

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

CYNTHIA M. ARMSTRONG – PUBLIC'S EXHIBIT NO. 2

ON BEHALF OF THE

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

Respectfully Submitted,

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR



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

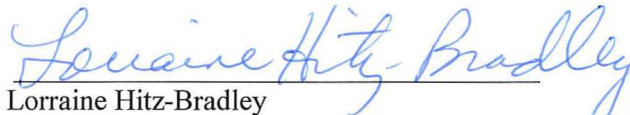
CERTIFICATE OF SERVICE

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

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DIRECT TESTIMONY OF CYNTHIA M. ARMSTRONG
CAUSE NO. 44871
INDIANA MICHIGAN POWER COMPANY

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

2 A: My name is Cynthia M. Armstrong, and my business address is 115 W. Washington
3 St., Suite 1500 South, Indianapolis, IN, 46204.

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

5 A: I am employed as a Senior Utility Analyst in the Electric Division for the Indiana
6 Office of Utility Consumer Counselor ("OUCC" or "Agency"). A summary of my
7 qualifications can be found in Appendix A.

8 **Q: Have you previously provided testimony to the Indiana Utility Regulatory**
9 **Commission ("Commission")?**

10 A: Yes.

11 **Q: What is the purpose of your testimony in this proceeding?**

12 A: The purpose of my testimony is to discuss the environmental regulations and
13 requirements concerning the installation of a Selective Catalytic Reduction
14 ("SCR") system on Indiana Michigan Power Company's ("I&M") Rockport Unit
15 2. My review shows that although Rockport's ability to comply with other
16 regulations may be assisted by the proposed SCR, AEP's Consent Decree to settle
17 alleged violations of New Source Review ("NSR") is the only requirement that
18 mandates an SCR be installed on Rockport Unit 2 by the end of 2019. I also discuss
19 future environmental regulations and how the costs for these regulations were
20 considered in I&M's economic analysis supporting the Rockport 2 SCR. My
21 testimony also supports OUCC Witness Edward Rutter's testimony.

1 **Q: What did you do to prepare for your testimony?**

2 A: I reviewed the Verified Petition, Direct Testimony, Exhibits, and Confidential
3 Documents submitted by I&M in this Cause. I reviewed data responses from I&M
4 to the OUCC and other parties in this Cause. I also participated in a technical
5 meeting between I&M and OUCC staff regarding the projects.

6 **Q: Please describe what I&M is requesting.**

7 A: I&M requests approval to construct an SCR system for Rockport Unit 2 by
8 December 2019. Additionally, I&M requests recovery of the costs of constructing
9 and operating the proposed SCR through its Clean Coal Technology Rider
10 (“CCTR”). I&M estimates the total cost to construct the SCR to be \$274.2 million,
11 of which \$137.1 million would be I&M’s Ownership Share of the Project.¹

12 **REGULATIONS RELATED TO THE SCR PROJECT**

13 **Q: What environmental regulations or requirements are driving I&M’s stated**
14 **need for the Rockport Unit 2 SCR project?**

15 A: While there are many requirements that could oblige I&M to install an SCR on
16 Rockport Unit 2, the three main requirements influencing the proposal to retrofit
17 Rockport Unit 2 are: the recent revision to the primary 8-hour ozone National
18 Ambient Air Quality Standards (“NAAQS”); the update to the Cross State Air
19 Pollution Rule (“CSAPR”); and the Consent Decree AEP entered into with the EPA
20 to settle alleged violations of the NSR provisions of the Clean Air Act. These
21 requirements primarily target emissions of nitrogen oxides (“NOx”) from power
22 plants, and an SCR is the most effective type of pollution control for NOx removal.

¹ I&M Witness Paul Chodak Direct Testimony, pp.11-13.

1 **Q: Please explain the revision to the primary 8-hour ozone NAAQS and how it**
2 **may impact the decision to retrofit Rockport Unit 2 with an SCR.**

3 A: The NAAQS are standards the EPA sets for the ambient air concentrations of six
4 criteria air pollutants (CO, lead, ozone, sulfur dioxide, and nitrogen dioxide) to
5 protect public health and welfare. The NAAQS include both “primary” and
6 “secondary” standards. Primary standards must be designed to protect public health
7 while allowing for an “adequate margin of safety,” and secondary standards are
8 intended to protect the public welfare from any known or anticipated effects of the
9 criteria pollutants.² The EPA must review the adequacy of NAAQS at least once
10 every five years.

11 Once the NAAQS are set, states have one year to determine or predict
12 whether an area will meet (“attainment”) or violate (“non-attainment”) the NAAQS
13 for each Air Quality Control Region within its boundaries, and the EPA must
14 finalize initial area designations within two years of finalizing the new or revised
15 NAAQS. States have three years from the finalization of the NAAQS to develop
16 State Implementation Programs (“SIPs”), which assure that all areas of the state
17 will achieve, enforce, and maintain attainment with the NAAQS.³ A state may
18 impose more stringent emission limits on a particular stationary source as part of
19 its SIP to bring a non-attainment area back into compliance. In the case of ozone,

² 42 U.S.C. §7408-7409.
See also, Ferrey, S. (2004.) Environmental Law: Examples and Explanations. Aspen Publishers,
New York. P. 164-165.

See also, Findley, R., et al. (2003). Cases and Materials on Environmental Law, Sixth Edition.
Thomson West: St. Paul, MN. P. 297-303.

³ 42 U.S.C. §7410, et seq.
See also, Ferrey (2004), pp. 166-167, 173-174, and Findley, et al. (2003) p. 323-334.

1 since NO_x is a precursor to ozone formation, a non-attainment designation would
2 likely lead to reductions in the NO_x emissions from local power plants.

3 With regard to the Rockport Unit 2 project I&M is requesting approval for
4 in this case, the EPA finalized a revision to the primary 8-hour ozone NAAQS on
5 October 26, 2015. The new primary standard requires the fourth highest maximum
6 daily 8-hour ozone concentration, averaged over 3 years, to not exceed 70 parts per
7 billion (ppb). This is a decrease from the previous standard of 75 ppb issued in
8 2008.⁴

9 In September 2016, the Indiana Department of Environmental Management
10 (“IDEM”) issued its preliminary recommendations of attainment/non-attainment
11 designations with the 2015 primary ozone NAAQS. Based on the most recent air
12 monitoring data, all counties in Indiana will be designated as being in attainment or
13 unclassifiable with the standard. While the EPA has yet to issue its final designation
14 of non-attainment areas for the 2015 primary ozone NAAQS, it is not likely that
15 Rockport will have to make major reductions to its NO_x emissions due to the
16 revised ozone NAAQS.

17 **Q: Please explain the update to CSAPR and how it may impact the decision to**
18 **retrofit Rockport Unit 2 with an SCR.**

19 A: CSAPR was promulgated by the EPA to address interstate emissions of sulfur
20 dioxide (“SO₂”), NO_x, and particulate matter (“PM”) that may interfere or prevent
21 another state from being in or maintaining attainment with NAAQS. CSAPR puts
22 in place a cap and trade system for NO_x and SO₂ emissions, where each state is

⁴ 80 Federal Register 65292.

1 given an overall emissions budget (or cap), and sources within the state are
2 allocated emission allowances based on that emission cap. In the case of NOx
3 emissions, there are two different emission caps. One is on the total annual NOx
4 emissions, and the other is on the emissions occurring from May to September of a
5 particular year, or the “ozone season.” A source must hold enough emission
6 allowances to offset its emissions in a particular time period to be in compliance
7 with CSAPR, but it may trade with other sources for additional emission allowances
8 if necessary.

9 Implementation of CSAPR began in 2015, but the Ozone Season NOx
10 budgets of the original CSAPR addressed cross state air pollution contributing to
11 the non-attainment of the 1997 Ozone NAAQS. In September 2016, the EPA
12 finalized an update to CSAPR which would address interstate emissions interfering
13 with the attainment of the 2008 Ozone NAAQS. The update significantly reduced
14 the Ozone Season NOx emission caps for several affected states, including Indiana.
15 Indiana’s Ozone Season NOx budget was reduced by almost half of the 2015 and
16 2016 Ozone Season budgets.

17 Rockport’s Annual NOx Allocation for 2017 is 15,734 allowances.⁵ The
18 plant emitted 13,922 tons in 2015 and 9,068 tons in 2016, well within its 2017
19 allowance budget. However, Rockport was emitting more than 17,000 tons
20 annually prior to CSAPR’s implementation.⁶ With regards to compliance during
21 the Ozone Season, I&M states that its ownership of Rockport will entitle it to be

⁵ U.S. EPA. Air Pollution Markets Database. www.epa.gov/ampd.

⁶ *Id.*

1 allocated 3,129 ozone season NOx allowances in 2017, and its portion of the 2017
2 Rockport ozone season emissions are forecasted to be approximately 4,100 tons or
3 less.⁷ I&M will also receive Tanners Creek's allocation of 656 allowances until
4 2020, which Rockport can use for compliance with the ozone season restrictions.⁸
5 Based on its past emissions, Rockport does not appear to need the Unit 2 SCR to
6 comply with CSAPR. Rockport should be able to meet its CSAPR compliance
7 obligations through operating the Rockport Unit 1 SCR, using the Tanners Creek
8 allowance allocations, and supplementing with market purchases when necessary.
9 I&M admits that it does not have any reason to believe that it will not be able to
10 rely on the ozone season NOx emission market to comply with CSAPR going
11 forward.⁹ The Unit 2 SCR could improve operational flexibility for the plant, but
12 it is not absolutely necessary for Rockport's compliance with CSAPR.

13 **Q: Please describe the Consent Decree and how it may impact the decision to**
14 **retrofit Rockport Unit 2 with an SCR.**

15 A: On October 9, 2007, AEP entered into a Consent Decree with the EPA, eight
16 Northeastern state governments, and several environmental organizations to settle
17 all alleged claims of past NSR violations occurring at several of its eastern
18 generating facilities. The Consent Decree contains several provisions. In addition
19 to AEP paying a civil penalty of \$15 million to the EPA, the Consent Decree also

⁷ OUCC Attachment CMA-1, I&M's Response to OUCC Data Request 1-1.

⁸ *Id.*

Note: CSAPR unit allocations to non-operating units will be allocated to the state new-unit set aside pool five years after the unit stopped operating. A unit becomes non-operating when it does not operate for two consecutive years. Since Tanners Creek Units 1-4 stopped operating in May 2015, these units will no longer be allocated allowances in 2020 and beyond. (76 F.R. 48292).

⁹ OUCC Attachment CMA-2, I&M's Response to OUCC Data Request 1-2.

1 places system-wide caps on the AEP Eastern System's total NO_x and SO₂
2 emissions, which decrease over time. The AEP Eastern System is further required
3 to install certain pollution control equipment for NO_x and SO₂ emissions on its
4 plants by specific dates outlined in the Consent Decree. AEP must also surrender
5 or retire several of its emission allowances and execute a variety of environmental
6 mitigation projects for the federal and state governments which total \$60 million.
7 The Consent Decree has been modified three times since, including postponing
8 FGD installation to allow dry sorbent injection ("DSI") system for SO₂ compliance
9 over the next decade.¹⁰

10 The Consent Decree requires an SCR be installed and continually operate
11 on Rockport Unit 2 by December 31, 2019. If this deadline is not met and Rockport
12 Unit 2 continues to operate without the SCR, I&M and AEP will incur heavy
13 penalties and could be subject to additional litigation or enforcement actions by
14 federal and state environmental agencies.

15 **Q: Does I&M need to install the Rockport Unit 2 SCR by 2019?**

16 **A:** Yes. If it is reasonable based on economical and logistical considerations for I&M
17 to operate Rockport after 2019, the Rockport 2 SCR is necessary. In the absence of
18 the installation, it is my understanding that I&M would not be in compliance with
19 the requirements of its lease that it must comply with all laws (which would include

¹⁰ Petitioner's Attachments JCH-1 and JCH-2.
See also, U.S. v. AEP, Civil Action No. C2-99-1250. The EPA has devoted a web-page to the
AEPSC Consent Decree, and the document can be accessed at:
<https://www.epa.gov/enforcement/consent-decree-and-modifications-american-electric-power-service-corporation>.

1 the Consent Decree, a binding order). While potential future revisions to NAAQS
2 or additional concerns about interstate air pollution could eventually drive the need
3 for the SCR on Rockport 2, the Consent Decree ultimately requires I&M install the
4 SCR in the immediate future.

5 However, the decision to retrofit Unit 2 should also be based on a reasonable
6 economic analysis considering potential future requirements. This includes
7 recognizing major investments that may be required for future environmental
8 regulations compliance. The lease agreement for Rockport 2 also must be taken into
9 account since it may impact the operation of Rockport Unit 2 beyond 2022. OUCC
10 Witness Ed Rutter discusses his review of I&M's economic analysis and the
11 Rockport Unit 2 lease in his testimony.

12 **FUTURE ENVIRONMENTAL REGULATIONS**

13 **Q: What foreseeable environmental requirements could impact the cost to**
14 **operate Rockport in the future?**

15 A: The main environmental regulations that could impact Rockport's operations over
16 the next decade are: the Coal Combustion Residuals ("CCR") Rule; the updated
17 Steam Electric Utility Effluent Limitation Guidelines ("ELGs"); the Cooling Water
18 Intake Structure Rule (or the "316(b) Rule"); carbon regulations; and the Consent
19 Decree.

20 **Q: What does the CCR Rule require?**

21 A: The CCR Rule sets multiple requirements and standards that a utility must meet in
22 operating and managing its CCR disposal units. CCR includes any solid waste
23 products left over from the combustion or use of coal as an energy source. This

1 includes fly ash, bottom ash, boiler slag, and products resulting from the flue gas
2 desulfurization (“FGD”) process. The common methods utilities use in disposing
3 of or storing CCR is either through on-site surface impoundments or landfills.

4 Owners or operators of CCR units that were still open and had not yet begun
5 closure or did not have a closure plan in place as of October 19, 2015, the effective
6 date of the rule, will be subject to the requirements. While there are requirements
7 for both existing surface impoundments and landfills under the rule, the CCR Rule
8 heavily targets existing surface impoundments. Requirements for weekly and
9 annual inspections, groundwater monitoring, vegetation management, corrective
10 action for leaking or breached units, plans for closure and post-closure care,
11 recordkeeping, and reporting data to the public through a dedicated website apply
12 to both types of units.

13 However, surface impoundments that cannot meet structural stability or
14 locational requirements, or are shown to contaminate groundwater, will be forced
15 to close in forthcoming years. There are graduated deadlines for showing
16 compliance with the structural stability requirements, groundwater sampling, and
17 locational restrictions. The deadline for showing compliance with the structural
18 stability requirements was October 17, 2016.¹¹ A facility must install a groundwater
19 monitoring system and complete eight background groundwater sampling events
20 by no later than October 17, 2017, and the initial annual groundwater monitoring

¹¹ 40 CFR 257.73

1 report is due January 31, 2018.¹² Impoundments must show compliance with the
2 locational restrictions by October 17, 2018.¹³

3 **Q: How could the CCR Rule potentially impact Rockport's future operations?**

4 A: Rockport's ash impoundments meet the structural stability requirements.¹⁴

5 However, one of the ash ponds may not meet all of the locational restrictions.¹⁵

6 Additionally, not enough groundwater sampling data exists at Rockport to
7 determine whether the surface impoundments are impacting groundwater. If
8 Rockport's surface impoundments cannot meet the locational restrictions or are
9 found to significantly impact groundwater, then these impoundments would likely
10 either have to be retrofit with a liner or close in 2019.

11 Rockport currently uses dry handling for its fly ash, but its bottom ash is
12 still sluiced to the ash impoundments. If the CCR requires the closure of one or
13 both impoundments, and bottom ash can no longer be placed in the impoundments,
14 then the Units' bottom ash handling systems would have to be retrofitted. I&M has
15 assumed some costs of relining the bottom ash ponds with a composite liner system
16 in its economic analysis.¹⁶

17 **Q: Please describe the updated ELGs.**

18 A: The ELGs set more stringent technology-based effluent standards for wastewater
19 streams from coal-fired power plants. After November 1, 2018, a source seeking

¹² 40 CFR 257.90.

¹³ 40 CFR 257.60-257.64.

¹⁴ OUCC Attachment CMA-2, I&M's Responses to OUCC DR 1-2 through 1-7.

¹⁵ See CMA-2. Please note that I&M's assessment of location restrictions for Rockport's ash impoundments is preliminary, and its final assessment will likely not be known until closer to the October 2018 deadline.

¹⁶ OUCC Attachment CMA-3, I&M's Response to OUCC DR 1-10.

1 renewal of its National Pollutant Discharge Elimination System (“NPDES”)
2 permits will be required to comply with the updated ELGs. While a later
3 compliance date in its permit or a variance from the state permitting authority may
4 be negotiated, all facilities must meet the new wastewater treatment standards by
5 December 31, 2023.¹⁷ The technology standard set for fly ash and bottom ash
6 wastewater streams is based on dry handling, and the ELGs prohibit the discharge
7 of fly and bottom ash transport water.¹⁸ Fly and bottom ash transport water can only
8 be discharged if it is used in the FGD scrubber,¹⁹ where the wastewater will be
9 treated according to the new standards for FGD wastewater.

10 **Q: How could the updated ELGs impact Rockport’s operation in the future?**

11 A: If the CCR Rule does not trigger the need for the facility to install dry bottom ash
12 handling, the updated ELGs will. Rockport’s next NPDES permit renewal is due
13 by June 3, 2020,²⁰ so dry bottom ash handling systems for both Rockport units
14 would need to be installed by 2020. I&M has assumed that Rockport would be
15 retrofitted with a remote submerged flight conveyor (“SFC”) and incorporated costs
16 for such a system in its economic analysis.²¹

17 **Q: Please explain how the 316(b) Rule could impact the continued operation of**
18 **Rockport in the future.**

19 A: The 316(b) Rule protects aquatic species at all stages of life from being injured or
20 killed by the process used by electric generating facilities to withdraw water to cool

¹⁷ 40 CFR 423.13 (h)(1)(i).

¹⁸ 40 CFR 423.13 (h)(1)(i) and (k)(1)(i).

¹⁹ *Id.*

²⁰ OUCC Attachment CMA-4, I&M’s Response to OUCC DR 1-8.

²¹ OUCC Attachment CMA-3.

1 and condense steam as part of the generation process. The final rule took effect
2 October 14, 2014, and addresses two issues for aquatic life mortality: impingement
3 and entrainment. Impingement occurs when fish and other organisms are trapped
4 against screens as water is drawn into a facility's cooling system. Entrainment
5 occurs when organisms (usually very young organisms at the egg or larvae stage)
6 are killed when they are drawn into the facility and exposed to pressure and high
7 temperatures. Standards for reducing impingement and entrainment will be
8 included in NPDES permits for generating facilities.

9 Since Rockport has a closed-cycle cooling system, the 316(b) Rule is
10 unlikely to impact the facility substantially. Both impingement and entrainment are
11 substantially reduced with closed-cycle cooling systems.

12 **Q: Please explain how carbon regulations could impact the continued operation**
13 **of Rockport in the future.**

14 A: The EPA published the Final Clean Power Plan ("CPP") Rule on October 23, 2015.
15 The CPP sets limits on the carbon dioxide (CO₂) emissions from existing coal and
16 gas-fired facilities beginning in 2022. The rule was challenged by multiple states
17 and industry groups, and on February 9, 2016, the Supreme Court issued a stay of
18 the rule pending final litigation. Although the CPP is currently stayed, and it is not
19 yet known if the incoming Administration will continue to defend it, the possibility
20 still exists for carbon regulations to be implemented at some point in the future.

21 Limits on CO₂ emissions could increase the costs for Rockport to operate.
22 In addition, if future CO₂ limits become too stringent to rely on emission
23 allowances for compliance, Rockport may have to constrain operations to meet the

1 emission limits. I&M did include the cost of CO₂ regulations in its economic
2 analysis with a carbon price beginning in 2022 for its Base, Commodity Price
3 Banding, and High Carbon Price scenarios. The range of CO₂ prices I&M
4 incorporated into its analysis appear to be reasonable and consistent with the EPA's
5 technical documents regarding the CPP.

6 **Q: Please explain how the Consent Decree will impact Rockport Unit 2's**
7 **continued operation.**

8 A: In addition to the SCR retrofit, the Consent Decree will require Rockport Units 1
9 and 2 to retire, repower, refuel, or retrofit with an FGD system for SO₂ control in
10 the mid-2020s. One Rockport Unit must complete the FGD retrofit, retire, repower,
11 or refuel by December 31, 2025, and both units must complete retrofits,
12 repowering, refueling, or retirement by December 31, 2028. The costs for FGDs
13 for the Rockport Units are substantial, and I&M has assumed more than \$1.2 billion
14 for each FGD in its economic analysis.²²

15 **Q: Has I&M accounted for compliance with these future environmental**
16 **regulations in its economic analysis?**

17 A: Yes. I&M has made assumptions for the cost of these regulations in its economic
18 analysis, and they appear to be within the reasonable range for the expected retrofits
19 these regulations would require. However, I must note that the costs assumed for
20 these regulations are estimates based on preliminary studies, and the actual costs of
21 compliance may be more once in-depth, site-specific engineering studies are
22 completed in the future.

²² Witness Scott Weaver's Direct testimony, Table 3, p. 28.

1 **CONCLUSION**

2 **Q: Please summarize your conclusions.**

3 A: My conclusions are:

4 1. The SCR is required for Rockport Unit 2 to operate beyond 2019, and
5 the Consent Decree is driving this requirement. Installing the Unit 2
6 SCR may help to improve the operational flexibility of the unit with
7 regards to compliance of CSAPR, but Rockport can comply with
8 CSAPR without the Unit 2 SCR.

9 2. I&M has assumed reasonable costs for future environmental
10 compliance, specifically for the CCR Rule, the updated ELGs, and the
11 Consent Decree. While the actual costs could be greater, I&M has made
12 a reasonable effort to estimate costs on the technology expected to
13 comply with these requirements.

14 **Q: Does this conclude your testimony?**

15 A: Yes.

APPENDIX A

1 **Q: Summarize your professional background and experience.**

2 A: I graduated from the University of Evansville in 2004 with a Bachelor of Science
3 degree in Environmental Administration. I graduated from Indiana University,
4 Bloomington in May 2007 with a Master of Public Affairs degree and a Master of
5 Science degree in Environmental Science. I have also completed internships with
6 the Environmental Affairs Department at Vectren in the spring of 2004, with the
7 U.S. Environmental Protection Agency in the summer of 2005, and with the U.S.
8 Department of the Interior in the summer of 2006. During my final year at Indiana
9 University, I served as a research and teaching assistant for a Capstone course
10 offered at the School of Public and Environmental Affairs. I also have obtained my
11 OSHA Hazardous Operations and Emergency Response ("HAZWOPER")
12 Certification. I have been employed by the OUCC since May 2007. As part of my
13 continuing education at the OUCC, I have attended both weeks of the National
14 Association of Regulatory Utility Commissioners' ("NARUC") seminar in East
15 Lansing, Michigan, completed two 8-hour OSHA HAZWOPER refresher courses
16 to maintain my certification, and attended the Indiana Chamber of Commerce's
17 Environmental Permitting Conference.

18 **Q: Describe some of your duties at the OUCC.**

19 A: I review and analyze utilities' requests and file recommendations on behalf of
20 consumers in utility proceedings. Depending on the case at hand, my duties may
21 also include analyzing state and federal regulations, evaluating rate design and
22 tariffs, examining books and records, inspecting facilities, and preparing various

1 studies. Since my expertise lies in environmental science and policy, I assist in
2 many cases where environmental compliance is an issue.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-01

REQUEST

Beginning in 2017, how many ozone season NOx allowances will Rockport receive, and how does this compare with NOx emissions from Rockport during the ozone season on average?

RESPONSE

I&M's ownership of Rockport will entitle I&M to be allocated 3129 ozone season NOx (OSNX) allowances in 2017. Typical ozone season NOx emissions are not comparable since it is anticipated that Rockport Unit 1 will operate Selective Catalyst Reduction (SCR) technology during a portion of 2017. I&M's portion of the 2017 Rockport OSNX emissions are forecasted to be ~4100 tons or less. In addition to I&M's allocation of OSNX allowances for Rockport Plant, in 2017 I&M will also receive the Tanners Creek CSAPR OSNX allocation of allowances, totaling 656.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-02

REQUEST

Does I&M have any reason to believe that it will not be able to rely on the ozone season NOx emission market to meet its obligations under CSAPR in 2017 and beyond? Why or why not?

RESPONSE

No. Current market price signals for OSNX allowances combined with knowledge from AEP's other Operating Companies indicates OSNX allowances will be available in the market if needed.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-03

REQUEST

How many ash ponds and landfills are located at Rockport?

RESPONSE

Rockport Plant has two bottom ash ponds, designated as the East Bottom Ash Pond and the West Bottom Ash Pond, which are counted as one ash pond complex. There is one ash landfill.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-04

REQUEST

Did the ash ponds meet the structural stability requirements? Please provide copies of Rockport's structural stability assessments.

RESPONSE

Yes. Please see <https://www.aep.com/about/codeofconduct/CCRRule/> for Rockport Plant's ash ponds' structural stability assessment.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-05

REQUEST

Based on preliminary analysis, do you believe any of the ash ponds will fail a locational restriction?

RESPONSE

The West Bottom Ash Pond meets all five locational restrictions. The East Bottom Ash Pond meets four of the five locational restrictions. Based on preliminary data, part of the East Bottom Ash Pond does not currently meet the 5-ft isolation distance restriction. AEP plans to perform additional field investigations and evaluate alternatives to address the 5 foot isolation distance by the October 17, 2018 deadline in the CCR rule.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-06

REQUEST

Given that any analyses regarding locational restrictions would be preliminary at this point, how many ash ponds do you believe would be likely to fail a locational restriction, and which locational restrictions would they fail?

RESPONSE

Please see the response to OUCC 1-05.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-07

REQUEST

How far into the process is I&M in the groundwater sampling process for the ash ponds?

- a. If I&M has conducted sampling, are there any groundwater contaminants that have been found to be present at levels in which I&M would be concerned that it would have to close the ash ponds in 2019?
- b. Please provide any groundwater sampling and analyses conducted at Rockport, even if preliminary.

RESPONSE

I&M objects to the extent this question seeks information that is confidential and proprietary. Without waiving this objection, I&M will provide the OUCC the requested confidential information pursuant to the July 6, 2006 Standard Form Nondisclosure Agreement between I&M and the OUCC.

I&M further objects to the Request on the grounds and to the extent the request solicits information that exceeds the scope of this proceeding and is not reasonably calculated to lead to the discovery of relevant or admissible evidence. Subject to and without waiver of the foregoing objections, I&M provides the following response.

I&M has begun collecting groundwater samples in order to have all required information available by October 17, 2017. To date, only 2 rounds of sampling and analysis have been completed.

- a. A minimum of eight samples is required in order to establish representative background values and complete the statistical analyses necessary to determine whether additional monitoring or corrective action is required. Therefore, there is insufficient information available at this time to make any determinations regarding the values that will be associated with each background well, and whether any statistically significant increases are occurring in any downgradient well.
- b. Please see OUCC 1-07 Confidential Attachments 1 & 2.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-10

REQUEST

What equipment comprises the assumed compliance costs for CCR/ELG-related investments assumed in Table 3 of Witness Scott Weaver's testimony?

RESPONSE

The ELG compliance costs utilized in Witness Weaver's testimony are based on a 2011 study at Kentucky Power Company's Mitchell Plant using a remote submerged flight conveyor with 3% escalation. The CCR compliance costs utilize a \$/acre assumption for relining bottom ash ponds with a composite liner system which is based on similar past AEP projects.

INDIANA MICHIGAN POWER COMPANY
INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
DATA REQUEST SET NO. OUCC DR 1
IURC CAUSE NO. 44871

DATA REQUEST NO OUCC 1-08

REQUEST

When would I&M's NPDES permit need to be renewed after 2018?

RESPONSE

Rockport Plant's renewal application is due by June 3, 2020.

AFFIRMATION

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



By Cynthia M. Armstrong
Indiana Office of
Utility Consumer Counselor

2 / 3 / 2017
Date: