has been used to evaluate the efficacy of various utility options in developing a course of action.

Q: How does the lease on Rockport Unit 2 relate to the Unit 2 SCR?

A: The sale and leaseback financial arrangement for Rockport Unit 2 provides that I&M and AEG are responsible for installing, owning and operating major environmental controls to ensure that Rockport Unit 2 complies with all regulations. The proposed SCR technology installation falls within this parameter. However, when I&M is faced with an uncertain and developing environmental landscape, a thorough analysis of the risks associated with the modeling of the continued operation of Rockport Unit 2 is important. My analysis of I&M's proposal centers on whether the results are interpreted and adopted appropriately by I&M.

Q. What model run results did I&M provide to support SCR technology installation at Rockport Unit 2?

A. I&M modeled two options, with one consisting of two sub-options regarding its choices for Rockport Unit 2 under the current lease agreement terms. Those alternative options are as follows:

- OPTION 1 - Install SCR technology on Rockport Unit 2;
    - Option 1A:

- Retrofit Rockport Unit 2 with SCR technology and associated equipment by December 31, 2019;
- Enter into a Rockport Unit 2 lease renewal;
- Retire Rockport Unit 2 at the end of its useful life.

  - Option 1B:
    - Retrofit Rockport Unit 2 with SCR technology by December 31, 2019;
    - Return Rockport Unit 2 to the Lessor by the December 2022 lease termination date.

- OPTION 2 - Do not install SCR technology on Rockport Unit 2.

The model runs were designed to evaluate a wide range of assumptions including long-term forecasts of I&M's energy requirements, peak demand and the price of various generation-related commodities. Included in the analysis were the price and availability of energy, capacity, coal, natural gas and carbon dioxide ("CO_2").

Q. Do the modeling results I&M provided definitively support installing SCR technology on Rockport Unit 2?

A. Yes. The modeling approach adopted by I&M was to validate only the nearer term, or what is necessary to comply with the Consent decree, Rockport Unit 2 SCR proposal or disposition option.

Q: What do you conclude after reviewing Mr. Weaver's analysis?

A: Based on my analysis of Mr. Weaver's results, Option 1A is the preferred alternative at this time. Option 1A consists of I&M retrofitting Rockport Unit 2 with SCR technology and associated equipment by December 31, 2019; entering into a Rockport Unit 2 lease renewal; and retiring Rockport Unit 2 at the end of its useful life. The revenue requirement impact on ratepayers is minimized through this option, the need to replace the capacity and energy produced is minimized and the 2018 IRP should evaluate all options consistent with current generation capacity consistent with expected load requirements and will allow for a complete look at the need for Rockport Unit 2 beyond the lease termination date.

Q: Do you have any caveats with regard to that conclusion?

A: Yes. Basic inputs that I&M chose and considered reasonable for the model used in this case could change. The probability of more (or fewer) environmental rules requiring more (or less) capital and operating and maintenance expense can materially impact a decision to retrofit a specific generating unit. For instance, when selecting a refuel or replacement option with natural gas, there are inherent risks, such as the fact that the market will drive the price of natural gas along with the availability of supply, as experienced with recent fracking limitations. An updated review of I&M's generation requirements in its 2018 IRP, which should include a robust analysis of future DSM savings, integrated distributed generation, alternative fuel sources and renewables could render the conclusion here as invalid.

Q: Why is this relevant to I&M's current request for the Unit 2 SCR?

A: Option 1A includes the renewal of the lease for Rockport, which means that the units will continue to burn coal (albeit in a cleaner fashion) past 2022. However, the economics of coal could change due to any number of factors, including additional environmental controls. Also, the trend toward the use of natural gas as an economic dispatch choice has resulted in increased demand. New pipelines will be required as gas demand increases, but it is becoming more difficult for pipelines to come online as a result of opposition to specific routes. These issues would be critical if I&M were required or decided to use natural gas as the main source of fuel for generating electricity. The loss of fuel diversity is a risk that must be acknowledged and addressed in any modeling process. In reviewing and analyzing the modeling provided, I was unable to determine what, if any, risk assessment was performed by I&M that addresses fuel source diversity or fuel source availability.

Q: What further analysis do you recommend be undertaken by I&M?

A: I&M should install the Unit 2 SCR, based on the impact to ratepayers discussed later in my testimony, but it should also review the balance of its options and model for future generation alternatives in the 2018 IRP. The least cost analysis for Rockport should take into account the risks, uncertainties, availability of regional resources, existing and reasonably anticipated environmental regulations, projected fuel costs and availability, load growth, economic factors, and technological changes faced by each option modeled. When model runs have only marginal differences, small input changes could have large impacts.

Q: How should I&M's proposal be measured economically?

A: A simple analysis of I&M's proposal looks at the immediate and total ratepayer cost. Under I&M's proposal the cost to retrofit Rockport Unit 2 with SCR technology is approximately $274.2 million. The cost to terminate the lease at December 31, 2019 is $716 million. Indiana ratepayers would be responsible for paying their allocated portion of I&M's costs, whether it is installation or termination.

Q: Over what period would ratepayers pay for the allocated portion of the Unit 2 SCR?

A: If the retrofit of Rockport Unit 2 occurs as proposed, I&M has proposed a 10 year depreciation period, which means that the Indiana ratepayers would pay rates that reflect these additional costs for 10 years. Ratepayers would be required to pay a return of the investment through depreciation, as well as a return on the investment. The I&M share of the $274.2 million SCR cost is $137.1 million, which results in a rate increase for Indiana ratepayers of 1.6%[1] collected through the existing CCTR.

Q: What happens if I&M does not install the SCR on Unit 2?

A: Assuming that the lease would terminate January 1, 2020, that the SCR retrofit technology was not implemented and that only the lease termination costs were allowed to be recovered, the Indiana rate impact is an increase of 3.45% collected through the existing CCTR. If I&M were allowed to not only recover the lease termination costs in the form of annual depreciation or amortization, but also a return on the net unrecovered lease termination cost, less accumulated depreciation or amortization, the rate impact is an increase in rates of 6.44% collected through the existing CCTR. The calculations referred to above can be found in Attachment ETR – 1 included with this testimony.

Q. In addition to the analysis discussed above, is there anything further that should be reviewed?

A. Yes. Anytime there is a proposal that may impact future generation availability or the nature of new or changed generation availability, that proposal should be consistent with the most recent IRP. I&M is required to file its next IRP in the fall of 2018. Approval of the SCR technology on Rockport Unit 2 in this Cause is based on compliance with the environmental requirements outlined in the Consent Decree and in this proceeding as well as the cost and rate impact to ratepayers. However I&M should be required to model replacement generation in developing the 2018

[1] Petitioner's Attachment AJW – 1, Line 16.

IRP based on an assumption that the Rockport Unit 2 Lease terminates at its currently scheduled date of December 2022. This would allow I&M the opportunity to plan, seek approval, and put in place reasonable generation alternatives, consider alternative fuel choices, DSM savings, distributed generation availability and a comprehensive analysis of renewable energy sources, given the current Rockport Unit 2 large generation output that would have to be replaced.

VI. RECOMMENDATIONS

Q. What does the OUCC recommend in this proceeding?

A. The OUCC recommends the Commission:

- Allow I&M to install SCR technology on Rockport Unit 2; and
- Require I&M to robustly model generating alternatives to the generation provided under the Lease agreement for Rockport Unit 2 in its next IRP.

Q. Does this conclude your testimony?

A: Yes.

APPENDIX TO TESTIMONY OF
OUCC WITNESS EDWARD T. RUTTER

Q: Please describe your educational background and experience.

A: I am a graduate of Drexel University in Philadelphia, PA, with a Bachelor of Science degree in Business Administration**.** I was employed by South Jersey Gas Company as an accountant responsible for coordinating annual budgets, preparing preliminary monthly, quarterly, annual and historical financial statements, assisting in preparation of annual reports to shareholders, all SEC filings, state and local tax filings, all FPC/FERC reporting, plant accounting, accounts payable, depreciation schedules and payroll. Once the public utility holding company was formed, South Jersey Industries, Inc., I continued to be responsible for accounting as well as for developing the consolidated financial statements and those of the various subsidiary companies including South Jersey Gas Company, Southern Counties Land Company, Jessie S. Morie Industrial Sand Company, and SJI LNG Company.

I left South Jersey Industries, Inc. and took a position with Associated Utility Services Inc. (AUS), a consulting firm specializing in utility rate regulation including rate of return, revenue requirement, purchased gas adjustment clauses, fuel adjustment clauses, revenue requirement development and valuation of regulated entities.

On leaving AUS, I worked as an independent consultant in the public utility area as well as telecommunications including cable television (CATV). I joined the OUCC in December 2012 as a utility analyst.

Q: Have you previously testified before the Indiana Utility Regulatory Commission?

A: I have previously testified before the Indiana Utility Regulatory Commission (Commission) in Cause Nos. 44311, 44331, 44339, 44363, 44370, 44418, 44429, 44446, 44478, 44486, 44495, 44497, 44526, 44540, 44542, 44576, 44602, 44403, 44634, 44645, 44688, 44794 plus 43827, 44841 and 43955 DSM dockets and several sub-dockets.. I have also testified before the regulatory commissions in the states of New Jersey, Delaware, Maryland, Pennsylvania, New York, Connecticut, Georgia, Florida, North Carolina, Ohio, Oklahoma, Virginia and Wisconsin. In addition to the states mentioned, I submitted testimony before the utility regulatory commissions in the Commonwealth of Puerto Rico and the U.S. Virgin Islands. I have also testified as an independent consultant on behalf of the U.S. Internal Revenue Service in Federal Tax Court, New York jurisdiction.

CAUSE NO. 44871
INDIANA MICHIGAN POWER COMPANY
ANALYSIS OF OVERALL % INCREASE
CCTR RATES

DESCRIPTION	I&M OWNERSHIP SHARE AS FILED ATTACHMENT AJW-1	I&M OWNERSHIP SHARE ASSUMING LEASE TERMINATION RETURN OF	I&M OWNERSHIP SHARE ASSUMING LEASE TERMINATION RETURN ON & OF
	(IN THOUSANDS)	(IN THOUSANDS)	(IN THOUSANDS)
TOTAL CAPITAL INVESTMENT	$274,172	$608,400	$608,400
INVESTMENT ALLOCATION	50.00%	100.00%	100.00%
I&M COST RESPONSIBILITY	100.00%	100.00%	100.00%
GROSS PLANT INVESTMENT	$137,086	$608,400	$608,400
PRE-TAX WEIGHTED	8.66%	0.00%	8.66%
PRE-TAX RETURN ON INVESTMENT	$11,872	$0	$52,687
DEPRECIATION/AMORTIZATION PERIOD	10	10	10
ANNUAL DEPRECIATION/AMORTIZATION	$13,709	$60,840	$60,840
ANNUAL INCREMENTAL O&M	625	0	0
ANNUAL INCREMENTAL CONSUMABLES	1,250	0	0
TOTAL REVENUE REQUIREMENT (LINE18 + LINE 22 + LINE 24 +LINE 26)	$27,455	$60,840	$113,527
INDIANA JURISDICTIONAL DEMAND ALLOCATION FACTOR	64.65519%	64.65519%	64.65519%
ANNUAL INDIANA REVENUE REQUIREMENT	$17,751	$39,336	$73,401
GROSS REVENUE CONVERSION COSTS	322	714	1,331
INDIANA RETAIL REVENUE REQUIREMENT	$18,073	$40,050	$74,733
TOTAL INDIANA RETAIL REVENUES CAUSE NO. 44075	$1,160,608	$1,160,608	$1,160,608
APPROXIMATE OVERALL % INCREASE IN CCTR RATES	1.56%	3.45%	6.44%

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.

By: Edward T. Rutter
Indiana Office of
Utility Consumer Counselor

Date: 2/3/2017