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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

APPROVED: MAR 26 2018

ORDER OF THE COMMISSION

Presiding Officers:
Angela Rapp Weber, Commissioner
David E. Veleta, Senior Administrative Law Judge

On October 21, 2016, Indiana Michigan Power Company ("I&M") filed its Verified Application, along with its verified direct testimony, attachments, and supporting workpapers.

Petitions to intervene were filed on October 25, November 4, and November 15, 2016, by Citizens Action Coalition of Indiana, Inc. ("CAC"), Sierra Club, Hoosier Chapter and Valley Watch, Inc., (collectively "Joint Interveners") and industrial customers ("I&M Industrial Group"). Each petition to intervene was granted by the Presiding Officers.

On February 3, 2017, the Indiana Office of Utility Consumer Counselor ("OUCC"), Joint Interveners, and I&M Industrial Group filed their respective direct testimony and attachments. On February 17, 2017, I&M filed its rebuttal testimony and attachments.

Public field hearings were held on February 2, 2017, at 6:00 p.m. at South Spencer High School, 1142 N. County Rd. 275 W., Rockport, Indiana and on February 21, 2017, at Homestead High School, 4310 Homestead Rd., Fort Wayne, Indiana.

The Commission held an evidentiary hearing in this Cause on March 1 and 2, 2017, in the PNC Center, Room 222, 101 W. Washington Street, Indianapolis, Indiana, at which time the parties presented their respective evidence and offered witnesses for cross-examination. I&M, the OUCC, I&M Industrial Group, and Joint Intervenors appeared at and participated in the hearing. No members of the general public attended the hearing.

On March 17, 2017, the City of Fort Wayne, Indiana (“City”) filed a Petition for Late Intervention. On March 20, 2017, the City filed the Affidavit of Douglas Fasick, Sr. Program Manager, Utilities Energy Engineering and Sustainability Services for Fort Wayne’s City Utilities Division, in support of its Petition for Late Intervention. On April 3, 2017, the Presiding Officers denied the City’s Petition for Late Intervention.

On April 20, and June 27, July 21, and August 10 2017, I&M filed additional information concerning the Rockport Unit 2 lease. On September 8, 2017, I&M Industrial Group and the OUCC filed their response to I&M’s submission of additional information concerning the Rockport Unit 2 lease. On September 21, 2017, I&M submitted its reply. On November 21, 2017 and January 9, 2018, I&M filed additional information concerning the Rockport Unit 2 lease. On February 23, 2018, I&M filed *Indiana Michigan Power Company’s Verified Motion for Decision* (“Motion”). No party to the proceeding filed a response to the Motion.

Based upon the applicable law and evidence presented, the Commission now finds as follows:

1. **Notice and Jurisdiction.** Notice of the hearing in this Cause was given and published as required by law. I&M is a “public utility” as defined in Ind. Code § 8-1-2-1(a) and Ind. Code § 8-1-8.7-2, and an “eligible business” as defined in Ind. Code § 8-1-8.8-6. Ind. Code chs. 8-1-8.7, 8.8, and Ind. Code §§ 8-1-2-6.1, 8-1-2-6.7, and 8-1-2-6.8 give the Commission authority to issue a certificate of public convenience and necessity (“CPCN”) and to authorize certain accounting methods, financial incentives, and timely cost recovery related to the installation and use of clean energy projects, clean coal technology (“CCT”), and qualified pollution control property (“QPCP”). Therefore, the Commission has jurisdiction over I&M and the subject matter of this proceeding in the manner and to the extent provided by Indiana law.

2. **I&M’s Characteristics.** I&M, a wholly owned subsidiary of American Electric Power Company, Inc. (“AEP”), is a corporation organized under the laws of the State of Indiana, with its principal offices at Indiana Michigan Power Center, Fort Wayne, Indiana. I&M is engaged in rendering electric service in the State of Indiana, and owns and operates plant and equipment within the State of Indiana that are in service and used and useful in the generation, transmission, distribution, and furnishing of such service to the public.

3. **Background.** I&M’s operations are subject to federal environmental laws and rules promulgated by the United States Environmental Protection Agency (“US EPA”). These

environmental laws and rules include requirements to directly or indirectly reduce or avoid emissions of nitrogen oxides (“NO_x”) from coal-fired generating units and the Prevention of Significant Deterioration and Nonattainment New Source Review (“NSR”) provisions, which are part of the Federal Clean Air Act. As part of the Federal Clean Air Act and related consent decree executed with the Department of Justice (“DOJ”), the US EPA and other parties, I&M must retrofit Rockport Unit 2 with selective catalytic reduction (“SCR”) technology by December 31, 2019.¹ There are also several US EPA regulatory initiatives in various stages of development that may also necessitate installation of SCR at the Rockport Unit 2.

4. **Rockport Unit 2.** The Rockport plant is located in Spencer County, Indiana and consists of Rockport Unit 1 and Unit 2 that have net capacity of 2600 MW. Rockport Unit 2 was placed in service in 1989. For 2016, the nominal 2,227 MWs of Rockport, which I&M owns or purchases, represent approximately 49% of I&M’s total generating capacity.

5. **Rockport Unit 2 Lease.** I&M and AEP Generating Company (“AEG”) received approval on March 30, 1989, in consolidated Cause Nos. 38690 and 38691, to enter into a sale and leaseback transaction for Rockport Unit 2. As a result, I&M jointly leases Rockport Unit 2 with AEG, with I&M’s leased share being 50% of the unit. As the part owner and purchaser, I&M is responsible for 85% of the Rockport Unit 2 costs. Fifty percent of this total is associated with I&M’s ownership share. The remaining 35% is incurred by I&M pursuant to a unit power agreement with AEG approved by the Federal Energy Regulatory Commission (“FERC”).

The Rockport Unit 2 lease terminates on December 7, 2022, unless it is extended under the terms of the lease or through the mutual agreement of the parties to the lease. The lease also provides for an early termination of the lease in the event that Rockport Unit 2 is “economically obsolete.” If the lease is terminated early due to obsolescence, I&M is required by the terms of the lease to pay the lessors an amount referred to in the lease as termination value, which is a calculable amount intended to essentially make the lessors whole for the loss of the lease payments.

6. **Relief Sought.** I&M requests a CPCN under Ind. Code ch. 8-1-8.7 to install SCR technology to allow I&M to reduce NO_x emissions from Rockport Unit 2 (the “Rockport SCR Project”) to comply with the consent decree as well as future environmental regulations that could further necessitate the need for SCR technology on Unit 2.

To support this requested relief, I&M presented economic analysis evaluating two disposition alternatives associated with the Rockport plant: (1) retrofit Unit 2 with SCR technology; or (2) forego installation of the SCR technology and return Unit 2 to the lessor early. Mr. Weaver analyzed each alternative under two different sub-options:

- **“Option 1A”** – This option reflects installation of SCR technology on Unit 2 and the unit’s continued operation through retirement at the end of the unit’s useful life.
- **“Option 1B”** – This option reflects installation of SCR technology on Unit 2, but also assumes the return of the unit to the lessor by the December 2022 lease termination date.

¹ On November 16, 2017, the United States District Court for the Southern District of Ohio issued an order tolling the deadline to install a SCR system at Rockport Unit 2 until June 1, 2020.

- **“Option 2”** – This option represents not installing the Rockport SCR Project and returning Unit 2 to the lessors by December 31, 2019, which would require payment of the lease termination value effective as of that date (approximately \$716 million) and the replacement of Unit 2’s capacity and energy with some combination of resources by January 1, 2020.
- **“Option 2A”** – This sensitivity analysis follows Option 2, but assumes any replacement combined cycle capacity would be delayed until January 1, 2023, with I&M relying on the PJM capacity and energy market in the interim.

I&M also seeks cost recovery for the Indiana jurisdictional portion of I&M’s ownership share of the Rockport SCR Project in accordance with the Commission’s authority under Ind. Code § 8-1-8.8-11 and related statutes and regulations. I&M requests the Commission authorize the depreciation of I&M’s ownership share of the Rockport SCR Project over a period of ten years. Finally, I&M requests ongoing review of the Rockport SCR Project in accordance with Ind. Code § 8-1-8.7-7.

7. **I&M’s Direct Evidence.** Paul Chodak III, Executive Vice President – Utilities for AEP discussed I&M’s generation resource portfolio and testified that for over 30 years, Rockport has been a cornerstone of I&M’s generation fleet and has achieved low emission rates of NO_x and sulfur dioxide by consuming predominantly low-sulfur Power River Basin (“PRB”) coal. He recognized that the outlook for coal generation is changing. He added that the continued safe, reliable, and efficient operation of the Rockport is vital to meeting the needs of I&M’s customers for dependable and affordable electric service. Mr. Chodak concluded that the Rockport SCR Project is a cost-effective means of maintaining the availability of low cost, coal-fired generation that complies with environmental regulations. He stated that approval of the Rockport SCR Project will allow the plant to continue to serve I&M’s customers’ needs, provide jobs and taxes to the community, and mitigate the rate impact on customers. He said the Rockport SCR Project is the most reasonable option to permit Rockport to continue to provide generation needed to serve I&M’s customers’ needs while maintaining reasonable rates.

Mr. Chodak discussed the ownership of Rockport and described I&M’s long-term lease of Rockport Unit 2 approved by the Commission in 1989. Among other things, Mr. Chodak stated that during the term of the lease, I&M and AEG are responsible for installing, owning, and operating major environmental controls, such as the SCR, to assure that the plant complies with all regulations. Mr. Chodak testified that the lease also provides for early termination in the event that Rockport Unit 2 is “economically obsolete.” He added that if the lease is terminated early due to obsolescence, I&M is required by the terms of the lease to pay the lessors an amount referred to in the lease as termination value, which is a calculable amount intended to essentially make the lessors whole for the loss of the lease payments. For example, Mr. Chodak explained that if the lease was terminated as of January 1, 2020, due to becoming economically obsolete as a result of not installing and operating the requisite SCR system, the termination value owed by I&M and AEG to the lessors would be approximately \$716 million.

Mr. Chodak explained that the Rockport Unit 2 lease terminates on December 7, 2022, unless it is extended under the terms of the lease or through the mutual agreement of the parties to the lease. He stated that under the terms of the lease, I&M has options to extend the lease at the

current fixed lease payment or for a lease payment agreed upon in accordance with the fair market value. He testified that I&M engaged in confidential discussions with the lessors regarding what might occur at the end of the lease and added that at this time, I&M has not exercised its option to renew the lease under the current fixed rate payment or negotiated a payment based on fair market value, and it is not known whether it will do so. Mr. Chodak stated that for purposes of evaluating whether to install the SCR on Rockport Unit 2 to comply with federal environmental mandates, I&M evaluated the possibility that it will not have access to the output of Rockport Unit 2 beyond 2022.

Mr. Chodak explained the significant uncertainty surrounding the future of Rockport Unit 2 as a resource to meet the needs of I&M's customers makes long-term decisions about I&M's generation portfolio more complex. He identified pending litigation between I&M and the lessors and said I&M continues to explore all options as it determines the best way to serve customers. Mr. Chodak explained that as shown in I&M's Integrated Resource Plan ("IRP"), there are several different paths available and the costs of several of the options are relatively comparable. He added that I&M uses its IRP as a tool for determining how to manage its business in the interest of customers. Mr. Chodak testified that while clarity on the future of Rockport Unit 2 would be valuable, I&M does not have the luxury of time to wait for matters to become clearer.

Mr. Chodak testified that what is clear at this point is that under the current circumstances, installing and operating SCR technology on Rockport Unit 2 in compliance with federal environmental requirements is the correct decision for I&M and its customers. He stated that even if the lease terminates at the end of its initial term in 2022, it makes economic sense for I&M and its customers to install and operate SCR technology for the remaining time that I&M and its customers would benefit from the output of the unit. Mr. Chodak added that if future developments alter that judgment, I&M is committed to timely advising the Commission and stakeholders about those developments and the impact they have on Rockport Unit 2. He added, at this point, work on the Rockport SCR Project must begin if the Rockport SCR Project is to be successfully completed and thus I&M needs to move forward with its filing in this Cause.

Mr. Chodak and I&M Witness Frank R. Pifer, Vice President – Project Controls and Construction for the American Electric Power Service Corporation ("AEPSC"),² testified that the Rockport SCR Project will install an SCR system that is advanced clean coal technology designed to reduce NO_x emissions associated with the combustion of coal. Mr. Pifer has managerial responsibility for the Rockport SCR Project.

Mr. Pifer described the processes that are being utilized to retrofit Rockport Unit 2 with SCR technology to reduce the plant's emissions of NO_x. He described the expected performance of the technology and he discussed the current cost estimate for the proposed Rockport SCR Project.

Mr. Pifer testified that Rockport Unit 2 is already equipped with conventional combustion controls to reduce the formation of NO_x, including low NO_x burners and overfire air. He stated that the addition of SCR technology is required to satisfy the requirements of the consent decree and explained that SCR is a proven, reliable technology used throughout the electric utility industry

²At the time I&M filed its case-in-chief, Mr. Pifer was Managing Director of Projects with AEPSC.

to reduce NO_x emissions. Mr. Pifer described the SCR technology and discussed the anticipated NO_x emission rate associated with the installation of the SCR on Rockport Unit 2. He testified that the SCR is designed to accommodate four catalyst layers, but will operate with only two layers initially due to the fan capacity of the unit. He explained that there is a significant pressure drop that occurs when operating the SCR with three or four layers of catalyst and stated that installing fans as part of the Rockport SCR Project would increase the cost of it, and those fans would be rendered obsolete in any future flue gas desulfurization (“FGD”) installation. He explained that operation of an FGD will require much more powerful fans, and separate structural boiler stiffening to provide sufficient air flow through the SCR and the FGD. He testified that it is in the best interest of I&M’s customers to optimize the SCR design with the existing fan capacity and to defer any investment in additional fan capacity at this time. Mr. Pifer noted that this same design approach was used for the Rockport Unit 1 SCR installation.

Mr. Pifer provided an overview of the current plan for the Rockport SCR Project and discussed the major benefits derived from AEP’s phased approach to construction projects. Mr. Pifer described the AEP process for selecting technology, the original equipment manufacturer (“OEM”) vendor and the construction contractor. He also discussed the steps AEP takes to ensure that project costs are reasonable and necessary. Mr. Pifer described AEP’s processes to manage project cost, schedule, procurement/contract, risk, safety, and quality.

Mr. Chodak and Mr. Pifer explained that the cost of the Rockport SCR Project in total is estimated to be approximately \$274.2 million (excluding allowance for funds used during construction (“AFUDC”)). Mr. Pifer explained that this cost estimate includes the installation of the SCR and other associated upgrades to plant equipment as well as the AEP allocated cost for support of the Rockport SCR Project. He discussed how the cost estimate was developed, compared it to the cost estimate for the Rockport Unit 1 SCR project, discussed the cost estimate accuracy, and explained how the cost estimate will be further refined as the phased development process proceeds. Mr. Pifer also discussed the methods I&M employs to mitigate the risk of cost escalation. He concluded that the cost estimate for the Rockport SCR Project is reasonable considering the development basis and site-specific engineering and design work to date. Mr. Pifer also explained that aside from the capital cost of the Rockport SCR Project, there will be fixed and variable operation and maintenance (“O&M”) costs associated with the operation of the Rockport Unit 2 SCR.

Mr. Pifer testified that SCR equipment is identified by name as part of the definition of clean energy projects in Ind. Code § 8-1-8.8-2(1)(B). He testified that this technology was not in commercial use at the same or greater scale in the United States as of January 1, 1989. He also noted that the Commission’s Order in *Petition of Southern Indiana Gas and Electric*, Cause No. 41864 (IURC 8/29/2001) (at 4-5) states that SCR technology was selected by the Department of Energy for funding under its Innovative Clean Coal Technology Program and was finally approved for such funding on or after January 1, 1989. He added that SCR systems are used to reduce emissions of NO_x, but do not affect the plant’s ability to consume higher sulfur fuels, with higher sulfur being a general characteristic of Indiana coal. Mr. Pifer also testified that the existing activated carbon injection (“ACI”) system and the Dry Sorbent Injection (“DSI”) systems being utilized at the plant will be used with the SCR. He added that the installation of the SCR control technology will allow Rockport Unit 2 to continue operations beyond December 31, 2019, and

added that as a result, Rockport will continue to provide value to I&M's customers and formal assessment of Rockport disposition options beyond this point can be performed in the future.

John C. Hendricks, Director Air Quality Services within the Environmental Services Division of the AEPSC, discussed the regulation of NO_x emissions, the consent decree, future environmental regulations, including those that could further necessitate the need for SCR technology on Rockport Unit 2, and associated permitting necessary to support the proposed retrofit. Mr. Hendricks and Mr. Pifer explained that the SCR retrofit will directly reduce emissions of NO_x by reacting NO_x with ammonia on the surface of a catalyst. Mr. Hendricks addressed the impacts of NO_x emission to the atmosphere and discussed the regulation of NO_x emissions under the Federal Clean Air Act. Mr. Hendricks explained that as part of the Federal Clean Air Act and AEP's related consent decree, I&M must retrofit Unit 2 of the plant with SCR technology by December 31, 2019. Mr. Hendricks explained how the consent decree is related to the Federal Clean Air Act and briefly discussed other consent decrees related to the Federal Clean Air Act and the history of the consent decree applicable to I&M. He also identified several US EPA regulatory initiatives in various stages of development that may necessitate the installation of SCR technology at Rockport Unit 2 and discussed the federal environmental mandate that currently requires the SCR retrofit at Rockport Unit 2. Finally, Mr. Hendricks described the other environmental regulations that were considered in I&M's economic modeling effort. Mr. Hendricks added that the proxy for carbon regulation used by Mr. Weaver in this analysis reasonably accounts for potential greenhouse gas regulation.

Scott C. Weaver, AEPSC Managing Director-Resource Planning and Operational Analysis, evaluated the cost and feasibility of an option to retire and replace Rockport Unit 2. Mr. Weaver also described the modeling process undertaken to evaluate the relative economics of the alternative Rockport Unit 2 disposition options, including a discussion around the major input parameters and key drivers, chief among them the anticipated long-term prices of natural gas and energy as well as carbon dioxide ("CO₂") that could impact the Rockport Unit 2 dispatch priority. In addition, Mr. Weaver affirmed that the analysis is consistent with I&M's 2015 IRP, and discussed the results of these economic modeling analysis.

Mr. Weaver presented the resource planning-related criteria that are introduced and considered as part of this evaluation of alternative options surrounding Rockport Unit 2 and focused specifically on the discrete economic evaluations performed that led to I&M's conclusions and recommendations in this Cause. Mr. Weaver's testimony addressed: the Rockport Unit 2 disposition options; the December 31, 2019 disposition date; the lease agreement and related terms, including the lease termination value as of that date estimated at \$715.7 million; the evaluation process undertaken to assess potential costs of retrofit requirements; the terms of the consent decree; and additional US EPA requirements.

Mr. Weaver discussed the capacity need that would be influenced by this Rockport Unit 2 disposition decision and explained how the disposition alternatives were analyzed. Mr. Weaver presented his analysis with and without "end-effects." Mr. Weaver discussed I&M's evaluation of demand-side/energy efficiency, demand response, and renewable resources in determining the least-cost alternative to meet its long-term obligations. Mr. Weaver also explained that natural gas pricing is one of the key drivers in this analytical process and provided an overview of the

forecasted fundamental commodity pricing in the Rockport Unit 2 disposition analysis. He testified that an array of five unique long-term commodity pricing scenarios were utilized in the analysis, consisting of a base view; two price banding sensitivity views; and two CO₂/carbon views. Mr. Weaver presented the modeling results and explained that the analysis indicate that a nearer-term solution that would call for the retrofitting of Rockport Unit 2 with SCR technology by December 31, 2019, would be the most economical option for I&M and its customers. Mr. Weaver explained that over the relative shorter term, the results suggest that CO₂ would likely not be a significant issue. He said that recognizing that Option 1B and Option 2 are largely focused on the relative economics of those alternatives for the years 2020 through 2022 only, one would anticipate that by virtue of a 2022 start-date for the Clean Power Plan (“CPP”) (represented by a 2022 carbon tax proxy start-date in the modeling), it would have minimal impact on the relative economic results. He said this fact is borne out when comparing the relative results found on Attachment SCW-4-2. He discussed the optionality offered by the Rockport SCR Project and explained that the Rockport SCR Project could potentially serve to “bridge” the unit for a period of nine years beginning with the required December 2019 SCR in-service date up to the timeframe in which a more capital-intensive dry FGD retrofit which, for purpose of the analysis, would be required to be installed by December 31, 2028. Mr. Weaver discussed the relative near-term economic advantage of the Rockport SCR Project and stated that the analysis suggests that the Rockport SCR Project would afford the ability to capitalize on the significant relative value it would offer I&M and its customers, even for a brief, three-year period that would result in a potential return to lessor.

Mr. Weaver concluded that the robust unit disposition economic analysis I&M performed would point to the nearer-term retrofitting of Rockport Unit 2 with SCR technology by December 31, 2019, (via either Option 1A or Option 1B) as being a reasonable and least-cost solution over the long-term economic study period evaluated when compared to a view that would not install an SCR but rather terminate the Rockport lease as of that same date and pay the lessors a stipulated lease termination value (Option 2).

Mr. Weaver added that the Rockport SCR Project would serve to economically preserve a future option to potentially install dry FGD environmental controls on Unit 2 by the end of 2028, as required under the consent decree. He stated that even under the assumption I&M would ultimately choose not to proceed with a Unit 2 dry FGD retrofit, the economic analysis supports implementation of the Rockport SCR Project. He stated it is in the best interest of its customers to leverage the current investment of a thermally efficient Rockport Unit 2 by recommending it be retrofitted with SCR technology by December 31, 2019, so as to be in compliance with the consent decree as well as other potential US EPA rulemaking that would require the reduction of NO_x emissions. As summarized by Mr. Chodak, the Rockport SCR Project is a reasonable business decision regardless of whether the unit is a resource available to I&M after 2022 because declaring the unit to be economically obsolete now would be a more costly alternative for I&M’s customers.

Andrew J. Williamson, I&M Director of Regulatory Services, explained I&M’s requested accounting and ratemaking treatment related to the costs associated with I&M’s ownership share of the Rockport SCR Project.

Mr. Williamson explained that I&M seeks timely cost recovery via I&M’s clean coal technology rider (“CCTR”) of the following costs associated with I&M’s ownership share:

carrying costs including all applicable federal and state income taxes, depreciation, associated O&M expense, and associated consumable and property tax expenses.

He stated that consistent with I&M's previous CCTR filings within Cause No. 44523 ECR-X, I&M requests approval to establish rates using the forecasted costs associated with the period in which future requested rates are expected to be in effect. He added that I&M also requests to recover gross revenue conversion factor ("GRCF") costs in the calculation of the CCTR revenue requirement associated with the Rockport SCR Project, and said the calculation and application of the GRCF is consistent with the GRCF approved by the Commission in other I&M riders. He stated that I&M requests to implement construction work in progress ("CWIP") ratemaking treatment for I&M's ownership share of the Rockport SCR Project costs.

With regard to the proposed accounting treatment for I&M's ownership share, Mr. Williamson explained that I&M seeks authority to: depreciate I&M's ownership share once the assets are in-service, over a ten-year period; defer and record as a regulatory asset the associated depreciation, carrying costs, O&M, consumable and property tax expenses until such time as these costs receive ratemaking treatment through the CCTR or are otherwise reflected in basic rates; and utilize, via the CCTR, traditional over- or under-recovery accounting for the annual true-up of rider revenues to actual costs consistent with I&M's past CCTR tracker reconciliations.

Mr. Williamson explained how the Rockport SCR Project costs are segregated and recorded and how I&M will account for its ownership share of the Rockport SCR Project. He stated that I&M proposes to begin CWIP recovery for I&M's ownership share of the Rockport SCR Project's capital costs once it has been under construction for at least six months and the associated costs are included in CCTR rates. He said I&M will record AFUDC on CWIP balances in accordance with 170 IAC 4-6-13 as defined and prescribed in the FERC Uniform System of Accounts ("FERC USoA") until CWIP ratemaking treatment begins or the associated assets are placed in-service. Mr. Williamson testified that I&M proposes to include its ownership share of the Rockport SCR Project's associated O&M expense, including consumable expenses, in its CCTR and requests the Commission authorize I&M to defer O&M and consumable expenses incurred during the operation of the Rockport SCR Project until such time as these costs are reflected in the CCTR.

Mr. Williamson explained how I&M will account for and determine incremental O&M expenses related to the Rockport SCR Project, discussed how I&M is proposing to depreciate the capital investment and explained I&M's proposal regarding property tax expenses related to I&M's ownership share of the Rockport SCR Project. Mr. Williamson also explained what return on equity I&M proposes to use to compute the revenue requirement for its ownership share.

Mr. Williamson concluded that the request for authority to defer the associated carrying costs, depreciation, O&M, consumable and property tax expenses until such costs are reflected in the CCTR is reasonable and necessary to ensure timely recovery of the Rockport SCR Project. Moreover, he said it would be difficult and inefficient for I&M to perfectly time a base rate case, or base rate cases, with the in-service date of the Rockport SCR Project. He testified that the statutory and regulatory framework applicable to this proceeding recognizes this and was established to avoid the adverse financial impact that could otherwise occur during the interim

period between the Rockport SCR Project in-service date and the inclusion of I&M's ownership share of the costs in I&M's basic rates. He stated that allowing I&M to recover these costs through the CCTR also avoids the unnecessary cost and time commitment associated with filing a base rate case.

Mr. Williamson described how the ratemaking treatment related to I&M's ownership share of the Rockport SCR Project will be effectuated and explained how I&M will treat the return associated with the requested ratemaking treatment for its ownership share in its fuel cost adjustment filings. He stated the requested ratemaking treatment will continue until I&M's ownership share of the Rockport SCR Project is included in basic rates, including the associated return and all aforementioned operating costs.

Mr. Williamson also discussed the accounting that will occur if the Rockport SCR Project is retired prior to being fully depreciated. He testified that at the end of the lease, the Rockport SCR Project will be retired for accounting purposes. He said I&M will follow the accounting for retirements according to the FERC USoA, the same accounting used for any other retired capital asset. He described how any under-depreciated book value would be treated upon retirement and explained that any remaining balance will be included in future I&M filings until it has been fully recovered through the ratemaking process.

Mr. Williamson also explained I&M's request for ongoing review of the construction of the Rockport SCR Project to be conducted annually as part of I&M's proposed annual CCTR proceedings and discussed how the ratemaking treatment will be effectuated. He stated that I&M will include progress reports of construction, updated cost estimates, and any revisions to cost estimates for the Rockport SCR Project in the annual CCTR filing.

Mr. Williamson explained that I&M estimates the annual rate impact of the ownership share for the Indiana retail jurisdiction for all rate classes to be 1.6% increase upon completion of the Rockport SCR Project.

8. OUCC's Evidence. Edward Rutter, Chief Technical Advisor in the OUCC Resource Planning and Communications Division, discussed the Rockport SCR Project and the OUCC's review of I&M's modeling results.

Mr. Rutter testified that a simple analysis of I&M's proposal looks at the immediate and total ratepayer cost. He said under I&M's proposal, the cost to retrofit Rockport Unit 2 with SCR technology is approximately \$274.2 million. He said the cost to terminate the lease at December 31, 2019, is \$716 million. He said Indiana ratepayers would be responsible for paying their allocated portion of I&M's costs, whether for installation or termination. He stated that the I&M share of the Rockport SCR Project cost is \$137.1 million, which would result in a rate increase for Indiana ratepayers of 1.6% collected through the CCTR. He said assuming the lease would terminate January 1, 2020, the SCR retrofit technology was not implemented, and 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. He added that 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 CCTR.

Mr. Rutter stated that the OUCC recommends the Commission allow I&M to install SCR technology on Rockport Unit 2, and require I&M to robustly model alternatives to the generation provided under the lease agreement for Rockport Unit 2 in its next IRP.

Cynthia Armstrong, Senior Utility Analyst in the OUCC Electric Division, discussed the environmental regulations and requirements concerning the Rockport SCR Project as well as future environmental regulations and how the costs for these regulations were considered in I&M's economic analysis supporting the Rockport SCR Project.

Ms. Armstrong testified that while there are many requirements that could obligate I&M to install an SCR on Rockport Unit 2, the three main requirements influencing the proposal are the recent revision to the primary eight-hour ozone national ambient air quality standards ("NAAQS"), the update to the cross state air pollution rule ("CSAPR"), and the consent decree. She described each of these requirements and how they may impact the decision to retrofit Rockport Unit 2 with an SCR.

With respect to future environmental regulations, Ms. Armstrong testified that the main environmental regulations that could impact Rockport's operations over the next decade are the coal combustion residuals ("CCR") rule, the updated steam electric utility effluent limitation guidelines ("ELGs"), the cooling water intake structure rule, carbon regulations and the consent decree. She testified that I&M has made assumptions for the cost of these regulations in its economic analysis, and they appear to be within the reasonable range for the expected retrofits these regulations would require. She noted, however, that the costs assumed for these regulations are estimates based on preliminary studies, and the costs of compliance may be more once in-depth, site-specific engineering studies are completed.

Ms. Armstrong concluded that the SCR is required for Rockport Unit 2 to operate beyond 2019, and the consent decree is driving this requirement. She said installing the Unit 2 SCR may help to improve the operational flexibility of the unit with regards to compliance with the CSAPR, but Rockport can comply with the CSAPR without the Unit 2 SCR. She added that I&M has assumed reasonable costs for future environmental compliance, specifically for the CCR Rule, the updated ELGs, and the consent decree. She said while the costs could be greater, I&M has made a reasonable effort to estimate costs on the technology expected to comply with these requirements.

Wes R. Blakley, Senior Utility Analyst for the OUCC reviewed I&M's proposed accounting and ratemaking for the Rockport SCR Project and discussed the proposed tracking of I&M's ownership share. He said that I&M's requested cost recovery is the same treatment that was approved for its 50% ownership share of the Rockport Unit 1 SCR in Cause No. 44523. He said the OUCC does not agree with I&M's proposed ratemaking treatment for any under-depreciated asset that may happen as a result of early lease termination. He said any decision regarding recovery of the value of under-depreciated plant should be fully investigated in a base rate case, not in a tracker or other abbreviated proceeding. Mr. Blakley concluded that I&M's accounting and ratemaking treatment request for its Rockport Unit 2 SCR is consistent with the

Commission's rules and Indiana statutes. He said these are the same statutes and rules I&M applies to its current ECR tracker for its Rockport Unit 1 SCR.

9. Industrial Group's Evidence. Nicholas Phillips, Jr., a Managing Principal of Brubaker and Associates, Inc., reviewed the Rockport SCR Project and requested ratemaking treatment. Mr. Phillips discussed significant elements of I&M's requested ratemaking treatment and raised concerns about the proposal.

Mr. Phillips contended that I&M's request to depreciate the Rockport SCR Project over ten years is at odds with the 28-year life used by the AEG leased portion of the same SCR. He said I&M should not be permitted to use a depreciation period for the I&M-owned portion of the lease that is nearly three times faster than the depreciation period of the AEG portion. He said this is especially true given the possibility that I&M ratepayers may only benefit from the SCR for three years before termination of the lease. He added that if a 28-year period is appropriate for AEG, it is appropriate for the half of the plant leased by I&M. He stated, however, that if the applicable law restricts the maximum period to 20 years, the 20 year maximum should be used. Mr. Phillips also discussed prior testimony from Mr. Chodak in Cause No. 44033 and stated that a decision whether to renew, terminate, or buy out the Rockport Unit 2 lease is more than five years overdue.

Mr. Phillips stated that based on the SCR construction schedule and the current lease expiration date, the SCR would be used and useful in the provision of electric service to Indiana ratepayers for about 35 months or slightly less than three years. He disagreed that I&M should be allowed to recover the undepreciated balance from Indiana ratepayers in that circumstance. He said the Commission should either specifically find that I&M may not recover any undepreciated balance for the SCR from ratepayers or any CPCN granted to I&M should be conditioned on the SCR remaining used and useful to I&M ratepayers. He explained Indiana's CPCN law confers benefits on utilities' ability to recover their costs once a certificate is granted. However, he said the certificate is only in the public interest after December 7, 2022, if the SCR property remains used and useful to I&M ratepayers. He explained why he believed his recommendation was consistent with Ind. Code ch. 8-1-8.7.

Mr. Phillips testified that the appropriate method to allocate costs for the ownership share and allocated share is the allocation method used to allocate fixed production costs to classes as approved by the Commission in I&M's most recent base rate case. He said the method approved by the Commission in Cause No. 44075 to allocate fixed production cost to classes is the six coincident peak ("6 CP") method and explained why this method is appropriate for allocation of fixed production investment in the CCTR. He stated it was consistent with the Commission's rules, and the Commission's prior approval of the 6 CP method. He testified that if the Commission allows I&M to include AEG cost increases in the CCTR, those costs should be allocated to customer classes in the same manner as the Indiana jurisdictional SCR costs. He said he believed his proposal was consistent with I&M's proposal to allocate these costs.

Mr. Phillips stated there is a risk that a significant portion of the Unit 2 SCR costs will be stranded in the event that the lease is not renewed. He said under these circumstances, the Commission should cap the costs recoverable in the rider for the Unit 2 SCR at I&M's current estimate. He stated any potential cost overruns can be addressed in a future rate case.

Mr. Phillips also testified that without the 1,105 megawatt output of Rockport Unit 2 after December 7, 2022, I&M would be capacity deficient. He said I&M depends on four large generating units to provide adequate capacity to serve its customers, and that Rockport Unit 2 is the newest of the four units. He stated that since a rule of thumb is to bring a combined cycle unit online is approximately five years, it is in Indiana ratepayers' interest that I&M set forth a contingency plan in the near future and I&M should be required to do so by the Commission.

10. Joint Intervenors' Evidence. Jeremy I. Fisher, a Principal Associate with Synapse Energy Economics, Inc., assessed I&M's analysis, examined if the installation of controls at this time is in the interest of I&M's ratepayers, discussed the basic specifications for the SCR in light of I&M's regulatory requirement, and assessed if I&M's proposal is consistent with its requirements. Mr. Fisher did not substantially disagree with the structure of I&M's decision framework, which seeks to understand the balance between short-term optionality and long-term risk, but added that such a decision ought to rely on a robust analysis, reasonable inputs, and a reasonable interpretation of the analysis results.

Mr. Fisher claimed I&M has been disingenuous about its interpretation of the analysis results by inappropriately relying on flawed results that emphasize outcomes which might occur more than 30 years in the future (the "end-effects period"). He further claimed that the results from the core analysis period run counter to I&M's findings. He said, the end-effects error imposed by I&M (i.e., assuming no additional capital costs at Rockport after 2045) is highly biased for Option 1A. He stated therefore, removing end-effects decreases the cumulative present worth ("CPW") of the scenarios, but increases the cost of Option 1A by about \$150-\$170 million relative to the other options examined by I&M. He stated that this correction inverts the position of Options 1A and 1B, with Option 1B slightly more cost effective than 1A by \$84 million, and it reduces the relative cost of a 2019 (Option 2) lease termination to approximately \$170 million more than Option 1A – a drop of nearly 50%. He added that removing the allegedly flawed end-effect analysis and simply assessing I&M's application through the 2016-2045 analysis period indicates that Rockport Unit 2 is unlikely to be a reasonable and prudent decision over the extended period. He said this means that, even under I&M's optimistic scenario, Rockport Unit 2's SCR is likely to become a stranded asset – either absorbed by ratepayers or litigated with the lessors in 2022.

Mr. Fisher also claimed that I&M relied on outdated inputs by using fuel and capacity price forecasts. He testified that the instant case before the Commission was filed on October 20, 2016, meaning that an updated forecast, completed in October 2016, would have been available to I&M within days of the filing. He said a delay in filing by a few days could have resulted in a substantially different finding by I&M. Mr. Fisher contended it would not be appropriate to only assess the Rockport Unit 2 SCR decision on the basis of I&M's "Lower Band" analysis and added that I&M's "Lower Band" and "Higher Band" fuel price forecasts are not useful for these types of resource decisions, because the simultaneous higher and lower movement of the gas and coal prices dampens the extent to which a decision is in ratepayers' favor or is a liability.

Mr. Fisher made rough adjustments to I&M's analysis to account for updated fuel prices, the cost of market energy procured to serve load, and the revenue from energy sold into the market. He said the impact of his natural gas price update is dramatic because it impacts the core decisions

of I&M's analysis. He added that the lower gas prices, reflected in market prices, increase the relative merit of every option in which Rockport Unit 2 is not maintained over the long term. He stated that his adjustment makes it clear that the long-term maintenance of Rockport Unit 2 is unlikely to be favorable for I&M ratepayers. He added however, it also equalizes the relative merit of Option 1B and Option 2, raising doubts about the clear option value of building the SCR even if I&M can exit the lease in 2022.

Mr. Fisher also criticized I&M's capacity price forecasts and compared the forecast to the results of PJM's Base Residual Auction. He proposed a forward capacity price at 60% of net Cost of New Entry ("CONE"), or \$180/MW-day, recalling that CONE is a ceiling price, and has never previously been reached. He stated that his capacity price adjustment impacts Option 2A most substantially, reducing the cost of replacing Rockport Unit 2's capacity with market purchases for the interim 2019-2023 period. He said his capacity price adjustment impacts the other options as well, but to a lesser extent, because the replacement capacity envisioned here is roughly equivalent to the size of Rockport Unit 2. Mr. Fisher stated that with this adjustment in place, cumulatively to the other corrections, Options 2 and 2A are almost the same cost. He said Options 2 and 2A continue to show a substantial benefit against Option 1A (over \$400 million). He recognized that, with his adjustments, Options 2 and 2A clear Option 1B by a benefit of approximately \$50 million and stated that the analysis indicates that the optionality of 1B—building the SCR and then abandoning it in 2022—is not reasonably established, and the long-term benefits of maintaining Rockport Unit 2 are non-existent. He added that if the 2016 forecast is substituted in his analysis, Option 2A clears Option 1A by nearly \$500 million and Option 1B by \$160 million. Mr. Fisher calculated that investing in Rockport and maintaining the facility through the indefinite future will result in ratepayer losses of about \$400 million—or a \$700 million swing.

Mr. Fisher said I&M made several key analysis errors in the consideration of ongoing capital costs at Rockport Unit 2 prior to the years when the unit is assumed to retire, biasing I&M's analysis for building the SCR, even if the unit retires in 2022. He said the first error arises from a mismatch between an explicit I&M assumption and its execution with respect to ongoing capital. He said the second error seems to be a simple transcription error, in which I&M used the wrong series of numbers for ongoing capital carrying costs at Rockport Unit 2 in Option 2A. He applied the ongoing capital cost correction incrementally to the fuel price update discussed above and concluded that the adjustment does not impact Option 2, but increases the cost of Option 1B by \$53 million and lowers the cost of Option 2A by \$28 million. He stated that under this correction, Option 2 becomes slightly more favorable than Option 1B by \$39 million. He added that while this difference is still small relative to the magnitude of the decisions and swings associated with the corrections, it is indicative that the decision between Option 1B and Option 2 is narrower, or reversed, relative to I&M's contention. Mr. Fisher also identified what he considered an error with respect to the disposition of shared unit costs between Rockport Unit 1 and Rockport Unit 2.

Mr. Fisher stated that I&M's analysis subjects I&M to substantial litigation risk by seeking to build what he referred to as a sub-standard SCR and planning for substantially reduced ongoing capital at Rockport Unit 2 prior to the expiration of the I&M's lease. Mr. Fisher argued that I&M's proposal exposes it to liability under the "Event of Default" lease provision and to a possible enforcement action for noncompliance with the consent decree. His analysis of this risk shrunk the cost differential between Options 1A and 1B. He stated that while I&M portrays Options 1A and

1B as lower cost and maintaining optionality, his results indicate that I&M's outdated analysis fails to convey the tangible costs and risks associated with maintaining Rockport. He added that the certainty of terminating the lease in 2019 at a known cost appears far more attractive—both lower cost and lower risk—than maintaining the plant in a manner inconsistent with its legal obligations on the off chance that the lessors will not litigate and that market prices will recover significantly in two years. He concluded that while the costs of simply building an appropriate SCR and maintaining Rockport Unit 2 are relatively smaller than his view of the potential litigation risk penalties, they are large enough alone to render the decision to retrofit uneconomic and ill-considered.

Finally, Mr. Fisher argued that I&M artificially weakened the robustness of the analysis by overpricing reasonable alternative energy options. He stated that using his updated renewable costs assumptions results in Option 2 being more cost-effective relative to Option 1B, and being Option 1B more cost-effective relative to Option 1A.

Mr. Fisher found that Rockport Unit 2 is not a reasonable long-term resource and under current projections is likely to become a sizable liability to I&M ratepayers. He testified that when I&M's analysis is updated, Option 1A (installing the SCR and renewing the lease) is not cost-effective under reasonable assumptions. He described and executed four sequential adjustments to I&M's analysis: the removal of an erroneous end-effects calculation, updating a year-and-a-half old fuel price forecast relied upon by I&M, correcting I&M's mistakes in the calculation of ongoing capital costs, and recommending a capacity price forecast more consistent with known market behavior. He stated that his adjustments substantially impact the decision to proceed with the SCR against other options examined by I&M. He stated that it becomes immediately apparent through this series of adjustments that the option to install the SCR and maintain Rockport past 2022 is neither viable nor reasonable under current market conditions. He added that even I&M's own analysis indicates that Rockport Unit 2 has a negative value if maintained past 2022. He concluded that his assessment of the Rockport Unit 2 SCR indicates that the prompt divestment from Rockport Unit 2 ahead of the SCR requirement is beneficial for I&M's customers and provides a known, low-risk exit from the power plant.

Mr. Fisher recommended the Commission deny the CPCN on the basis that neither of the options examined by I&M for the installation of SCR are least-cost or least-risk for ratepayers. He added that the Commission should require that I&M expediently file a plan for the replacement of the capacity and energy requirements otherwise met through Rockport Unit 2.

Mr. Fisher testified that if it does not reject the CPCN, the Commission should require a number of simultaneous conditions to protect ratepayers and encourage prudent planning: (a) that I&M maintain separate accounting for the cost of the SCR and that the Commission maintain the ability to adjust the rider at any time prior to 2019; (b) that I&M conduct, prior to signing a notice to proceed or other release to major SCR contractors, an updated analysis and present it to the Commission for review by April 2017; (c) that Joint Intervenors be afforded an opportunity to review and comment on such analysis by October 2017; (d) that the Commission retain the opportunity to hold back future funds if it is determined that I&M has proceeded against the best interests of ratepayers; (e) that I&M be required to file a request for approval to exit or renew the lease at Rockport at least one year prior to informing the lessor of such decision; (f) that I&M

shareholders bear full responsibility for all litigation fees and penalties resulting from any non-compliance with the consent decree; (g) that I&M shareholders bear full responsibility for all litigation fees and penalties from any contract breach; (h) that I&M be restricted to recovery of a fixed percentage deadband around the \$137.1 million capital estimate for the SCR; and (i) that I&M be required to aggressively pursue all cost-effective energy efficiency and renewable energy options in advance of the lease termination date of 2022.

11. I&M's Rebuttal Evidence. Mr. Chodak presented I&M's general reply to the OUCC and the Industrial Group's recommendations. He stated that he was pleased that Mr. Rutter corroborates I&M's view that I&M should proceed with retrofitting Rockport Unit 2 with SCR technology and not retire the unit at this time. He recognized that Option 1A in Mr. Weaver's economic analysis assumes that the Unit 2 lease will be renewed and that various factors impact the renewal decision, including market conditions, environmental regulations and the customer impact. He said I&M is working diligently on a resolution of the lease renewal. He stated I&M has and will continue to conduct a robust analysis regarding Unit 2, including modeling of replacement generation based on an assumption that the Rockport Unit 2 lease terminates at its scheduled date of December 2022. He said I&M will keep stakeholders apprised of its analysis as part of the 2018 IRP stakeholder process which will commence in the first quarter of 2018. He added that should a material development occur before then, I&M will update the Commission, the OUCC, and Joint Intervenors regarding the development as soon as practicable.

Mr. Hendricks testified that while he agreed with Ms. Armstrong that the CSAPR, the consent decree, and the NAAQS for ozone all contain requirements that could impact the allowable level of NO_x emissions at the Rockport units, she has omitted the 2012 fine particulate standard and the US EPA obligation to review that standard. He said that in addition, US EPA has used the "good neighbor" provision in Section 110 of the clean air act to impose additional emission reduction obligations on large sources of NO_x and SO₂ emissions, like the Rockport units, in an effort to achieve and maintain the NAAQS in downwind areas far from the emitting units. He said the CSAPR is an example of this type of requirement. He added that while I&M may be able to achieve compliance with its current CSAPR obligations without operating the Rockport Unit 2 SCR, I&M will likely have to secure additional ozone season NO_x allowances from the market. He said installing the SCR on Rockport Unit 2 will provide important compliance flexibility to I&M in the event that there is an increase in market prices for allowances, a decrease in state ozone season NO_x budgets, or an increase in plant ozone season NO_x emissions. He testified that while I&M has not done an economic analysis to quantify this benefit due to the fact that the Rockport Unit 2 SCR installation is a requirement under the consent decree, it is nonetheless a benefit to I&M's customers.

Mr. Williamson verified Mr. Rutter's calculation and assertions regarding the estimated rate impact of terminating the Rockport Unit 2 lease. He said the OUCC correctly found that the cost to customers for approval of the CPCN to be less than the cost to customers associated with termination of the lease. With respect to Mr. Blakley's concerns, Mr. Williamson testified that his direct testimony simply summarized the accounting that occurs upon retirement of any capital asset according to the FERC USoA and that any remaining costs or undepreciated book value resulting from retirement would be included in future I&M filings until fully recovered through the ratemaking process. He said it has long been established that the remaining book value of

investments that were once used and useful in the provision of service to customers are recoverable through the ratemaking process regardless of whether they are fully depreciated at the time of retirement. He added that he did not believe that a base rate case is the only type of proceeding that may be appropriate for the Commission to address remaining net book value of a retired asset. He noted as an example I&M's standalone proceeding in Cause No. 44555 to address the closure of the Tanners Creek Plant, including its remaining net book value, which the OUCC and the Commission found to be reasonable.

Mr. Chodak disagreed that I&M has not been assessing its options. He said I&M's IRP analysis, as well as the modeling presented in this case, support the conclusion that the Rockport SCR Project is the preferred option. He said the special contingency plan Mr. Phillips asks the Commission to require I&M to produce is unnecessary. He added that as circumstances develop regarding the lease, I&M will make filings with the Commission outside of the IRP process to the extent necessary or appropriate. He responded to Mr. Phillips's remarks regarding the five year "rule of thumb" to bring a new CCGT online. He explained that if I&M's IRP preferred near-term action plan includes a new CCGT, I&M would meet its customers' need for energy and capacity through existing generation and market purchases until the new facility could be completed. In response to Mr. Phillips's contention that I&M does not have a long-term lease arrangement past December 7, 2022, Mr. Chodak clarified that the lease provides I&M a unilateral right to renew the lease at a fixed rate payment. He said this is not a situation where the lessor and the lessee must mutually agree to the lease renewal. Mr. Chodak stated that while reliance on the market exposes I&M and its customers to price risk, that price risk can be managed through bilateral transactions. He testified that should I&M need to rely on market purchases to replace the Unit 2 generation, he is confident that I&M is capable of managing a need to engage in market transactions should that be the best path forward for I&M and its customers.

Mr. Chodak disagreed that a decision regarding the lease is overdue. He said I&M has proceeded diligently to pursue the reasonable least-cost options for its customers, including the successful renegotiation of the consent decree. He said that in doing so, I&M achieved significant optionality in the face of great uncertainty regarding environmental regulation and market conditions and reduced the near-term cost of its environmental compliance at Rockport by hundreds of millions of dollars for the benefit of customers.

Mr. Chodak and Mr. Williamson disagreed with the Industrial Group's proposed cost recovery limitations, explaining that it is well established that the remaining book value of a retired unit of property that was once used and useful is recognizable in the ratemaking process. Mr. Chodak explained that the Industrial Group's proposed cost disallowance is also inconsistent with the pre-approval process, which was created to assure cost recovery, not limit it.

Mr. Chodak further explained why the Industrial Group's proposal to cap the Rockport SCR Project costs recoverable in the rider at I&M's current estimate is unnecessary and could have unintended consequences. He explained that the statutory framework and Commission practice allow for ongoing review of a project's status and costs in the rider proceedings, which allows for timely review of the construction and of any changes in the estimated Rockport SCR Project cost. He explained the SCR cost estimate is based on a thorough analysis of the activities, materials and supplies, and labor associated with the Rockport SCR Project. He testified the cost estimate reflects

the best information available at the time of the analysis, including experience with the costs of similar projects at other coal-fired facilities. He said while I&M remains confident in its SCR cost estimate, he disagreed that the circumstances in this case warrant a departure from the Commission's ongoing review practice.

Mr. Chodak and Mr. Williamson explained why I&M's proposed ten-year depreciation rate is reasonable and why Mr. Phillips's recommended 28- or 20-year depreciation rate is not. Mr. Williamson explained that there is no reasonable basis for a 20-year depreciable period and that a ten-year depreciable period strikes a reasonable balance between the uncertainty associated with the remaining lease term and what the useful economic life of Rockport Unit 2 may be.

Mr. Williamson agreed with the Industrial Group's recommendation that I&M should allocate any Commission-approved fixed production costs to the customer classes using the 6 CP method from I&M's most recent rate base. He said that once I&M receives an order in a future basic rate case, it would allocate any Commission-approved fixed production costs to the customer classes based on the production demand allocator approved by the Commission in that case.

Mr. Chodak explained that Mr. Fisher has failed to identify sufficient reason to derail this proceeding and doing so places I&M's customers at risk. Mr. Chodak testified that I&M's analysis considers the potential for both low and high gas and energy price forecasts based upon the information available at the time its case was prepared. He said Mr. Fisher point out that a more recent forecast has become available during the period of time this case has been pending. He added that it is usually the case that new information will become available. He said that alone does not mean that a decision should be delayed or this proceeding extended. He added that updating the economic analysis and allowing time for input is a time-consuming matter, and if I&M were to pursue Mr. Fisher's recommended process, the deadlines regarding the SCR and lease expiration would draw nearer and all the while new information, both actual and forecast, would continue to become available. Mr. Chodak testified that the relevant question is not whether new information has or will become available. Rather, the issues are whether or not I&M has better information today that warrants a delay in making a decision and do the potential costs and risks of that delay outweigh the potential benefit of having more time to make the decision.

Mr. Chodak's judgment is that there is no potential benefit that outweighs the costs and risk of delaying the Rockport SCR Project. He added that while natural gas and other market prices may affect longer-term disposition decisions regarding Unit 2, in the near term the installation of the SCR is the reasonable least-cost path forward even if the lease is ultimately terminated in December 2022. He said not installing the SCR means that I&M will need to terminate the lease early because the unit could not be operated in compliance with environmental requirements. He stated that this would subject I&M and its customers to a lease termination payment that significantly exceeds the cost of the Rockport SCR Project. He said it will also remove the optionality provided by the Rockport SCR Project.

Mr. Chodak explained that I&M understands its obligations under the lease to keep the plant in working order and decades of experience show that I&M has complied with the lease. He said I&M has every intention of fulfilling that obligation even in the scenario where I&M returns the unit to the lessors in 2022.

Mr. Chodak and Mr. Weaver explained that while there was an inadvertent error in the level of capital “tapering” in the modeling presented by Mr. Weaver, when the modeling is corrected, the proposed Rockport SCR Project remains the relative least-cost alternative.

Mr. Hendricks and Mr. Pifer refuted Mr. Fisher’s contention that I&M is proposing to build a substandard SCR. Mr. Hendricks testified that the consent decree does not include any unit-specific NO_x emission rates or limitations. He said instead, the consent decree includes annual tonnage limitations for NO_x on a system-wide level for the entire AEP eastern system, which includes the plant and other affiliated units. AEP and its affiliates specifically sought these system-wide limits because they provide significant flexibility to meet the conditions of the consent decree in an economic manner. Mr. Hendricks testified that the consent decree does not provide any definition or reference to a “standard” SCR and added that Mr. Fisher’s claim that I&M’s proposed SCR design for Rockport Unit 2 is “sub-standard” is conjecture and not based on the requirements of the consent decree. Mr. Hendricks explained that the consent decree defines an SCR as “a pollution control device that employs selective catalytic reduction technology for the reduction of NO_x emissions.” He said that the design of the Rockport Unit 2 SCR, as conveyed by Mr. Pifer, complies with the requirements of the consent decree. He added that I&M’s Rockport SCR Project is a pollution control device that will reduce NO_x emissions from Rockport Unit 2 through selective catalytic reduction technology. During cross-examination, Mr. Chodak confirmed that the Rockport SCR Project would install what is defined as an SCR under the terms of the consent decree.

Mr. Hendricks provided the full definition of “continuously operate” contained in the consent decree and stated that I&M will operate the Rockport Unit 2 SCR in accordance with the consent decree’s definition to continuously operate and in accordance with the system-wide NO_x tonnage limits. He added that I&M’s compliance with the consent decree’s requirement to continuously operate is independent of the SCR system’s design.

Mr. Pifer explained that the SCR that I&M is proposing to install on Rockport Unit 2 is by no means “sub-standard” but is based on reliable technology and sound engineering principles. He said the proposed SCR, which is identical in design to the SCR that the Commission has already approved for Rockport Unit 1, will reduce NO_x emissions at Unit 2. During cross-examination, Mr. Pifer explained that the contract I&M has with Riley Power includes a performance guarantee that calls for the SCR performance at the beginning of the installation period to achieve an 88% reduction in NO_x emissions. He stated this performance guarantee is based on a 16,000-hour cycle, so over time as the catalyst wears out, there will be less and less removal, but that at the end of the guarantee period, the guarantee is 50% reduction. However, he also stated the catalyst management plan calls for 70% removal and that he does not expect to go below that level of removal. He further testified that I&M’s plan to operate the SCR initially with two catalyst layers is tailored to the unique design features of the plant and will allow the SCR to operate effectively to reduce NO_x emissions without the costly investment that would be required to operate the SCR immediately with four layers.

Mr. Pifer discussed the catalyst function in the SCR and disagreed with Mr. Fisher’s contention that the NO_x emission reduction from the SCR is substantially smaller in magnitude

than that achieved by other contemporary SCR systems. Mr. Pifer stated that what Mr. Fisher fails to explain is that NO_x emission reductions from SCR technology depend on a number of variables that may vary from plant to plant. For instance, Rockport Units 1 and 2 predominantly burn low-sulfur PRB coal, which typically has a higher moisture content and which results in a lower combustion temperature. He said that due to this lower combustion temperature, less NO_x is produced at Rockport than at other units that largely consume eastern bituminous coal as their fuel source. He testified that as explained in his direct testimony, Rockport Unit 2 is already equipped with conventional combustion controls to reduce the formation of NO_x, including low NO_x burners and overfire air. He stated that based on these unit-specific characteristics, it is misleading to compare I&M's expected NO_x reduction from the proposed Unit 2 SCR design against other coal-fired units' NO_x reduction performance. Mr. Pifer expanded on this explanation in response to Joint Intervenors' cross-examination, noting among other things that the US EPA document Mr. Fisher quoted acknowledges this point.

Mr. Pifer explained why I&M does not propose to install the fan capacity to accommodate filling four layers of the catalyst and added that it is not cost effective or necessary to include the additional fan capacity to comply with the consent decree. Mr. Pifer testified that the Rockport Unit 2 SCR design meets the definition of SCR as defined in the consent decree because it is a pollution control device that will reduce NO_x emissions from Rockport Unit 2 through selective catalytic reduction technology. Through his rebuttal testimony and testimony elicited during cross-examination, Mr. Pifer established that I&M proposes to install a fully complete SCR system for Unit 2 that will effectively and immediately reduce NO_x emissions in the same way as the SCR that has already been approved for Unit 1. Mr. Pifer stated that the Rockport SCR Project has the capacity to hold four catalyst layers and if the FGD is installed on the unit, with the additional corresponding fan capacity that is required of an FGD installation, the SCR will be able to operate with all four catalyst layers. Pointing to Mr. Hendricks's testimony that there are many regulations affecting Rockport Unit 2, which could require additional NO_x emission reductions in the future, Mr. Pifer stated that if such reductions are required, I&M will have options to achieve them economically, and preserve the value of the SCR investment subject to this proceeding. Mr. Pifer concluded that the SCR design that I&M has proposed for Rockport Unit 2 satisfies the definition of an SCR included in the consent decree, and will contribute reductions necessary to maintain compliance with the AEP eastern system caps, as explained by Mr. Hendricks. Mr. Pifer added that this SCR is designed to accommodate four catalyst layers, and could more cost effectively achieve even greater NO_x reductions at the time the unit is equipped with an FGD system. He concluded that the installation of the SCR system included in this proceeding allows I&M to satisfy its obligations under the consent decree at the lowest reasonable cost to customers.

Mr. Chodak testified that Mr. Fisher's litigation risk argument is conjecture. He said I&M regularly assesses and manages risk and in doing so, considers potential threats as well as the costs and risk of implementing measures to address the potential vulnerability. Mr. Chodak stated that Mr. Fisher identifies a possible loss, but fails to adequately assess the probability of the loss or the cost/benefit of avoiding the potential threat by pursuing a different course of action. He disagreed that there is substantial risk of a lease default or violation of the consent decree that warrants the rejection of the Rockport SCR Project.

Mr. Karl R. Bletzacker, AEPSC Director, Fundamentals Analysis, and Mr. Weaver refuted Mr. Fisher's contention that I&M's analysis is stale or otherwise unreasonable. Mr. Bletzacker explained that the forecast used by I&M was I&M's most up-to-date fundamentals forecasts available at the time Mr. Weaver performed his analysis and added that it would have taken more than a few days to complete an analysis using the subsequent forecast. Mr. Bletzacker explained that the fundamentals forecasts is not created to meet a specific regulatory need in a particular jurisdiction; rather, it is distributed ubiquitously across all AEP operating companies after completion. He said it may also be referenced by AEP for other purposes which include fixed asset impairment accounting, capital improvement analysis, and strategic planning. He explained that the length of time between fundamentals forecasts can vary widely depending on complexity and added that as such, there is no set timetable for its release. He stated that downstream consumers, such as Mr. Weaver, are directed to the contemporaneous fundamentals forecasts.

Mr. Bletzacker defended the reasonableness and reliability of I&M's long-term North American energy market forecast (referred to herein as the "fundamentals forecasts"). He disagreed that Mr. Fisher's comparison of the first year natural gas prices used in I&M's analysis to 2016 actuals shows the fuel prices in the analysis are outdated. Mr. Bletzacker explained that the comparison is erroneous because the fundamentals forecasts values are weather normalized and the actuals are not. Mr. Bletzacker went on to provide examples of how and why this makes a difference. He also explained why I&M's forecasted prices are not as low as the NYMEX commodities market and testified that the futures market is not relied on for long-term energy market forecasts.

Mr. Bletzacker also disagreed with Mr. Fisher's contention that the subsequent 2016 fundamentals forecast has substantially different data than what was used in I&M's filing. Comparing I&M's 2015 and 2016 fundamentals forecasts, Mr. Bletzacker testified that generally, and except for adjustments due to the effects of actual weather in 2016 of weather-normalized values determined in 2015, the forecasts for Henry Hub natural gas, PRB coal and AEP Gen Hub on- and off-peak electric energy prices are similar. Mr. Bletzacker stated that a notable difference and the primary driver of the 2016 fundamentals forecasts was the approach taken to potential CO₂ mitigation policy and went on to explain this difference in the two forecasts. He said it is reasonable to conclude that, from the perspective of CO₂ mitigation policy and due to the present-day political environment, the 2015 fundamentals forecasts used by Mr. Weaver has more merit. He also stated most importantly, that both fundamentals forecasts are within a band of credibility that is supported by justifiable assumptions that are applicable today.

Mr. Bletzacker also rebutted Mr. Fisher's replacement of I&M's established long-term fuel, energy, and capacity values. Mr. Bletzacker explained that in contrast to Mr. Fisher's spreadsheet quality analysis, I&M's fundamentals forecasts utilizes the AuroraXMP Energy Market Model, which is the most comprehensive and reliable electricity forecasting and analysis tool available. He stated that the process used to develop the commodity prices in I&M's forecast relies on rigorous modeling, which produces a market forecast where the components are "fitly-joined" and synchronized. He said Mr. Fisher's targeted and simplistic replacement of I&M established long-term natural gas and energy prices is unreasonable because the values Mr. Fisher used are indifferent to the correlative effects on other salient forecast elements. Mr. Bletzacker stated that the natural gas and energy prices are simply not menu items that can be ordered "a la

carte” because it defeats this valuable and necessary synchronization. He added that by focusing only on lower natural gas and energy prices, Mr. Fisher ignores the possibility that commodity prices may be higher and pointed out that OUCC witness Mr. Rutter recognized factors which could lead to higher natural gas prices. Mr. Bletzacker noted that I&M considered an array of five unique, fundamentals forecasts scenarios to account for a reasonable range of future outcomes. He said Mr. Fisher’s approach lacks this robustness.

Mr. Bletzacker also discussed the Energy Information Administration’s Annual Energy Outlook (“EIA AEO”). He acknowledged that the EIA AEO relies on rigorous modeling but explained that the components of the EIA AEO forecast are not interchangeable with I&M’s fundamentals forecast. Mr. Bletzacker pointed out that the EIA AEO warns that its projections are not predictions of what will happen. Rather, the EIA AEO forecast represents modeled projections of what may happen given certain assumptions and methodologies. Mr. Bletzacker stated that Mr. Fisher’s comparison of the fundamentals forecasts to the EIA AEO reference case and his simplistic replacement of I&M established inputs are erroneous and misleading. Mr. Bletzacker concluded that Mr. Fisher’s targeted replacement of natural gas and energy prices alone, without integrating the effects of that replacement on other forecast elements, masks potentially critical final outcomes.

Mr. Bletzacker also disagreed that I&M’s fundamentals forecasts’ projections of capacity prices are deficient and should be replaced by some fractional value of CONE. He explained that I&M’s model-driven projections of capacity prices and energy prices are inextricably linked and stated that capacity values represent the non-energy revenue necessary for the least dispatched units to remain viable and for the entire fleet to meet required reserve margins. He said consequently, capacity values, combined with expected energy margins, must approach the CONE. He explained that the current three-year PJM Base Residual Auction (“BRA”) capacity prices may not offer enough assurance to be reflective of long-term capacity prices. He added that as a result 1) new generation facilities will not be built or, 2) market energy prices will rise dramatically to provide sufficient revenue to justify the investment. He testified that the model-driven capacity price forecast requires capacity levels within PJM to match its target reserve margin. He stated that Mr. Fisher’s selection of an arbitrary fractional value of CONE violates this necessary linkage and therefore yields results that are not consistent with market fundamentals.

Mr. Bletzacker explained that the fundamentals forecasts do consider diverse sources of licensed and publicly available research information, which includes PJM and others. He added that the fundamentals forecasts do reflect the PJM BRA capacity value results available at the time the fundamentals forecasts are released. He pointed out an inconsistency in Mr. Fisher’s contentions. Mr. Bletzacker noted that Mr. Fisher observed that the capacity auctions results should have been utilized by Mr. Weaver. Mr. Bletzacker pointed out that Mr. Fisher’s contention conflicts with his observation that the first four years of the analysis are irrelevant because the market purchases and sales from 2016 to 2019 are identical across all cases.

Mr. Weaver explained what end-effects are and why end-effects should continue to be reflected as a component of the Rockport Unit 2 disposition analysis. He disagreed with Mr. Fisher that I&M had selectively chosen which costs to include, or exclude, from the end-effects period. He explained that as demonstrated within its filed workpapers, all cost and revenue-contribution

categories that were considered and reported directly by the modeling through the 2045 planning period was also incorporated into the end-effect calculations summarized by I&M, for all option alternatives evaluated. He stated that this analysis and consideration of end-effects is appropriately included in such sound planning evaluations. He added that in this context we do not short-change the life of a gas unit; therefore it would be inappropriate to short-change the potential life of Rockport Unit 2. He testified that there is a reasonable prospect that costs and revenues associated with the Rockport Unit 2 disposition alternatives could continue well beyond 2045, and this post-2045 cost and revenue could properly influence the relative option-to-option results. He added that this is relevant in a unit disposition analysis such as this that assesses options that have unique and varying resource life cycles. For instance, he explained that Option 1B and Option 2, as defined in his direct testimony, indicate that replacement resources—including modeled natural gas combined cycle units—would begin operation in 2023 and 2020, respectively. He stated that since the projected operating life of a combined cycle could be 30-40 years or longer, it could readily exceed the fixed model optimization end-date of 2045. He testified that recognizing that Rockport Unit 2 was placed into service in 1989, which is recent compared to other coal-fired generating units, it is appropriate for Option 1A (also defined in his direct testimony) to consider that Unit 2 could provide generation service after 2045. Mr. Weaver discussed information from the EIA AEO which supports the view that it is reasonable for planning purposes to consider the potential for the relatively young and efficient Rockport Unit 2 to continue to operate after 2045. He clarified that conducting this planning analysis does not commit I&M to this path forward and added that the SCR retrofit is a reasonable least-cost plan even if the future unfolds in such a way as to necessitate an earlier retirement of the unit.

Mr. Weaver noted that Kentucky Power's Big Sandy Unit 2 is significantly older than Rockport Unit 2 (i.e., 20 years older). He explained that his analysis of a 2011 retrofit for this older unit was reasonable and added that the circumstances for the Rockport Unit 2 are different. At the end of the optimization period the Big Sandy unit would have been over 70 years old, while the Rockport unit would only be approximately 56 years old at this point.

Mr. Weaver disagreed with Mr. Fisher's view that all end-effects costs and revenues should be disregarded. Mr. Weaver explained that in the case of Option 1A, over \$830 million in on-going capital expenditures were forecasted at Rockport Unit 2 over the 2016 through 2045 time period. He explained that those ongoing capital expenditures are recognized in the form of subsequent recovered annual carrying charges over a forward period, some of which extend beyond 2045. He stated that the elimination of the recovery of those capital carrying costs that occur after 2045 would incorrectly bias the analysis for Option 1A. He added that the failure to consider PJM market energy revenue generated by the unit after 2045, given the typical larger energy margins/spreads available to an efficient coal unit, would simultaneously bias against Option 1A. He stated that I&M's economic analysis considered both of these end-effects. He added that if end-effects costs were simply ignored, other factors such as CO₂ costs that would be incurred by Rockport Unit 2 after 2045 would also be eliminated from economic consideration. He added that this would introduce even more of a relative benefit to Option 1A and thus made the point that such relative higher incremental CO₂ costs were fairly reflected as a component of the end-effects cost captured in I&M's modeling in this filing.

Mr. Weaver further responded to the claim that ongoing capital expenditures and attendant carrying costs should have been considered beyond the 2045 modeling period. Any impact on the CPW results would be small due to the significant discounting of such out-year carrying costs to current present dollars reflected in CPW.

Mr. Weaver explained that I&M's modeling of end-effects in this case was performed consistently with the analysis of the Rockport SCR Project offered in Cause No. 44523. He concluded that Mr. Fisher's recommended adjustments to the study period CPW costs by simply eliminating the calculated end-effects cost and revenues is unwarranted based on the fact that the determination of such impacts is an essential aspect of the inherent disposition optimization modeling performed and relied upon.

Mr. Weaver acknowledged the transcription error noted by Mr. Fisher and stated that, when corrected, the ongoing capital costs for Option 2A should have resulted in a CPW that was \$28.3 million lower. He also concurred that the tapering of on-going capital cost for Option 1B did not follow the expressed assumption in his filed workpaper. He stated had that assumption been followed, it would have resulted in a CPW cost for Option 1B that was \$52.4 million higher. He revised his analysis to reflect these corrections. He stated that although slightly less beneficial than I&M's original evaluation, the relative cost differences would indicate that Option 1A would continue to be the relative least-cost alternative. He also included a comparative analysis regarding Option 1B. He explained that although slightly less beneficial than I&M's original evaluation, the relative cost differences would indicate that Option 1B continues to be the relative least-cost alternative when compared to either of the Option 2 alternatives that would not install an SCR, but rather would return the unit to the lessor in December 2019, triggering a \$715.7 million lease termination value payment. He stated that his conclusion remains the same as with his direct testimony that Option 1A continues to be the relative least-cost alternative, even with the correction made to the treatment of on-going capital costs. He added that the "modified" view presented in his rebuttal testimony also corroborates I&M's earlier determination that both of the retrofit options (Options 1A and 1B) are lower relative cost alternatives to either of the Option 2 alternatives that would not install an SCR.

Mr. Weaver refuted Mr. Fisher's recommendation that I&M be required to aggressively pursue all cost-effective energy efficiency and renewable energy options in advance of the lease termination date of 2022. Mr. Weaver explained that I&M has assessed incremental energy efficiency, as well as both wind and solar resources as part of a process to ensure greater resource diversity, a process that was primarily informed by the evaluations performed within its IRP. He explained that I&M's economic modeling appropriately employed the most recent and pertinent renewable resource cost information available to I&M at the time the modeling was conducted and explained why wind and solar resources can only be considered a viable capacity disposition alternative for Rockport Unit 2 to a limited degree.

Mr. Weaver explained that Mr. Fisher predicated all of his recommended adjustments to I&M's modeled CPW from the "BASE" commodity price forecast. Mr. Weaver pointed out that this BASE forecast included a carbon tax assumption starting in the year 2022 and continuing in perpetuity. Mr. Weaver stated that Mr. Fisher did not discuss or opine on his view around the prospects that the EPA's CPP at attendant CO₂ emission regulation of existing fossil-fired facilities

may be reduced under the new presidential administration. Mr. Weaver also noted that Mr. Fisher did not perform any sensitivity around a “No Carbon” pricing view even though I&M’s analysis of this sensitivity were available to Mr. Fisher and showed that the relative benefit of Option 1A increased by \$163 million versus Option 2.

Mr. Weaver disagreed with Mr. Fisher’s assertions that the optionality of Option 1B is not reasonably established and the long-term benefits of maintaining Rockport Unit 2 are non-existent. Mr. Weaver showed that even if one was to include Mr. Fisher’s proposed “litigation risk” adjustment, the analysis shows the optionality associated with the continued operation of Rockport Unit 2 confirms Option 1A as being the relative least-cost alternative.

Mr. Weaver testified that while Mr. Fisher relied solely on the “BASE” pricing, I&M’s modeling utilized a suite of long-term commodity price forecasts as part of its modeling process. He stated that the relative results for Options 1B and 2 in the “Lower Band” analysis was comparable to the BASE pricing scenario. He further stated that Mr. Fisher essentially ignored I&M’s “Lower Band” commodity pricing analysis.

Finally, Mr. Weaver stated the methodology Mr. Fisher used is not reasonable and explained a primary error in Mr. Fisher’s analysis is that he failed to perform an appropriate economic dispatch when developing his gas price CPW cost adjustment. Mr. Weaver showed that if Mr. Fisher had employed some type of economic dispatching tool, his analysis would produce unreasonably low capacity factors for Rockport Unit 2. Mr. Weaver explained that this in turn suggests that the pricing employed in Mr. Fisher’s analysis is flawed. Mr. Weaver added that when economic dispatch is used with Mr. Fisher’s natural gas and energy pricing adjustments, the capacity factor output for the new combined cycle units increased as would be expected. Mr. Weaver added that when corrected, Mr. Fisher’s analysis suggests that the installation of the SCR is the relative least-cost alternative versus Option 2. He explained that given the relative certainty of the lease termination value payment in Option 2 as well as the cost upside risk of Option 2A by virtue of being potentially dependent on the PJM market for as much as 1,100 MW of replacement capacity and energy resources for that interim 2020 through 2022 “pre-build” period, from a planning perspective Option 2A should not be considered the optimal resource path for I&M, even under the set of unwarranted natural gas and energy pricing profiles suggested by Mr. Fisher. Mr. Weaver added that it is also important to realize that, given the broad timeframe and range of variables considered as part of long-term asset economic evaluations such as this, it is not uncommon that all sensitivities and scenarios would not produce the same result. He stated that in this case it is the judgement of I&M that the Rockport SCR Project (Options 1A or 1B) on the weight of the information examined is the best option.

Mr. Chodak explained that Mr. Fisher’s proposed CPCN conditions go far beyond what is contemplated by the pre-approval process and depart from Commission practice. He stated I&M needs to know whether or not the SCR retrofit is approved within a timeframe that will allow I&M to construct the SCR if approved or to develop an alternative plan if rejected. He said the request for a Commission decision is consistent with the governing statutory framework, which contemplates “pre-approval”, not “preliminary” approval. He added that if adopted, Mr. Fisher’s additional and protracted process would burden and cloud the SCR implementation and potentially delay construction such that the SCR would not be in-service by December 2019. He said that

because the additional process Mr. Fisher seeks would create uncertainty it would also burden, if not delay, the Unit 2 lease negotiations and renewal analysis.

Mr. Chodak testified that the Commission should decline Mr. Fisher's invitation for the Commission to insert itself into the lease negotiations. Mr. Chodak testified that I&M proposes to keep the Commission and stakeholders informed of matters regarding the Rockport Unit 2 lease. He said it is premature to determine what and when additional process should occur with the Commission but clarified that I&M would come to the Commission for approval of any decision to renew or otherwise extend the lease.

Mr. Chodak stated that Mr. Fisher's proposed percentage deadband should be rejected for the reasons set forth in his response to Mr. Phillips's proposed cap. Mr. Chodak added that the ongoing review process should be used to review costs and changes (if any) in the capital cost estimate for the Rockport SCR Project.

Mr. Chodak stated that I&M has and will continue to make decisions in the best interest of its customers to remain one of the lowest cost providers in the State of Indiana. He noted that the OUCC and the Industrial Group recognize the need for the Rockport SCR Project. He concluded that the litigation risk issues raised by Mr. Fisher do not support the rejection of the Rockport SCR Project and the delay or additional regulatory process he seeks is not warranted.

12. Commission Discussion and Findings. I&M requests a CPCN under Ind. Code ch. 8-1-8.7 for approval of the Rockport SCR Project. I&M seeks cost recovery for the Indiana jurisdictional portion of the I&M ownership share and associated accounting and ratemaking treatment in accordance with the Commission's authority under Ind. Code § 8-1-8.8-11 and related statutes and regulations, including authority to depreciate I&M's ownership share of the Rockport SCR Project over a ten-year period in accordance with Ind. Code § 8-1-2-6.7. Finally, I&M requests ongoing review of the Rockport SCR Project in accordance with Ind. Code § 8-1-8.7-7.

A. CPCN. In its Petition, I&M sought a CPCN for I&M's Ownership Share of the Rockport SCR Project under Ind. Code ch. 8-1-8.7 and accounting and ratemaking in accordance with Ind. Code ch. 8-1-8.8 and related statutes and rules.

(i) Indiana Code ch. 8-1-8.7 - CPCN. CCT is defined in Ind. Code 8-1-8.7 as:

[A] technology (including precombustion treatment of coal): (1) That is used in a new or existing electric generating facility and directly or indirectly reduces airborne emissions of sulfur or nitrogen based pollutants associated with the combustion or use of coal; and (2) That either: (A) Is not in general commercial use at the same or greater scale in new or existing facilities in the United States as of January 1, 1989; or (B) Has been selected by the United States Department of Energy for funding under its Innovative Clean Coal Technology program and is finally approved for such funding on or after January 1, 1989.

Mr. Pifer explained that SCR is a proven, reliable technology used by AEP and others throughout the electric utility industry to directly reduce NO_x emissions from coal-fired generating units. Mr. Pifer testified that this technology was not in general commercial use at the same or greater scale in the United States as of January 1, 1989. The Commission's Order in *Southern Indiana Gas and Electric*, Cause No. 41864 (IURC 8/29/2001) reached the same conclusion, noting that SCR technology was selected by the U.S. Department of Energy for funding under its Innovative Clean Coal Technology Program and was finally approved for such funding on or after January 1, 1989. In Cause No. 41864, the Commission found that SCRs reduce airborne emissions of nitrogen-based pollutants associated with the combustion of coal and concluded that SCR technology constitutes CCT as defined in Ind. Code §§ 8-1-2-6.6 and 8-1-8.7-3. The record here supports the same conclusion. Accordingly, we find that the Rockport SCR Project constitutes CCT pursuant to Ind. Code § 8-1-8.7-1.

Under Ind. Code § 8-1-8.7-4(b), to issue a CPCN, the Commission must:

- (1) make a finding that the public convenience and necessity will be served by the construction, implementation, and use of clean coal technology;
- (2) Approve the estimated costs;
- (3) made a finding that the facility where the clean coal technology is employed:
 - A. Utilizes and will continue to utilize Indiana coal as its primary fuel sources; or
 - B. Is justified, because of economic considerations or governmental requirements, in utilizing non-Indiana coal; after the technology is in place; and
- (4) Make a finding on each of the factors described in Ind. Code § 8-1-8.7-3(b), including the dispatching priority of the facility to the utility.

(a) **Factors of Ind. Code § 8-1-8.7-3(b)**. Ind. Code § 8-1-8.7-3(b) sets forth nine factors, each of which we will consider.

1. **The cost of constructing, implementing, and using the CCT compared to conventional emission reduction facilities.** I&M performed an analysis showing that the Rockport SCR Project will enable I&M to reduce NO_x emissions and comply with the consent decree. Mr. Weaver's analysis based on the assumptions employed demonstrated that the Rockport SCR Project is a cost-effective compliance option. The OUCC and the Industrial Group also presented testimony supporting SCR technology. Mr. Hendricks discussed the benefits of this choice of CCT. We find it is reasonable compared to conventional emission reduction facilities.

2. **Whether the CCT will also extend the useful life of existing generating facilities.** The record reflects that the installation of the SCR control technology will allow Rockport Unit 2 to continue to operate beyond the December 31, 2019 installation requirement in the consent decree. The record reflects that the installation of the CCT will preserve the remaining life of this unit. The SCR is a cost-effective option for customers and ensures the availability of necessary capacity and energy through at least December 2022. Therefore, we find that the proposed Rockport SCR Project will extend the useful economic life of Rockport Unit 2.

3. The potential reduction of sulfur and nitrogen based pollutants achieved by the proposed CCT system. The evidence demonstrates that the SCR technology will allow I&M to reduce its NO_x emissions. Mr. Pifer said I&M anticipates that the SCR will achieve an annual average NO_x emission rate of 0.15 lbs/MMBtu or less based on the current coal supply and air flow configuration of Rockport Unit 2. This performance is based on operation with catalyst installed in two or more layers and reconfigured air heater baskets, but no changes to the fan capacity of the unit. Mr. Pifer explained that installing additional fans as part of the Rockport SCR Project would be unnecessary and wasteful because if FGD systems are later added to the unit, those fans would need to be removed and replaced as part of the FGD installation.

Mr. Fisher contended that I&M is proposing to build what he called a “sub-standard” SCR and this in turn raises a risk of litigation under the consent decree and the lease. Mr. Fisher’s contention that the proposed SCR is sub-standard rests on the premise that the proposed NO_x emission reduction is substantially smaller in magnitude than that achieved by other contemporary SCR systems. I&M has presented evidence that demonstrates that I&M’s Rockport SCR Project is a pollution control device that will reduce NO_x emissions from Rockport Unit 2 through the use of selective catalytic reduction technology. The record also shows that I&M intends to operate the Rockport Unit 2 SCR in accordance with the consent decree’s definition of continuously operate and in accordance with the system-wide NO_x tonnage limits in the consent decree.

Accordingly, we find that the NO_x emissions reductions from I&M’s proposed Rockport SCR Project are reasonable and I&M’s proposal would preserve flexibility to adjust to additional compliance requirements as they may unfold in the future.

4. The reduction of sulfur and nitrogen based pollutants that can be achieved by conventional pollution control equipment. The evidence demonstrates that reduction of air emissions through conventional technology would be insufficient to bring I&M into compliance with the consent decree and the several US EPA regulatory initiatives in various stages of development discussed by Mr. Hendricks. We find that conventional pollution control equipment cannot provide equivalent beneficial reduction of NO_x emissions.

5. Federal sulfur and nitrogen based pollutant emission standards. As explained by Mr. Hendricks, NO_x emissions are regulated under the Clean Air Act. Additionally, as discussed by Mr. Hendricks, further NO_x emissions requirements are anticipated to be part of various pending US EPA regulatory initiatives. Accordingly, we find that federal emission standards have been appropriately taken into consideration.

6. The likelihood of success of the Rockport SCR Project. A key aspect of success in the case before us is dependent on whether the Rockport SCR Project allows the continued use of Unit 2. Mr. Pifer explained that SCR technology is currently being installed at Rockport Unit 1 and it has been successfully installed on 14 other AEP units, including four units similar in design to the Rockport units. He testified that AEPSC has a proven track record of successfully managing the design and construction of many major environmental retrofit projects and it is expected that the SCR installation at Rockport will be another success.

Furthermore, an important assumption put forth by I&M in support of the Rockport SCR Project is that it will be successful in avoiding any premature lease termination costs. The evidence indicates that this cost could be as high as \$716 million.³ In essence, the success of I&M's proposed solution avoids this cost associated with premature (in advance of 2022) lease termination because it will allow I&M the use of Rockport Unit 2 through the end of the current lease because the requirements of the consent decree are satisfied. Mr. Fisher expressed his concerns as noted above that the specific application and use of the proposed Unit 2 SCR may not successfully avoid this cost. Failure to successfully meet the current lease obligations with the Rockport SCR Project was a condition not considered by I&M in its economic analysis. I&M's experience with the SCR on Rockport Unit 1 meeting the requirements of the consent decree serves as a primary foundation of its confidence, a laid foundation the Commission affords significant weight. However, as a result of this confidence the risk of failure of the Rockport SCR Project to allow I&M the use of Unit 2 through 2022 is a risk that has been excluded from I&M's support put forth in this proceeding. Accordingly, in the event that lease termination costs arise as a result of the failure of the Rockport SCR Project being successful at allowing I&M the use of Unit 2 though the end of the current lease, the burden of proving such costs are reasonable and necessary and therefore recoverable from customers remains on I&M.

Nevertheless, we find, based on the evidence presented, that there is a reasonable likelihood of success for the proposed project.

7. The cost and feasibility of the retirement of an existing generating facility. As discussed by Mr. Weaver, I&M has set forth the relative cost and feasibility of a Rockport Unit 2 retirement (or, in this circumstance, return to lessors) option and demonstrated that the cost of that alternative would likely significantly exceed that of the proposed Rockport SCR Project. Mr. Rutter's analysis confirmed the rate impact to customers of the retrofit option is lower than the alternative of terminating the lease.

Mr. Fisher asks the Commission to deny the requested CPCN and to require I&M to expediently file a plan for the replacement of the capacity and energy requirements otherwise met through Rockport Unit 2. He argues that the certainty of terminating the lease in 2019 at a known cost appears far more attractive. However, we disagree because the option to return the unit to the lessor in 2019 and prior to the end of the original lease term is not a reasonable or cost effective compliance option. We find that the record reflects that I&M reasonably considered retrofit and retirement (i.e., return the unit to lessor) options.

8. The dispatching priority for the facility utilizing the CCT. In accordance with Ind. Code § 8-1-8.7-3(b)(8) and as discussed by Mr. Weaver, I&M has implicitly set forth that the dispatch priority of this proposed NO_x-controlled Rockport Unit 2 will not be adversely impacted based on I&M's economic analysis. Mr. Weaver stated it would be anticipated that the unit's annual capacity factor will not be significantly different from what it would have been had this SCR retrofit not been installed. The other party witnesses did not

³ JI Ex 1, Attachment JIF-18, at Schedule 3, shows that the termination value relates to a specific date. The December 2019 and June 2020 dates indicate that the tolling of the SCR installation deadline did not materially alter the termination value.

specifically address this issue. We find the record shows that the Rockport SCR Project is not expected to significantly change the dispatching order of the units.

9. **Any other factors the Commission considers relevant, including whether the construction, implementation, and use of clean coal technology is in the public's interest.** Other factors supporting approval of the Rockport SCR Project are discussed above and below.

(b) **Ind. Code 8-1-8.7-4(b).** We now address the four required findings in Ind. Code § 8-1-8.7-4(b).

1. **Public convenience and necessity will be served by the construction, implementation, and use of CCT.** The public convenience and necessity criterion is common in public utility matters and generally concerns whether the proposal is fitted or suited to the public need. Thus, the Commission must be satisfied that there is a reasonable and apparent need for the Rockport SCR Project. The record shows that the Rockport SCR Project will reduce NO_x emissions and this benefits the environment and furthers the public interest. The Rockport SCR Project is also required by the consent decree and consistent with anticipated environmental regulations. Moreover, as Mr. Hendricks explained in his rebuttal testimony, installing the SCR on Rockport Unit 2 will provide important compliance flexibility to I&M in the event there is an increase in market prices for allowances, a decrease in state ozone season NO_x budgets, or an increase in plant ozone season NO_x emissions. Importantly, as discussed by Mr. Weaver, the loss of the Rockport Unit 2 from I&M's generation portfolio would expose I&M ratepayers to significant uncertainty concerning PJM market price fluctuations and generation availability for up to 1,100 MW, which the Commission considers to be risky and less than ideal. Based on our review of the evidence and consideration of the other statutory factors, we find the public convenience and necessity will be served by the construction, implementation, and use of the Rockport SCR Project.

2. **Approval of Cost Estimate.** Mr. Pifer provided the cost estimate, explained how it was developed, and discussed I&M's cost management process. The Industrial Group recommended the Commission place a cap on the Rockport SCR Project costs recoverable in the rider at I&M's current estimate. We disagree with the Industrial Group's recommendation because the statutory framework allows for ongoing review of a project's status and costs in the ongoing rider proceedings. This process includes consideration of changes in the cost estimate.⁴ Based upon the record evidence, we find that the estimated cost of the Rockport SCR Project of \$274.2 million (excluding AFUDC) is approved. While this amount does not include AFUDC, the actual accrued amount of AFUDC will be included as part of the approved cost.

3. **Use/Non-Use of Indiana Coal.** Rockport Unit 2 does not burn Indiana coal and the evidence shows the Rockport SCR Project is economically

⁴ The Commission-approved cost estimate is based on the evidence presented in this Cause. I&M must prove that any incremental project completion costs, for example those resulting from changes in the project timing, are reasonable and recoverable from ratepayers.

justified. The provisions of the state environmental statutes providing favorable regulatory treatment to projects using Indiana or Illinois Basin coal have been held to be an unconstitutional interference with interstate commerce, but severable from the rest of the statutes which remain valid. *General Motors Corp. v. Indianapolis Power & Light Co.*, 654 N.E.2d 752, 763-64 (Ind. Ct. App. 1995); *Alliance For Clean Coal v. Bayh*, 72 F.3d 556 (7th Cir. 1995); see also *S. Ind. Gas and Electric Co.*, Cause No. 41864, at 7 (IURC 8/29/2001); *N. Ind. Pub. Serv. Co.*, Cause No. 42150, at 5 n.3 (IURC 11/26/2002); *Indianapolis Power & Light Co.*, Cause No. 42170, at 5 n.1 (IURC 11/14/2002); *Indianapolis Power & Light Co.*, Cause No. 44242, at 30 n. 2 (IURC 8/14/2013). We will accordingly not rely on such statutory provisions as a prerequisite for approval.

4. **Ind. Code § 8-1-8.7-3(b)**. Our findings on each of the factors described in Ind. Code § 8-1-8.7-3(b) are set forth above.

5. **Conclusion**. Based on our review of the evidence and consideration of the other statutory factors, we find the public interest will be served by the construction, implementation, and use of the Rockport SCR Project.

(ii) **Ongoing Review**. I&M requested ongoing review of the construction of the Rockport SCR Project to be conducted annually as part of I&M's CCTR proceedings. Mr. Williamson explained that I&M will include progress reports of construction, updated cost estimates and any revisions to cost estimates for the Rockport SCR Project in the CCTR filing. This approach allows for timely review of the construction and of any changes in the estimated Rockport SCR Project cost. Mr. Fisher recommended the Commission require I&M to conduct an updated analysis and provide parties an opportunity to review and respond to that analysis; he further recommended that the Commission "maintain the ability to adjust the rider at any time prior to 2019" following the finding of this updated analysis. We find Mr. Fisher's proposal goes beyond what is contemplated by the pre-approval and ongoing review process. Accordingly, we find I&M's proposal for ongoing review of the Rockport SCR Project reasonable and should be approved.

B. Chapter 8.8 and Ind. Code § 8-1-2-6.7.

(i) **Clean Energy Project**. Ind. Code § 8-1-8.8-2(1)(B) defines "Clean Energy Projects" as projects "to provide advanced technologies that reduce regulated air emissions from existing energy generating plants that are fueled primarily by coal . . ." This statute expressly provides that the term "Clean Energy Project" includes SCR equipment. As discussed above, Mr. Pifer explained that the SCR technology will reduce regulated air emissions from Rockport Unit 2 and will allow I&M to continue to utilize this coal-fired generating asset. Accordingly, we find that the Rockport SCR Project is a Clean Energy Project.

(ii) **Timely Cost Recovery and Depreciation**. Ind. Code § 8-1-8.8-11 provides that the Commission shall encourage Clean Energy Projects by creating financial incentives designated in the statute if the project is found to be reasonable and necessary. Our discussion above concludes that a CPCN under Ind. Code ch. 8-1-8.7 should be issued and thus demonstrates that the Rockport SCR Project is reasonable and necessary consistent with the

findings herein. Ind. Code § 8-1-8.8-11 identifies the timely recovery of costs and expenses incurred during construction and operation of a Clean Energy Project as one type of financial incentive that shall be used to encourage a Clean Energy Project.

I&M requested timely recovery of I&M's ownership share via annual CCTR filings as a Clean Energy Project and QPCP. Such request is consistent with that approved by the Commission for I&M's Rockport Unit 1 SCR in Cause No. 44523. The Industrial Group proposed that any cost recovery be conditioned on the SCR remaining used and useful to I&M customers after December 7, 2022. The record shows the SCR retrofit is the reasonable least-cost compliance option, even if it is only in service for the benefit of I&M customers through the end of the original lease term, when compared to the uncertain cost of acquiring approximately 1,100 MW of capacity and energy resources from others or the PJM market. Accordingly, we decline to accept the conditioning of the allowed cost recovery as proposed by the Industrial Group.

Our discussion and findings above support the conclusion that the Rockport SCR Project constitutes CCT and QPCP as those terms are defined in Ind. Code §§ 8-1-2-6.7 and 6.8. I&M's proposal to depreciate its ownership share of the Rockport SCR Project over ten years is consistent with Ind. Code § 8-1-2-6.7. We decline to adopt the Industrial Group's recommendation that the depreciation period for the Rockport SCR Project be extended to 20 years. We find that depreciating the Rockport SCR Project over ten years strikes a reasonable balance between the ratemaking recognition of the Rockport SCR Project and the period over which it may be reasonably known to operate. A ten-year depreciation period is consistent with that approved in Cause No. 44523 for the Unit 1 SCR.

We find that I&M's proposed accounting and ratemaking treatment for the Rockport Unit 2 SCR is in conformity with applicable rules and statutes. Further, the allocation of costs in the CCTR is supported by the testimony of Mr. Phillips and Mr. Williamson. Substantial record evidence demonstrates, and we find, that I&M's proposed accounting and ratemaking treatment, including a ten-year depreciation period and the allocation of fixed costs using a 6 CP method, is reasonable and should be approved.

C. Conclusion. Having considered the evidence in this Cause, we find that the Rockport SCR Project is reasonable and necessary as set forth above. Substantial evidence shows that the installation of SCR technology at Unit 2 is a reasonable least-cost alternative to meeting I&M's capacity and energy obligations. Accordingly, the Commission finds that a CPCN shall be granted to I&M for the Rockport SCR Project. As discussed above, I&M's proposed accounting and ratemaking treatment is reasonable and is approved.

13. 2018 IRP and Lease Renewal Decision. The future lease decisions regarding the continued reasonableness of Rockport Unit 2 in the resource portfolio I&M employs to meet its Indiana retail customer's needs was a point of discussion throughout this proceeding. While the Commission has concluded that the Rockport SCR Project is reasonable in extending the life of Unit 2 through the current lease term, the lease decisions are not yet ready for consideration. Notwithstanding, we agree that the decision is one all parties have a vested interest in fully exploring in an appropriate regulatory setting. Mr. Rutter testified that I&M should review the balance of its options and model for future generation alternatives. Mr. Phillips testified that I&M

needs to set out a plan for generation. I&M's 2018 IRP would appear to present a reasonable opportunity for all stakeholders to consider and discuss informally I&M's future generation plans. Further, during the hearing Mr. Chodak was asked if I&M would bring the extension of the lease before the Commission. Mr. Chodak testified as follows:

If we were – so if we did a renewal of the Lease under existing terms or if we did it as a fair market renewal of the Lease, under those two options, which is the only two really you can do under the Lease, yes, we would bring those to the Commission.

Tr. of Mar. 1, 2017 hearing at A-89. We agree with Mr. Chodak that any lease renewal decision should be brought before the Commission. Accordingly, while informal consideration of I&M's future generation plans are encouraged, any extension of the Rockport Unit 2 lease entered into by I&M for the purposes of serving its Indiana retail customers shall be subject to future consideration before the Commission in a formally docketed proceeding.

14. Confidentiality Findings. I&M filed a Motion for Protection and Nondisclosure of Confidential and Proprietary Information on October 21, 2016, which Motion was supported by affidavit showing documents to be submitted to the Commission were trade secret information within the scope of Ind. Code §§ 5-14-3-4(a)(4) and (9) and Ind. Code § 24-2-3-2. The Presiding Officers issued a Docket Entry on December 5, 2016 finding such information to be preliminarily confidential, after which such information was submitted under seal. There was no disagreement among the parties as to the confidential and proprietary nature of the information submitted under seal in this proceeding. We find all such information is confidential pursuant to Ind. Code §§ 5-14-3-4 and 24-2-3-2, is exempt from public access and disclosure by Indiana law and shall be held confidential and protected from public access and disclosure by the Commission.

IT IS THEREFORE ORDERED BY THE INDIANA UTILITY REGULATORY COMMISSION that:

1. I&M is hereby granted a Certificate of Public Convenience and Necessity for the construction, installation and use of the Rockport SCR Project pursuant to Ind. Code ch. 8-1-8.7. This Order constitutes the Certificate.
2. I&M's cost estimate for the Rockport SCR Project of \$274.2 million (excluding AFUDC) is reasonable and approved. While this amount does not include AFUDC, the actual accrued AFUDC will be included as part of the approved cost.
3. The Rockport SCR Project is determined to constitute a "Clean Energy Project" under Ind. Code ch. 8-1-8.8. and the timely recovery of costs and expenses through I&M's annual CCTR as proposed by I&M is approved.
4. I&M's request for ongoing review pursuant to Ind. Code § 8-1-8.7-7 is approved. I&M shall file the ongoing review reports as set forth in Para. 12(A)(ii) for the purpose of ongoing review.

5. I&M is authorized to add to the value of I&M's property for ratemaking purposes the value of the Rockport SCR Project as proposed by I&M. I&M shall add the approved return to its net operating income authorized by the Commission for purposes of Ind. Code § 8-1-2-42(d)(3) in all subsequent FAC proceedings.

6. I&M is authorized to depreciate I&M's ownership share of the Rockport SCR Project over a period of ten years.

7. I&M is granted accounting authority to implement its proposed ratemaking in accordance with this Order.

8. The material submitted to the Commission under seal is declared to contain trade secret information as defined in Ind. Code § 24-2-3-2 and therefore is exempted from the public access requirements contained in Ind. Code ch. 5-14-3 and Ind. Code § 8-1-2-29.

9. This Order shall be effective on and after the date of its approval.

HUSTON, FREEMAN, WEBER, AND ZIEGNER CONCUR:

APPROVED: MAR 26 2018

**I hereby certify that the above is a true
and correct copy of the Order as approved.**



Mary M. Becerra
Secretary of the Commission