

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS)
POWER & LIGHT COMPANY (“IPL”), AN)
INDIANA CORPORATION, FOR (1))
CERTIFICATES THAT PUBLIC CONVENIENCE)
AND NECESSITY (“CPCN”) WILL BE SERVED)
BY COMPLIANCE PROJECTS TO ALLOW IPL)
TO COMPLY WITH FEDERALLY MANDATED)
REQUIREMENTS AT PETERSBURG)
GENERATING STATION; (2) APPROVAL OF)
ASSOCIATED ACCOUNTING AND) CAUSE NO. 44794
RATEMAKING TREATMENT, INCLUDING)
COST RECOVERY IN ACCORDANCE WITH)
IND. CODE § 8-1-8.4-7 AND AUTHORITY TO)
DEFER COSTS UNTIL SUCH COSTS ARE)
REFLECTED IN RATES; AND 3) TO THE)
EXTENT NECESSARY OR APPROPRIATE)
ISSUANCE OR MODIFICATION OF CPCN FOR)
THE USE OF CLEAN COAL TECHNOLOGY)
PURSUANT TO IND. CODE CH. § 8-1-8.7)

IPL’S REPLY TO JOINT INTERVENORS’ POST-HEARING BRIEF

Indianapolis Power & Light Company (“IPL”), by counsel, respectfully replies to the Post-hearing Brief of Citizens Action Coalition of Indiana, Inc. and Sierra Club, Inc. (“Joint Intervenor” or “JI”). The vast majority of JI’s arguments were addressed in the Settling Parties’ Proposed Order. The Settling Parties’ Proposed Order, as revised in the submission herewith, appropriately and fully resolves the issues in this proceeding and should be approved. For the reasons set forth below and in Settling Parties’ Proposed Order, the Commission should reject Joint Intervenor’s opposition and issue an order approving the Settlement Agreement without change.¹

¹ Joint Intervenor’s brief and proposed order are cited as “JI at X” and “JIPO at X” respectively. The Transcript is cited as “Tr. at X”. The revised Settling Parties’ Proposed Order is cited as “RPO at X”. Much of Joint Intervenor’s post-hearing brief repeats arguments refuted in the record evidence and already addressed in Settling Parties’

The Compliance Projects, as modified by the Settlement Agreement, represent the reasonable, least-cost option for compliance with the NAAQS SO₂ and the structural stability requirements of the CCR Rule and are therefore reasonable and necessary. The CCR Compliance Project will also allow Petersburg Station to comply with the EPA's Effluent Limitation Guidelines ("ELG"). JI's recommendation (JIPO at 33) that the Commission find the Compliance Projects to be "not reasonable", "not necessary" and not serving the "public convenience and necessity", ignores substantial record evidence demonstrating otherwise.

JI's carefully worded criticism of the assumptions in IPL's economic modeling lacks merit. Differences between actual prices and forecasted prices do not render use of a forecast unreasonable. Notably, JI points to actual 2016 prices being lower than those reflected in IPL's "base case" forecast. JI at 2. As discussed below, this ignores the record evidence indicating that prices in the first half of 2016 were close to the low ABB forecast and prices in the second half of 2016 were close to the base ABB forecast. Soller Settlement Rebuttal at 7. The base, high and low forecasts used in IPL's economic analysis reasonably reflect a diverse range of future worlds. Furthermore, while JI questions whether the natural gas price forecasts IPL used are low enough, the OUCC testimony cited concerns that decreased supply of natural gas may drive prices even higher. See OUCC direct testimony, Witness Rutter p. 7. For planning purposes IPL reasonably relied on a forecast developed by a third party expert and considered the potential for both low and high market and natural gas prices.

Failure to install the CCR Project would mean that IPL would not operate the Petersburg Units. This in turn would subject IPL's customers to an immediate and significant risk of price increases due to a) the unavoidable and significant dependence on the wholesale market that

Proposed Order. The absence of a specific response herein to Joint Intervenors' arguments does not and should not be viewed as agreement with Joint Intervenors' position.

would result from such a decision and b) the higher incremental cost of the resources that would be needed to meet IPL's customers' need for energy and capacity. The NAAQS Compliance Project as modified by the Settlement Agreement is also cost-effective. If the NAAQS Compliance Project is not implemented, the Petersburg units will need to be de-rated or removed from service should FGD system issues occur. This in turn would expose IPL's customers to replacement market purchases that are expected to be more costly and variable than Petersburg generation, which is "steel in the ground" and serves as a hedge against market volatility should natural gas prices increase significantly. See Scott Settlement, at 7.

JI's repeated claims (JI at 4, 20-24), that IPL should be required to provide a "full accounting" of CCR Rule compliance risks and costs is a red herring. The governing statute allows a compliance project to comply with one or more federally mandated requirements. Ind. Code § 8-1-8.4-2. The proposed CCR Compliance Project is designed to comply with the structural stability requirements of the CCR Rule (and also provides compliance with the ELG Rule). See Collier Direct, at 6, 10; Scott Direct at 25-26; Collier Rebuttal at 6; 10. Substantial evidence shows IPL has appropriately reflected costs associated with future environmental compliance in its economic modeling in this proceeding. Collier Rebuttal at 7-8; Soller Rebuttal at 32; Armstrong Direct at 25. The suggestion that a utility must present all future compliance risks and costs (no matter how speculative) in order to obtain a CPCN is inconsistent with the statute and prior Commission practice. It is also impractical because it would preclude the utility from filing to comply with near term deadlines. The analysis presented in this proceeding is consistent with what the Commission has accepted in other filings under Chapter 8.4, and the Commission should find that IPL has adequately addressed alternative plans for compliance and otherwise satisfied the criteria enumerated in Chapter 8.4.

Finally, JI's Proposed Order deletes much of the detailed evidence refuting its position. JI likewise makes little, if any, attempt to reconcile its desired findings with the record evidence. Nevertheless, the Commission must consider the record as a whole in making its determination in this proceeding.

These matters are addressed generally below and in further detail in the revised version of the Settling Parties' Proposed Order included herewith.

1. JI's Discussion of the Applicable Legal Standards is Incomplete.

IPL seeks approval of the Compliance Projects pursuant to Chapter 8.4, which requires an analysis of alternative plans that demonstrate the proposed compliance project is "reasonable and necessary". Ind. Code § 8-1-8.4-6(b)(1)(D). While the Commission has considered whether a proposed compliance project is "a reasonable, least-cost option", this does not change the statutory language. Additionally, the Commission has been clear that least cost planning "does not require the utility to automatically select the least cost alternative." *Indianapolis Power & Light Co.*, Cause No. 44339 at 20 (IURC 5/14/2014); *Re Duke Energy Indiana Energy, Inc.*, Cause Nos. 43114/43114-S1 at 43 (IURC 11/20/2007). This standard looks for the reasonable, least cost option.

JI's Proposed Order ignores the well-established Commission policy favoring settlement. JIPO at 24. See 170 IAC 1-1.1-17. As the Commission has explained, "in the public utilities field, as in other contexts, the law favors settlements precisely because they help advance matters with far greater speed and certainty, and far less drain on public and private resources, than litigation or other adversarial proceedings." *Re PSI Energy, Inc.*, Cause Nos. 42622/42718 (IURC 5/24/2006), at 23; *Re Ind. Bell Tel. Co.*, Cause No. 42405 (IURC 6/30/2004), at 20 (same). The Settling Parties' Proposed Order points out correctly what the Commission has

previously recognized: “the fact that the OUCC is one of the parties seeking Commission approval of a proposed settlement agreement has weighed in favor of its approval.” *Re Ind. Bell Tel. Co.*, Cause No. 42405 (IURC 6/30/2004), at 20 (citing *Re Pub. Serv. Co.*, 72 PUR4th 660, 685 (Ind. PSC 1986); *Re S. Ind. Gas and Elec. Co.*, Cause No. 44248, 2003 Ind. PUC LEXIS 117 at *15-16 (IURC 1/2/2003)). The Commission *can* approve a settlement agreement among less than all the parties, and the Commission *should* do so here as the settlement is supported by substantial probative evidence and in the public interest.

2. JI’s Criticism of IPL’s Forecasted Natural Gas and Energy Market Prices Ignore Substantial Record Evidence.

In its Brief, JI points to its witness’ reliance on forward markets and current market conditions as supporting its claim that IPL’s forecasted natural gas and energy market prices are unreasonable. JI at 7. As stated above, this carefully worded attack focuses on the IPL base forecast and ignores and mischaracterizes the record evidence. For example, the record evidence shows that forward curves are not suitable for the type of long-term analysis and decision-making conducted in this proceeding. Soller Rebuttal at 19. Ms. Soller also explained that using actual costs and forward curves as described by Mr. Schlissel would result in a much less robust assessment of potential fuel cost risk. *Id.* She further explained that focusing on a short-term market view does not properly account for future risks which may include significantly different and higher energy costs. Soller Settlement Rebuttal at 7. Mr. Schlissel’s use of forward curves also ignores the option value of retrofitting the Petersburg units. Soller Settlement Rebuttal at 8. During cross-examination, Ms. Soller explained that while IPL uses forward curves every day for offers into the MISO market and for short-term fuel forecasts, forward curves are not used to make long-term planning decisions. Tr. at B-61. This is because forward curves are not as transparent or robust as a fundamental forecast. Tr. at B-61. She also explained that actual

Henry Hub prices for 2016 were closely aligned with the 2015 ABB base forecast in the middle of the year and, as the end of the year came forward, the prices reached closer to the ABB high forecast. Tr. at B-53; Soller Settlement Rebuttal at 7.

Rather than address the substantial evidence refuting Mr. Schlissel's claims, JI attacks IPL by suggesting its "primary move" in response to Mr. Schlissel's criticism was to "hide behind its vendor, ABB." JI at 7. This does not accurately represent the record evidence, which establishes 1) that ABB is a reliable vendor used widely by the industry; 2) its forecasts are based upon a fundamental model of the Eastern Interconnect; and 3) its forecasts align generally with other sources of forecasted data including the AEO, inputs to MISO MTEP studies and the State Utility Forecasting Group. Soller Settlement Rebuttal, at 5.

JI's reliance in its Brief (at 8) on Tr. at B-51, lines 16-19 is misplaced. In the very next portion of the transcript following the lines cited by JI, Ms. Soller expounded on why she views the ABB forecasts to be reasonable to rely on:

The way I look at accuracy for forecasts is the actual costs should fall within the range of the forecasts that are given. I don't see a base forecast, for example, as a crystal ball of what the actual costs will be, but within the high and low bands of the forecast, the actual prices are expected to fall within that range.

Tr. at B-51, lines 20-25. Ms. Soller went on to explain that IPL does do a qualitative review of ABB's forecasts and that the actual prices for natural gas and market energy in the MISO market fall within the range of previous ABB forecasts. Tr. at B-52. She added that for 2016, the Energy Information Administration Annual Energy Outlook's base, high, and low forecasts for natural gas are very closely aligned with the ABB Fall 2015 Reference Case. Tr. at B-54. JI's position ignores both the prefiled testimony as well as that deduced during JI's cross-examination of Ms. Soller.

JI's argument that IPL should have delayed its filing to incorporate the Spring 2016 Power Reference Case underplays the challenges involved with updating modeling analysis and ignores the substantial evidence refuting JI's claim that the Fall 2015 Power Reference case is not stale. JI at 8.²

JI's argument places IPL in a no-win situation. Had IPL updated its modeling in this proceeding to incorporate the Spring 2016 Power Reference case data, JI could argue that the modeling is inconsistent with the modeling performed in IPL's 2016 IRP, which used the Fall 2015 Power Reference case. Indeed, counsel for JI cross-examined Ms. Soller at length on the extent to which the modeling in this case was consistent with IPL's IRP modeling. Tr. at B-34 to 39. Further, had IPL delayed the filing of its case-in-chief, newer versions of the ABB Reference Case would continue to become available, and JI could continue to argue that the modeling should be updated yet again for even newer data. Meanwhile, the compliance deadlines would continue to advance closer and closer, making timely compliance difficult or impossible. IPL reasonably used the most recent data set that could be incorporated into its modeling for this proceeding.

Contrary to JI's assertion, there is nothing "misleading" about the low gas price sensitivity analysis presented by Ms. Soller. JI at 9. In her settlement rebuttal testimony, Ms. Soller clearly indicated this analysis was performed to show that the modified NAAQS Compliance Project remains reasonable even under low natural gas and low market energy pricing scenarios. Soller Settlement Rebuttal at 14. During cross-examination, Ms. Soller elaborated on why it was not necessary to perform the same type of analysis for the CCR Project:

² JI's claim that IPL "objects" to purchasing the Spring 2016 Reference Case takes IPL's position out of context. JI at 8. IPL's "objection" was to being required to purchase data that was as equally available to JI as to IPL. See December 22, 2016 Docket Entry (denying JI's motion to compel production of Spring 2016 Reference Case).

Q. So there [p. 14 of Soller settlement rebuttal] you're referencing the NAAQS Compliance Project; is there a reason why you're not also referencing the CCR projects that are also at issue in this proceeding?

A. My thought process was to explain the justification for the CCR project based on capacity along because it was a simplistic view and reflected reality.

So if we don't do the CCR project, we have to shut Petersburg down before 12 months – April 2018, so we would need to purchase capacity to replace that capacity, so it was just a simple way of looking at it.

I hate to say the word it's a no-brainer, but to me, it's a no-brainer to do the CCR project based on the capacity value alone; however, the PVRR results continue to support the CCR project as well.

We did not run 100 percent probability shift for low natural gas in the CCR case, but the data is available to the parties that have access to the workpapers to look at that.

Tr. at C-8 to C-9. Contrary to JI's assertion (JI at 9), Ms. Soller did not "refuse[] to acknowledge" the potential impact of including the additional capital costs from the CCR Project in the low gas price sensitivity analysis. Rather, Ms. Soller explained that one could not just add the CCR costs to the NAAQS low gas price sensitivity analysis as JI suggests. Tr. at C-16. She explained this is because, with respect to the NAAQS Compliance Project costs, "some of the costs in the units for Pete 1, 2, 3, and 4 are duplicative because we made a decision based on each unit whether or not it was cost effective to make the next upgrades, but some of the costs are allocated among more than one unit." Tr. at C-17. Also contrary to JI's assertion (JI at 9-10), IPL did consider the costs of all the projects at issue in this proceeding in its low gas price scenario modeling. Soller Settlement at 7; Attachment JMS-2S. This approach is reasonable and not a basis for rejecting the Settlement Agreement.

Moreover, as Ms. Soller stated during cross-examination, the outcome of the economic modeling in this case is not heavily dependent on the accuracy of the forecast used. Tr. at B-63. She explained that the cost-effectiveness of the CCR Project is supported by the capacity value of the Petersburg Station, regardless of natural gas or market energy prices. Tr. at B-63. Even using the recent auction clearing price from last year, the payback period is just over one year. Tr. at B-63 to 64. Her payback analysis shows that even if capacity auction costs were to be cut in half, the payback period is just over two years. Tr. at B-64; Soller Settlement Rebuttal at 12-13. This is independent of the natural gas or energy market forecast. While JI attempts to paint the NAAQS 100% low gas price sensitivity analysis and the CCR capacity payback analysis as “incomplete” or “misleading[]” (JI Brief at 9), JI ignores the fact that these are simply two additional forms of analysis done to further corroborate the results of the robust economic modeling performed by IPL, which indicates that both the NAAQS and CCR Compliance Projects are the reasonable least cost compliance options.

3. IPL’s Modeling of Carbon Tax Scenarios does not Unreasonably Bias IPL’s Economic Analysis.

JI’s concerns over the design of the two carbon tax scenarios do not warrant rejection of IPL’s economic modeling results or the Settlement Agreement. JI at 10-11. Contrary to JI’s suggestion (at 11), IPL did not “decide[] to assume” a high natural gas price for these scenarios. Rather, the correlated energy and gas prices used in the carbon tax endpoints were derived using the same fundamental ABB model used to develop the Reference Case. Tr. at A-86 to A-87. This approach was identical to how the Base Case was developed, with the exception being that ABB used the moderate and high carbon prices to develop correlated market and natural gas prices to be used in modeling these two scenarios. The resulting fundamentals forecast indicated that market prices and natural gas prices were expected to be higher than the Base Case market

prices if the identified nation-wide carbon tax was implemented. It was reasonable for IPL to rely on the ABB correlated prices in IPL's economic analysis.

The record shows the ABB fundamental forecast is robust and based on data that is submitted to NERC and to FERC by all of the regional transmission organizations for generation additions, retirements, transmission plans and fundamental forecasts for commodities. Tr. at B-61. While JI may have preferred that the impact of a carbon tax would be to lower natural gas prices relative to the base forecast, this does not mean that IPL's economic analysis is biased. The carbon tax scenarios were designed as a proxy for unknown future carbon costs, and were not intended to predict the likelihood that a carbon tax will prevail. Tr. at B-32. As Ms. Soller explained during cross-examination, IPL's inclusion of carbon costs in all of its scenarios (not just the carbon tax ones) was a conservative modeling approach. Tr. at C-25 to C-26. In addition, IPL modeled the proposed Clean Power Plan to start in 2020, whereas the final Clean Power Plan is expected to start in 2022 or beyond. Tr. at C-26. IPL expects the simple payback for the NAAQS and CCR Compliance Projects to occur prior to this time period. Soller Direct at 12, 19; Soller Settlement Rebuttal at 12-13.

As stated in the attached Revised Proposed Order, Ms. Soller and Ms. Crockett addressed JI's contention that a "high and low" sensitivity should have been added to these two carbon tax scenarios. Yet, JI ignores this testimony, which established this would have required the development of additional correlation pricing and was unnecessary. Tr. at A-83 to A-84, B-29 to B-30. As also stated in the Revised Proposed Order included herewith, JI's contention about the 45% probability and the 100% probability mixes apples with oranges. These percentages have distinct purposes and neither invalidates the other. Accordingly, the JI's arguments regarding the carbon tax scenarios are not grounds to reject the Settlement Agreement.

4. The Forecasted Capacity Prices Used in IPL's Analysis are Reasonable.

In its Brief, JI repeats its assertion that the forecasted capacity prices used in IPL's analysis are unreasonable. JI at 11. While JI continues to argue that IPL's forecast is not consistent with experience at MISO and PJM, JI ignores the record evidence demonstrating that IPL's forecast is reasonable. In her rebuttal testimony, Ms. Soller presented MISO Capacity Auction settlement details for the 2016-2017 Planning Year. Soller Rebuttal at 25; Figure 3. There, she explained that had there been 1,600 fewer MWs offered in the auction, the clearing price would have nearly equaled the Cost of New Entry ("CONE"). In her settlement rebuttal testimony, Ms. Soller further explained that PJM historical capacity prices are not necessarily indicative of MISO capacity auction future results, and thus the fact that PJM capacity prices have not reached CONE is irrelevant. Soller Settlement Rebuttal at 10. She noted there that in light of recently announced generating unit retirements in Indiana, higher capacity prices are more likely in MISO. Soller Settlement Rebuttal at 10. Further, while JI complains that IPL's forecast of capacity values is too high, it ignores the fact that its own witness used the same numbers for the first two years of his analysis. Tr. at C-2, C-4. JI makes no attempt to reconcile its position with this record evidence and its argument should be rejected.

JI's arguments as to what may happen should a capacity price reach or exceed CONE are not sufficient to overcome substantial evidence that IPL's projected capacity prices are reasonable. JI at 12. Again, the forecasts used in IPL's modeling are not meant to be a "crystal ball" that precisely identifies the future. Rather, IPL's forecasts reasonably bound future scenarios and provide a reasonable basis upon which to conduct economic modeling. Further, with respect to the CCR Compliance Project, IPL's analysis showed that even if capacity prices

were *half* of the most recent MISO capacity auction results, the payback for the CCR Compliance Project would be just over two years. Tr. at B-64.

JI's argument that the payback analysis is "oversimplified" because it does not factor in effects of the energy market is based on a flawed understanding of the MISO market construct. JI at 14. Ms. Soller testified that the payback analysis was based on capacity values alone, because capacity values are not correlated to energy market values or natural gas prices. Tr. at C-5. Again, while the JI Brief cites from this section of the transcript, it ignores the ensuing lengthy discussion by Ms. Soller explaining why capacity prices and energy prices are independent of each other:

Well, capacity value is based on having assets available in the market; it's not based at all upon the 8,760 hours in the year and how those units are dispatched.

It's a planning component to determine resource adequacy, which we are required to do as a member of MISO and to meet our NERC obligations. Totally separate from how often units are dispatched.

...

Market prices and power prices will vary throughout the year, and in the MISO construct, the capacity values are annual, and they're not dependent upon the 8,760 behavior in the energy market.

Tr. C-5 to C-6. Ms. Soller's testimony was based on her experience and IPL's experience in the MISO construct compared to the energy market interaction. Tr. at C-6. Contrary to JI's assertion (JI at 14), IPL's capacity value payback analysis is helpful to the Commission's determination in this proceeding because it shows the benefit of the CCR Compliance Project regardless of future natural gas and market prices.

JI's arguments regarding the potential for negative net revenues generated by the Petersburg units in low gas price scenarios are equally unpersuasive. JI at 14. Notably, this contention is inconsistent with JI's suggestion (discussed below) that the Petersburg units will produce an OSS margin windfall that will not be appropriately shared between IPL and its customers. Mr. Schlissel's focus solely on the low gas scenario endpoints ignores the results of the base and high natural gas and market price forecast scenario endpoints and presents an incomplete picture of the modeling results. As Ms. Soller explained, IPL's PVRR analysis is a more holistic way to evaluate the Compliance Projects and alternatives. Soller Settlement Rebuttal at 12. Further, the record shows that Mr. Schlissel's modeling does not reflect the revenue requirement or the actual cost to customers for each of the scenarios that IPL modeled. Tr. at B-67. Ms. Soller explained the difference between merchant power plant generation decision-making and the way that IPL operates its units. Tr. at B-74 to B-75. She further explained that IPL looks at a long-term view of how to operate its assets and makes long-term decisions based on long-term forecasts and probabilities. Tr. at B-75. In other words, Mr. Schlissel's analysis does not reflect the retail regulatory framework in Indiana, and therefore does not warrant the rejection of the Settlement Agreement.

5. JI's Argument Regarding the Allocation of Off-System Sales Do Not Warrant Rejection of the Settlement Agreement.

JI argues that IPL's economic analysis is unreasonable and biased because it assumes that net revenues from off-system sales will be credited 100% to customers, while under IPL's current rates they are split 50/50 with customers. JI at 15. As Ms. Soller explained during cross-examination, the model assumes a rate case every year with 100% of the capacity revenues and off-system sales revenues in excess of IPL's retail requirements going back to customers to decrease the PVRR. Tr. at C-22. She added that this approach is consistent with IPL's IRP

modeling. Tr. at C-22. While JI contends this approach “unreasonably biases” the results, Ms. Soller explained on the stand that the model presents an apples-to-apples comparison across all scenarios. JI has not pointed to any evidence suggesting that a change in this assumption would have a material impact on the relative economics of the Compliance Projects versus other modeled alternatives. Further, as discussed in the Revised Proposed Order included herewith, Mr. Schlissel’s analysis regarding OSS included the Eagle Valley CCGT. As stated in the Commission’s Order in IPL’s recent rate case, the symmetry issue JI raises regarding the treatment of OSS can be addressed in the retail rate case when IPL seeks to add the CCGT to rate base. Order in Cause No. 44576, at 80. Thus, this argument does not warrant rejection of the Settlement Agreement.

6. JI’s Proposed Conditions if the CPCN is Approved Contravene Public Policy and the Pre-Approval Process Set Forth in Chapter 8.4.

JI’s proposal to impose “conditions” upon IPL in the event the CPCN is granted is contrary to public policy, contravenes the process set forth in the statute and should be rejected. The federally mandated compliance project statute provides for pre-approval and cost recovery. This special cost recovery statute evinces a legislative intention to assure cost recovery for pre-approved projects and to provide for 80% of such recovery to occur in a timely manner through a rate adjustment mechanism and 20% deferred recovery via a subsequent rate case. Mr. Schlissel’s recommendation seeks to deny cost recovery, not assure it. The constraints he proposes seek to leave open the door for a post hoc prudence review and cost disallowance. This approach contravenes the purpose of the pre-approval process. It also asks the Commission to pre-judge the future and adjudicate any retirement of a Petersburg unit that may occur prior to the full depreciation of the Compliance Projects to be imprudent.

In its Brief, JI characterizes IPL's economic analysis as a "risky bet" that natural gas prices, energy market prices, and capacity prices will all increase in coming years. JI at 16. This is not so. Extensive record evidence shows that IPL's analysis serves to reasonably bound future expectations regarding these factors. Moreover, IPL presented additional analysis showing that (even assuming the most recent capacity auction prices) the capacity value alone for Petersburg provides a payback period for the CCR Compliance Project over just over a year. Soller Settlement Rebuttal at 12-13. In other words, regardless of actual future natural gas and energy market prices, the CCR Compliance Project has a short term payback period. As discussed above, Ms. Soller also presented a low natural gas sensitivity analysis corroborating the reasonableness of the modified NAAQS Compliance Project. Soller Settlement Rebuttal at 14-17.

JI's proposed ratemaking constraint fails to recognize that there could be very good reasons to retire a unit prior to the full depreciation of the Compliance Project. Those reasons could very well serve the public interest and decrease overall costs for the benefit of customers. For example, the public interest can be served by modernization of utility property and efforts to improve its state of efficiency. If additional federal environmental mandates are adopted, the public interest is served by cost effective compliance with those mandates. The regulatory framework provides for a decision as to whether the proposed Compliance Projects are reasonable and necessary based on the evidence presented. Because JI's proposal asks the Commission to circumvent this process, it should be rejected.

7. The Commission Should Reject JI's Attempt to Enlarge the Scope of this Proceeding to Include Speculative Future Compliance Requirements.

IPL presented detailed cost estimates for both the NAAQS and CCR Compliance Projects. No party challenged these cost estimates. Nonetheless, in its Brief and Proposed

Order, JI now urges the Commission to enlarge the scope of this proceeding to address other CCR Rule requirements and potential alternatives for compliance with those requirements. JI at 17-23; JIPO at 26, 28, 30-31. The Commission should decline to do so. The purpose of this proceeding as it relates to CCR Rule compliance is to review IPL's proposal to install and commission a bottom ash dewatering system to allow IPL to stop discharging wastewater to the ash ponds by April 11, 2018. Collier Rebuttal at 10. As discussed in the Settling Parties' Proposed Order, the record shows IPL considered the relevant alternative options to the CCR Compliance Project and demonstrated that the proposed CCR Compliance Plan is reasonable and necessary. Soller Rebuttal at 36. Substantial record evidence also shows that both the CCR Rule and certain IDEM regulations impose a variety of other requirements, some of which currently apply and some of which will likely apply at some point in the future. Collier Rebuttal at 6. IPL has indicated that it intends to address the costs associated with these requirements at the appropriate time, and that the potential for these costs was identified and considered in the economic analysis underlying the proposed CCR Compliance Project. Collier Rebuttal at 6-7; Soller Rebuttal at 32. JI's proposal that IPL be required to provide a "complete accounting of the costs and risks" under the CCR Rule goes well beyond any of the Commission's prior environmental compliance cases, and would make such proceedings intractable. The analysis IPL presented in this proceeding is consistent with what the Commission has accepted in other filings under Chapter 8.4. The Commission should find that IPL has adequately addressed alternative plans for compliance.

7.1 IPL's Economic Analysis Reasonably Accounts for Future Environmental Costs.

JI's argument on this point mischaracterizes the record evidence and misstates the law. Dr. Frank identified five classes of potential costs in her testimony. Frank Direct at 7-27. Ms.

Collier and Ms. Soller explained in their rebuttal testimony that each class of cost identified by Dr. Frank has been considered appropriately in IPL's economic analysis for this filing. Collier Rebuttal at 7-8; Soller Rebuttal at 32. OUCC Witness Armstrong acknowledged that IPL has accounted for future environmental regulations in its economic analysis. Armstrong Direct at 25. In addition, the record shows any costs associated with closing the ash ponds or any other type of action required to address groundwater impacts would be incurred regardless of the outcome of this proceeding. Collier Rebuttal at 7-8; Tr. A-30, A-33.

Ample record evidence demonstrates that JI's concerns regarding future groundwater impact costs are speculative at best. Moreover, JI's continued references to "groundwater contamination" are misleading and contradicted by record evidence. Ms. Collier explained during cross-examination that IPL has not measured exceedances of any applicable standards for the groundwater monitoring to date. Tr. A-20. She further explained that Dr. Frank's testimony addressed standards that do not apply to those groundwater monitoring wells. Tr. A-25. Given that IPL is currently undertaking the required groundwater monitoring necessary to even establish the groundwater protection standard that will be applicable, it would be premature to require IPL to go beyond that and speculate as to what corrective actions (if any) may be required in the future and speculate as to what those costs might be.

Nor should the Commission accept JI's argument that the cost of future corrective action is relevant to this proceeding because the Company's preference to cap in place "is likely to lead to future corrective action costs." JIPO at 26. Again, these concerns are speculative at this point and fall well outside the scope of this proceeding. This proceeding is addressed to IPL's proposed NAAQS SO₂ and CCR Compliance Projects. It is not addressed to every conceivable future compliance action related to the CCR Rule. That does not mean that IPL is reporting CCR

Rule compliance costs in “piecemeal fashion” (JI at 21) or has otherwise failed to propose a “Compliance Project” as that term is defined in Chapter 8.4. RPO at 30.

Chapter 8.4 requires the utility to present the estimated cost of its proposed compliance project. It does not require the presentation of all possible costs (including costs which may never be incurred) associated with future environmental compliance. IPL provided a wealth of detail regarding the costs associated with the CCR Project, both in testimony and in supporting workpapers. This data includes Owner’s Project costs, CapEx, fixed O&M, variable O&M, permitting, geotechnical studies and common costs. Soller Rebuttal at 32. No party has challenged IPL’s cost estimates for the Compliance Projects and the Commission should find that both the proposed Projects and the estimated costs are reasonable and comply with Chapter 8.4.

7.2 IPL is not Presenting CCR compliance Costs in “Piecemeal Fashion”.

The Settling Parties’ response to this issue is largely addressed above and in the revised Proposed Order included herewith. RPO at 30. IPL would note here that JI’s Brief substantially mischaracterizes the record evidence. For example, Ms. Collier never testified that IPL believes planning for corrective action should wait until IPL “has enough data to prove with absolute certainty” that corrective action is required. JI at 22. Rather, Ms. Collier explained that the CCR Rule contains detailed requirements for groundwater monitoring, establishing groundwater protection standards, determining if groundwater protection standards have been exceeded and, if so, evaluating and implementing appropriate corrective measures. Collier Rebuttal at 9; Tr. at A-37. Nor did IPL attempt to “shift the burden of production” to intervenors. JI at 22. Rather, Ms. Collier’s rebuttal testimony simply pointed Dr. Frank’s failure to quantify future environmental costs as a way of underscoring the speculative nature of Dr. Frank’s testimony. Collier Rebuttal

at 5. Nowhere does Ms. Collier (or any other IPL witness) suggest that the intervenors bear the burden of quantifying future environmental costs. In fact, Ms. Collier's testimony shows that IPL has already accounted for future environmental costs in its economic analysis. Collier Rebuttal at 5-6. Nor is it true (JI at 22) that "IPL controls the information needed to conduct a full risk assessment"; Ms. Collier's testimony makes it clear that IPL is in the process of collecting the information that would be needed to make any such assessment. Collier Rebuttal at 9.

Finally, the Commission should reject JI's proposed "condition" that IPL be required to make a "full accounting of risks and costs associated with CCR rule compliance in a supplemental filing in this docket." JI at 23. IPL has already indicated that its compliance with other aspects of the CCR Rule will be addressed in other proceedings to the extent necessary or appropriate and therefore need not be addressed at this time. Scott Direct at 3. Thus, there is no need to impose JI's vague condition upon IPL.

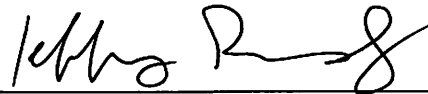
8. Substantial Evidence Demonstrates the Settlement Agreement is in the Public Interest.

JI's conclusion that the Settlement Agreement is not in the public interest discounts the significant reduction in costs achieved through the Settlement Agreement. JI at 23. As OUCC witness Mr. Keen explained in his settlement testimony, the Settlement Agreement reduces the NAAQS Compliance Project cost estimate by over \$18,700,000. Keen Settlement at 7. JI also completely ignores the benefits associated with continued operation of the Petersburg Station, including protecting customers from potential price volatility in the gas markets. Soller Settlement Rebuttal at 8. In light of the substantial evidence in support of the Settlement Agreement, the Commission should conclude that the Settlement Agreement is in the public interest and should approve it in its entirety.

9. Conclusion.

For the reasons stated above and in the Settling Parties' Proposed Order, the Commission should reject Joint Intervenor's proposal that the Commission deny the CPCN for the NAAQS SO₂ and CCR Compliance Projects. The Commission should also reject JI's proposal that the Commission condition any CPCN on IPL, not its customers, assuming the risk of the Petersburg units becoming uneconomic in the future. The Joint Intervenor's proposed conditions contravene public policy and the pre-approval process set forth in Chapter 8.4. Substantial evidence demonstrates that the Settlement Agreement is reasonable, in the public interest and should be approved. Accordingly, the Commission should reject the Joint Intervenor's opposition and timely enter an Order approving the Settlement Agreement in its entirety without change.

Respectfully submitted,



Teresa Morton Nyhart (No. 14044-49)

Jeffrey M. Peabody (No. 28000-53)

Barnes & Thornburg LLP

11 South Meridian Street

Indianapolis, Indiana 46204

Nyhart Telephone: (317) 231-7716

Peabody Telephone: (317) 231-6465

Facsimile: (317) 231-7433

Nyhart Email: tnyhart@btlaw.com

Peabody Email: jpeabody@btlaw.com

ATTORNEYS FOR PETITIONER

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the forgoing was served this 24th day of February, 2017, upon by hand delivery, electronic transmission or United State Mail, first class, postage prepaid on the following:

Lorraine Hitz-Bradley
Indiana Office of Utility Consumer Counselor
115 West Washington Street, Suite
1500 South
Indianapolis, IN 46204
LHitzBradley@oucc.IN.gov
infomgt@oucc.in.gov

Anne E. Becker
Joseph P. Rompala
Lewis & Kappes, P.C.
One American Square, Suite 2500
Indianapolis, Indiana 46282-0003
abecker@Lewis-Kappes.com
jrompala@Lewis-Kappes.com

Courtesy copy to:
atyler@Lewis-Kappes.com
etennant@Lewis-Kappes.com

Jennifer A. Washburn
Citizens Action Coalition
603 East Washington Street, Suite 502
Indianapolis, Indiana 46204
jwashburn@citact.org

Robert K. Johnson
2454 Waldon Dr.
Greenwood, IN 46143
rjohnson@utilitylaw.us

Benjamin Locke
Earthjustice
1617 John F. Kennedy Blvd.
Suite 1130
Philadelphia, PA 19103
blocke@earthjustice.org

Thomas Cmar
Staff Attorney
Earthjustice
1101 Lake Street, Suite 405B
Oak Park, IL 60301
tcmar@earthjustice.org



Jeffrey M. Peabody

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS)
POWER & LIGHT COMPANY ("IPL"), AN)
INDIANA CORPORATION, FOR (1))
CERTIFICATES THAT PUBLIC CONVENIENCE)
AND NECESSITY ("CPCN") WILL BE SERVED)
BY COMPLIANCE PROJECTS TO ALLOW IPL)
TO COMPLY WITH FEDERALLY MANDATED)
REQUIREMENTS AT PETERSBURG)
GENERATING STATION; (2) APPROVAL OF)
ASSOCIATED ACCOUNTING AND) CAUSE NO. 44794
RATEMAKING TREATMENT, INCLUDING)
COST RECOVERY IN ACCORDANCE WITH)
IND. CODE § 8-1-8.4-7 AND AUTHORITY TO)
DEFER COSTS UNTIL SUCH COSTS ARE)
REFLECTED IN RATES; AND 3) TO THE)
EXTENT NECESSARY OR APPROPRIATE)
ISSUANCE OR MODIFICATION OF CPCN FOR)
THE USE OF CLEAN COAL TECHNOLOGY)
PURSUANT TO IND. CODE CH. § 8-1-8.7)

SETTLING PARTIES'
SUBMISSION OF ITS REVISED PROPOSED ORDER

~~Indianapolis Power & Light Company ("IPL"), by counsel, and on behalf of all settling parties hereby submits the attached proposed order.~~

~~Respectfully submitted,~~

~~Teresa Morton Nyhart (No. 14044-49)
Jeffrey M. Peabody (No. 28000-53)
Barnes & Thornburg LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Nyhart Telephone: (317) 231-7716
Peabody Telephone: (317) 231-6465
Facsimile: (317) 231-7433
Nyhart Email: tnyhart@btlaw.com
Peabody Email: jpeabody@btlaw.com~~

ATTORNEYS FOR PETITIONER

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the forgoing was served this 3rd day of February, 2017, upon by hand delivery, electronic transmission or United State Mail, first class, postage prepaid on the following:

Lorraine Hitz-Bradley
Indiana Office of Utility Consumer Counselor
115 West Washington Street, Suite 1500
South
Indianapolis, IN 46204
LHitzBradley@oucc.IN.gov
infomgt@oucc.in.gov

Anne E. Becker
Joseph P. Rompala
Lewis & Kappes, P.C.
One American Square, Suite 2500
Indianapolis, Indiana 46282-0003
abecker@Lewis-Kappes.com
jrompala@Lewis-Kappes.com

Courtesy copy to:
atyler@Lewis-Kappes.com
etennant@Lewis-Kappes.com

Jennifer A. Washburn
Citizens Action Coalition
603 East Washington Street, Suite 502
Indianapolis, Indiana 46204
jwashburn@citact.org

Robert K. Johnson
2454 Waldon Dr.
Greenwood, IN 46143
rjohnson@utilitylaw.us

Benjamin Locke
Earthjustice
1617 John F. Kennedy Blvd.
Suite 1130
Philadelphia, PA 19103
blocke@earthjustice.org

Thomas Cmar
Staff Attorney
Earthjustice
1101 Lake Street, Suite 405B
Oak Park, IL 60301
temar@earthjustice.org

Teresa Morton Nyhart

Table of Contents

	Page
1. Notice and Jurisdiction.....	2
2. Petitioner’s Characteristics.....	2
3. Requested Relief.....	3
4. Summary of Evidence of the Parties.....	3
A. IPL’s Case-in-Chief.....	3
(1) Compliance Project Overview and Costs.....	3
(2) Environmental Mandates.....	4
(3) Economic Analysis.....	4
(4) Estimated Federally Mandated Costs.....	5
(5) Accounting and Ratemaking.....	5
B. OUCC’s Case-in-Chief.....	6
C. Industrial Group Case-in-Chief.....	7
D. HEC Case-in-Chief.....	7
E. Joint Intervenor Case-in-Chief.....	8
F. IPL’s Rebuttal.....	8
(1) OUCC Concerns.....	8
(2) Industrial Group.....	12
(3) HEC Concerns -- CCR Project.....	12
(4) JI Concerns.....	13
5. Overview of Settlement Agreement and Supporting Testimony.....	17
A. Settling Parties.....	17
(1) Section A of the Settlement Agreement.....	17
(2) Section A2 of the Settlement Agreement.....	19
(3) Section A3 of the Settlement Agreement.....	20
(4) Other Provisions of the Settlement Agreement.....	21
(5) Economic Analysis.....	21
(6) Rate and Financial Impact.....	21
(7) Public Interest.....	21
B. Non-Settling Parties.....	22
C. Settling Parties’ Rebuttal.....	23
6. Commission Discussion and Findings.....	29
A. Ind. Code ch. 8-1-8.4 (“Chapter 8.4”).....	29
(1) Federally Mandated Requirements.....	29
(2) Projected Federally Mandated Costs.....	29 30
(a) Estimated Cost.....	30
(3) Compliance with Federally Mandated Requirements.....	30 31
(4) Alternative Plans for Compliance.....	31 32
(a) HEC Criticism.....	31 32
(b) Joint Intervenor Opposition.....	31 33
(5) Useful Life of the Facility.....	35 41
(6) Conclusion.....	36 41
B. Accounting and Ratemaking.....	37 42
(1) Ratemaking Proposal.....	37 42

C. Ongoing Review.....	37 <u>43</u>
D. Chapter 8.7.....	38 <u>43</u>
7. Confidentiality.....	38 <u>44</u>
Ordering Paragraphs.....	39

STATE OF INDIANA
INDIANA UTILITY REGULATORY COMMISSION

**VERIFIED PETITION OF INDIANAPOLIS)
POWER & LIGHT COMPANY (“IPL”), AN)
INDIANA CORPORATION, FOR (1))
CERTIFICATES THAT PUBLIC CONVENIENCE)
AND NECESSITY (“CPCN”) WILL BE SERVED)
BY COMPLIANCE PROJECTS TO ALLOW IPL)
TO COMPLY WITH FEDERALLY MANDATED)
REQUIREMENTS AT PETERSBURG)
GENERATING STATION; (2) APPROVAL OF)
ASSOCIATED ACCOUNTING AND) **CAUSE NO. 44794**
RATEMAKING TREATMENT, INCLUDING)
COST RECOVERY IN ACCORDANCE WITH)
IND. CODE § 8-1-8.4-7 AND AUTHORITY TO) **APPROVED:**
DEFER COSTS UNTIL SUCH COSTS ARE)
REFLECTED IN RATES; AND 3) TO THE)
EXTENT NECESSARY OR APPROPRIATE)
ISSUANCE OR MODIFICATION OF CPCN FOR)
THE USE OF CLEAN COAL TECHNOLOGY)
PURSUANT TO IND. CODE CH. § 8-1-8.7)**

ORDER OF THE COMMISSION

Presiding Officers:

Angela Rapp Weber, Commissioner
Loraine L. Seyfried, Chief Administrative Law Judge

On May 31, 2016, Indianapolis Power & Light Company (“Petitioner”, “IPL” or “Company”) filed its Verified Petition initiating this Cause and its prefiled direct testimony and attachments. IPL submitted its workpapers on June 1, 2016.

Petitions to intervene were filed on June 1, 2016 by Citizens Action Coalition of Indiana, Inc. (“CAC”), on July 1, 2016 by Sierra Club (collectively with CAC, “Joint Intervenors” or “JI”), on July 14, 2016 by Hoosier Environmental Council (“HEC”) and on August 8, 2016 by an ad hoc group of industrial customers (“IPL Industrial Group” or “IG”). The Presiding Officers granted the petitions to intervene.

By docket entry dated July 27, 2016, the Commission established a procedural schedule, which schedule was subsequently modified in accordance with the decisions of the Presiding Officers.

On September 26, 2016, the Commission conducted a public field hearing.

On October 4, 2016, the Indiana Office of Utility Consumer Counselor (“OUCC”), the IPL Industrial Group, HEC and Joint Intervenors prefiled their respective direct testimony and attachments. On October 4, 2016, the OUCC also filed its motion for administrative notice, which request was granted by Docket Entry dated October 19, 2016. On October 5 and 6, 2016, the OUCC, Joint Intervenors and HEC submitted their respective workpapers.

On November 1, 2016, IPL prefiled its rebuttal testimony, attachments and workpapers.

By docket entry dated November 17, 2016, the Presiding Officers entered a request for information, to which IPL responded on November 28, 2016.

On November 30, 2016, IPL, OUCC and IG (“Settling Parties”) filed a joint motion for leave to submit a settlement agreement and for modification of procedural schedule, which motion was subsequently granted. IPL and the OUCC filed testimony and attachments supporting the settlement agreement and workpapers on December 1, 2 and 5, 2016. The settlement procedural schedule was established on December 12, 2016.

On December 20, 2016, Joint Intervenors filed a motion to compel and suspend the procedural schedule, which motion was denied on December 22, 2016.

On December 22, 2016, Joint Intervenors filed its testimony regarding the settlement agreement. IPL filed its settlement rebuttal testimony and attachments on January 6, 2017.

By docket entry dated January 12, 2017, the Presiding Officers entered a request for information, to which IPL responded on January 17, 2017.

Pursuant to notice of hearing given and published as required by law, proof of which was incorporated into the Commission’s official file, a public evidentiary hearing in this Cause was convened on December 12, 2016, and continued to January 18 and 26, 2017, at which time the parties presented their respective evidence and offered witnesses for cross-examination. Following the hearing, post-hearing proposed orders and briefs were filed in accordance with the established schedule for such filings.

The Commission, based upon the applicable law, the evidence herein, and being duly advised, now finds as follows:

1. **Notice and Jurisdiction.** Due legal and timely notice of the hearing in this Cause was given and published as required by law. Petitioner is a “public utility” as defined in Ind. Code § 8-1-2-1(a) and an “energy utility” as defined in Ind. Code § 8-1-8.4-3. Petitioner is subject to the jurisdiction of this Commission in the manner and to the extent provided by Indiana law. Accordingly, the Commission has jurisdiction over Petitioner and the subject matter of this proceeding in the manner and to the extent provided by Indiana law.
2. **Petitioner’s Characteristics.** IPL is a public utility corporation organized and existing under the laws of the State of Indiana with its principal office and place of business at One Monument Circle, Indianapolis, Indiana. Petitioner is engaged in rendering electric utility service in the State of Indiana. IPL renders retail electric utility

service to approximately 480,000 retail customers located principally in and near the City of Indianapolis, Indiana, and in portions of the following Indiana counties: Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, Owen, Putnam and Shelby Counties. IPL owns and operates electric generating, transmission and distribution plant, property and equipment and related facilities, which are used and useful for the convenience of the public in the production, transmission, delivery and furnishing of electric energy, heat, light and power.

3. **Requested Relief.** In its Petition, IPL requested Commission approval of two Compliance Projects and issuance of certificates that public convenience and necessity (“CPCN”) will be served by the projects to comply with Federally Mandated Requirements at IPL’s Petersburg Generating Station, namely the federal National Ambient Air Quality Standards (“NAAQS”) for sulfur dioxide (“SO₂”) adopted by the Environmental Protection Agency (“EPA”) pursuant to section 109 of the federal Clean Air Act (“CAA”), 42 U.S.C. § 7409, and the Disposal of Coal Combustion Residuals (“CCR”) adopted by EPA under Subtitle D of the Resource Conservation and Recovery Act (“RCRA”). 42 U.S.C. §§ 6941 through 6949a. IPL’s Petersburg Station will comply with the EPA’s Effluent Limitation Guidelines (“ELG”) for Steam Electric Generation Stations as a result of the CCR Compliance Project for which approval is sought in this proceeding. The new Steam Electric Generating ELGs were adopted pursuant to sections 301 and 304, among others, of the federal Clean Water Act (“CWA”). 33 U.S.C. §§ 1311 and 1314. IPL also requested Commission approval of the Federally Mandated Costs and associated ratemaking and accounting treatment, including cost recovery in accordance with Ind. Code § 8-1-8.4-7 and authority to defer costs until such costs are reflected in rates. So as to allow the Commission to keep itself informed of the progress of the proposed Compliance Projects, if the Projects are approved, IPL proposed to submit progress reports and any revisions in the cost estimates as part of its ongoing Environmental Compliance Cost Recovery Adjustment (“ECCRA”) proceedings. In light of the Indiana Court of Appeals decision in *Citizens Action Coalition of Indiana, Inc. v. Southern Ind. Gas & Electric Co.*, 45 N.E.3d 483 (Ind. Ct. App. 2015), should the Commission determine the proposed NAAQS SO₂ control measures constitute clean coal technology (“CCT”), IPL requested the Commission to modify IPL’s CPCN under Ind. Code Ch. 8-1-8.7 or issue a new CPCN authorizing the installation and use of the proposed NAAQS Compliance Project.

4. **Summary of Evidence of the Parties.** Prior to the submission of the Settlement Agreement, IPL, the OUCC and Intervenors each submitted evidence in this Cause, which is summarized below.

A. IPL’s Case-in-Chief.

(1) **Compliance Project Overview and Costs.** Mr. Bradley D. Scott, IPL Senior Vice President, Power Supply, provided an overview of the Company and the environmental controls at Petersburg Station and described the projects that IPL proposes to undertake to meet the lower emission limits for SO₂ NAAQS and minimum criteria for CCR surface impoundments (“Compliance Projects”). Scott Direct at 2-11, 25-27. Mr. Scott explained how the control measures in the NAAQS Compliance Project were

selected. Scott Direct at 13-16. Mr. Scott described the analysis of alternative options to stabilize the ponds at Petersburg. Scott Direct at 26-28. He explained why the Compliance Projects are reasonable.

He discussed the projected federally mandated costs associated with the proposed Compliance Projects, the steps taken by IPL to verify the costs and described how the proposed Compliance Projects allow IPL to economically comply with the SO₂ NAAQS and CCR rules. Scott Direct at 3, 12-13, 17-24, 29-31. Mr. Scott clarified that the CCR Compliance Project in this filing is limited to the incremental requirements being created by the CCR Rule, which are described by IPL Witness Collier and are causing IPL to install the proposed bottom ash dewatering system. *Id.* at 3. He stated that IPL's compliance with other aspects of the CCR Rule will be addressed in other proceedings to the extent necessary or appropriate. Mr. Scott provided information as to whether the proposed Compliance Projects will extend the useful life of the Petersburg units, impact dispatch, the likelihood of success of the projects and whether the control measures constitute CCT. *Id.* at 3, 21-25, 31-32.

Mr. Scott also discussed the implementation schedule, explained how IPL will manage the Compliance Projects and discussed IPL's proposal to keep the Commission informed of the Projects' status during implementation. Scott Direct at 34-35. Finally, Mr. Scott explained how the public convenience and necessity will be served by the Compliance Projects. He explained continued investment in the Petersburg Station is economically justified. *Id.* at 33. He said the analysis presented by Ms. Soller shows the proposed Compliance Projects are the most reasonable least cost path forward for the Petersburg Station to comply with the NAAQS SO₂ emission limits and handle ash under the CCR Rule. *Id.* at 33. Mr. Scott added that as IPL continues to expand the diversity of its generation and demand-side management ("DSM")/energy efficiency ("EE") mix, it is important that the Petersburg units are able to continue to operate on coal and protect IPL's customers from potential price volatility in the gas markets. *Id.* at 34.

(2) Environmental Mandates. Ms. Angelique Collier, Director of Environmental Policy AES US Services, LLC, described the federally mandated environmental regulations associated with the proposed Compliance Projects at Petersburg Generating Station. She also described anticipated future environmental regulations and requirements.

(3) Economic Analysis. IPL Witness Joan M. Soller, PE, IPL Director of Resource Planning, presented the results of the economic analysis and modeling undertaken to evaluate IPL's options to comply at Petersburg plant with NAAQS-SO₂ and the CCR Rule requirement to cease sluicing to ash ponds. Ms. Soller discussed the methodology and available compliance options. Soller Direct at 4-6, 18-29. She explained that the ABB strategic planning production cost model was used to evaluate both Compliance Projects. Soller Direct at 6. She discussed how the software model was used to assess risk scenarios by using a probabilistic decision-tree analysis. She explained the "real option overlay" constructed in the decision tree structure to reflect potential avenues IPL may choose as means to adapt to how the scenario risks actually unfold. She said this flexibility can mitigate the risk of an adverse future scenario or take further advantage of opportunities for positive scenarios. Soller Direct at 6-9. Ms. Soller

discussed three categories of future risks for scenario modeling: 1) unit specific environmental risks; 2) plant wide risks; and 3) horizon risks. Soller Direct at 9-13. Ms. Soller also presented the scenario assumptions. Soller Direct at 13-17. Ms. Soller concluded that the modeling results indicate the overall reasonable least cost NAAQS-SO₂ compliance option for IPL's Petersburg plant is to retrofit the flue gas desulfurization ("FGD") control systems to improve operational integrity and reliability to avoid negative unit Equivalent Forced Outage Rate ("EFOR") impact. Soller Direct at 29. She added that the unit specific NAAQS-SO₂ costs are relatively low on a per megawatt ("MW") basis. *Id.* She testified that the results of the probabilistic scenario analysis identified the Petersburg NAAQS-SO₂ retrofit, inclusive of all four Petersburg units, to have the lowest Present Value Revenue Requirements ("PVRR"). She stated that the modeling results indicate the overall reasonable least cost option to comply with CCR requirements is to complete the Bottom Ash Compliance Project. *Id.*

Ms. Diane Crockett, ABB Principal Consultant, Advisors Consulting, described the ABB model and ABB Power Reference Case and explained the modeling she performed for IPL.

(4) Estimated Federally Mandated Costs. Mr. Scott testified that IPL expects the cost of the NAAQS Compliance Project to total approximately \$48 million (excluding AFUDC). Scott Direct at 12, 17-21; Petitioner's Attachment BDS-3. He stated that IPL estimates approximately \$2 million/year of additional ongoing operations and maintenance ("O&M") expense will be incurred. Scott Direct at 20-21. Mr. Scott testified that the estimated total cost of the CCR Compliance Project is \$46.9 million. Scott Direct at 29-31. He stated that it is not anticipated that there will be incrementally more O&M or a savings of O&M required to handle bottom ash using the Bottom Ash System compared to handling bottom ash through the current pond system. Scott Direct at 31. Mr. Scott discussed how both cost estimates were developed and testified that the estimated cost for each project is reasonable. Scott Direct at 21, 31.

Ms. Paula M. Guletsky, Sargent & Lundy, LLC ("S&L") Vice President and S&L's Senior Project Director for IPL, discussed: 1) S&L's NAAQS Study for IPL's Petersburg Station Units 1 through 4 for compliance with the State Implementation Plan ("SIP") SO₂ Limits imposed on IPL's Petersburg coal fired units, 2) the cost estimate for the capital control measures included in the NAAQS Compliance Project, and 3) the Petersburg CCR-Bottom Ash Compliance Project, including S&L's cost estimate.

(5) Accounting and Ratemaking. Mr. James L. Cutshaw, IPL Revenue Requirements Manager, addressed the Company's proposed accounting and ratemaking. He explained IPL's request for authority to timely recover eighty percent (80%) of the capital, operating, maintenance, depreciation, tax and financing costs (revenue requirement) incurred as a result of the Compliance Project in accordance with Ind. Code § 8-1-8.4-7(c)(1) through the Company's ECCRA. Cutshaw Direct at 5, 9-15. He testified that the Company seeks authority to create a regulatory asset for the remaining twenty percent (20%) of the capital, operating, maintenance, depreciation, tax and financing costs (revenue requirement) for the Compliance Project not timely recovered through the ECCRA, with carrying costs pursuant to Ind. Code § 8-1-8.4-7(c)(2), until such costs are reflected in the Company's retail electric rates; and authority to create

regulatory assets to record post-in-service AFUDC, both debt and equity, and deferred depreciation associated with the Compliance Project until such costs are reflected in the Company's retail electric rates or the ECCRA. Cutshaw Direct at 6-7, 9-16. Mr. Cutshaw detailed the Company's proposed continuation of AFUDC and the deferral of O&M and depreciation expense and discussed the Company's accounting procedures. *Id.* at 6-9, 11-14. Mr. Cutshaw explained how the Compliance Project will be incorporated into the ECCRA. *Id.* at 14. He testified that IPL will not reflect demolition costs in the construction costs upon which it will earn a return in the ECCRA and explained the methodology for determining the return component. Cutshaw Direct at 14-16. He testified that IPL will reflect the authorized return on property from the most recent ECCRA orders in determining the total authorized net operating income level to be utilized in the Ind. Code § 8-1-2-42(d)(3) test. Cutshaw Direct at 16-17. Mr. Cutshaw also discussed the calculation of the ECCRA factors. Cutshaw Direct at 16-17. Finally, Mr. Cutshaw presented the estimated rate and financial impact and concluded that the estimates show that while the requested treatment is significant for IPL from a financial perspective, the cost to the typical residential customer is not. Cutshaw Direct at 17-23.

B. OUCC's Case-in-Chief. Edward T. Rutter, Chief Technical Advisor in the OUCC Resource Planning and Communications ("RPC") Division, reviewed and analyzed the modeling results provided by IPL witness Soller, presented an estimated cost comparison and discussed business risks. Mr. Rutter asserted (pp. 5-6) that IPL's modeling results did not definitively support the proposed NAAQS and CCR Compliance Projects because not all model runs for the individual Petersburg units support the retrofit option as the least cost option and because the numerical differences in the least cost results were "not significant enough". Mr. Rutter recommended (at 6-7, 12) that IPL submit additional modeling runs that encompass the risk resulting from a lack of fuel diversity and the risk and probability of changing environmental regulations. Mr. Rutter also presented the OUCC's recommendations that the Commission defer a recommendation on IPL's proposal until ninety days after IPL files its 2016 Integrated Resource Plan ("IRP") and require additional analysis. *Id.* at 8. Finally, Mr. Rutter (pp. 9-12) described a comparative cost analysis he performed which he asserted supports his recommendations.

Anthony A. Alvarez, Utility Analyst for the OUCC's RPC division, discussed his analysis of the NAAQS "Emergency" projects, and the CCR dry bottom ash handling system as well as the technical and cost support of these projects. Mr. Alvarez testified (p. 3) that he reviewed IPL's NAAQS Compliance Project and identified which systems and equipment were "essential" and which were "non-essential" to meet IPL's compliance requirement. He recommended the Commission deny the Electrical Switchgear for the Units 1 and 2; the Emergency Limestone Conveyance; and the Emergency Ball Mill components as "non-essential" projects. Alvarez Direct at 12-18, 23. For the "essential" projects, he recommended (p. 4) the Commission cap the cost of each project at its current cost estimate and, if IPL exceeds its estimated cost for any of the projects, the additional cost be deferred without pre-approval or carrying costs until IPL's next rate case, where the prudence of the excess costs can be determined.

Mr. Alvarez (pp. 21-23) discussed the geological conditions at Petersburg and stated that IPL does not reasonably anticipate that it will be able to successfully demonstrate compliance with the structural stability requirements at Petersburg. Mr. Alvarez recommended the Commission cap the cost of the Dry Bottom Ash Handling project at its current cost estimate and not allow IPL to recover any additional O&M cost associated with the operation of the equipment once installed and in-service. Alvarez Direct at 24. He recommended that should IPL exceed its estimated cost for any of the above projects, that the additional cost be deferred, without pre-approval or carrying costs, until IPL's next rate case, when the issue of the prudence of the excess costs can be determined. Alvarez Direct at 24.

Cynthia M. Armstrong, Senior Utility Analyst in the OUCC's Electric Division, presented the OUCC's review of IPL's proposed environmental compliance plans and specifically discussed the 2010 primary SO₂ NAAQS revision and the CCR Rule driving IPL's stated need for the NAAQS and CCR Compliance Projects at Petersburg. She discussed the need for the Compliance Projects. Armstrong Direct at 5-6, 19. More specifically, Ms. Armstrong discussed the historical performance of the FGD systems at Petersburg and stated that it is difficult to understand why IPL would be unable to meet the new emission limits even in the absence of the requested projects. *Id.* at 5-7. Additionally, Ms. Armstrong explained other environmental regulations and concerns that may impact IPL's generating facilities in the future. She expressed a concern as to whether IPL had fully accounted for future revisions to ozone NAAQS and strengthened NO_x emission standards and added that future SO₂ and particulate matter emission restrictions could require additional emission reductions for the facility. Armstrong Direct at 25-26. Based on her review of the CCR Rule's structural stability requirements and the ELG Rule, she testified that the CCR Compliance Project is necessary. Armstrong Direct at 11-19. Ms. Armstrong joined OUCC Witness Rutter's recommendation that the Commission withhold approval of the projects until IPL provides its updated IRP and the OUCC and other interested parties can review and comment on the updated IRP. She echoed Mr. Alvarez's recommendation that only the NAAQS projects specified by Mr. Alvarez and the CCR Compliance Projects be approved. Armstrong Direct at 28.

Mr. Wes R. Blakley, Senior Utility Analyst in the OUCC's Electric Division, rendered an opinion on IPL's request for ratemaking and accounting treatment for the proposed Compliance Projects and recovery through its ECCRA. Mr. Blakley (pp. 2-3) agreed with IPL's proposed ratemaking and accounting treatment for the NAAQS and CCR Compliance Projects and stated that it is reasonable to allow these investments to be recovered in the ECCRA because they are federally mandated costs that will run in conjunction with the CCT equipment. Mr. Blakley recommended that: 1) IPL's regulatory assets should be grossed up for income taxes at the time of its next base rate case and not during the deferral periods; and 2) the Commission not determine the type and manner of the rate recovery for the regulatory assets in this Cause, but make that determination in Petitioner's next base rate case proceeding. Blakley Direct at 6.

C. Industrial Group Case-in-Chief. Nicholas Phillips, Jr., Managing Principal of Brubaker & Associates, Inc., testified on the Industrial Group's behalf. Mr. Phillips reviewed IPL's proposal and recommended the establishment of distinct ECCRA tracker charges for each rate rather than broad rate class groupings. Mr. Phillips stated that IPL should use the cost allocation and the development of resulting tracker charges based upon the approved cost of service study in Cause No. 44576, IPL's most recent rate

case. Phillips Direct at 4. He testified that IPL's use of aggregated rate class groupings is based upon a stale and outdated methodology and is not cost based. *Id.* at 5. He also addressed the appropriateness of using the ECCRA mechanism as currently configured to recover costs as requested by IPL. Mr. Phillips also proposed the establishment of certain ratepayer protections including a three-year limitation on carrying charges eligible for recovery. Phillips at 8-9.

D. HEC Case-in-Chief. Dr. Indra N. Frank, a self-employed environmental health consultant and HEC Director of Environmental Health and Water Policy, evaluated IPL's CCR project and looked at the proposal here as well as its consideration against a timeline of past and likely future environmental requirements and implications. Frank Direct at 3. She recommended that the Commission take into account all of the costs associated with the more than one million tons of coal combustion residuals generated at the Petersburg Generating Station each year. She recommended denying the proposal and investing in cleaner forms of energy. She also claimed that IPL did not meet the requirement in Ind. Code § 8-1-8.4-6(b)(1)(D). Frank Direct at 3.

E. Joint Intervenor Case-in-Chief. David A. Schlissel, President of Schlissel Technical Consulting, Inc., assessed the economic viability of IPL's proposed environmental upgrades at Petersburg Units 1-4. He stated that the results of IPL's analysis are driven by the extremely optimistic, unreasonable assumption that the future will be very different (and much more favorable to the economics of coal-fired generation) than the recent past. He stated that IPL's analysis of the proposed NAAQS and CCR environmental upgrades is biased by its failure to consider the potential for renewable wind and solar photovoltaic ("PV") resources and energy efficiency to be significant contributors as part of a portfolio of alternatives for replacing Petersburg's energy and capacity. Schlissel Direct at 2-3. Mr. Schlissel questioned the natural gas, energy and capacity prices in IPL's economic analysis. Schlissel Direct at 4-24, 33-40. He also discussed Petersburg's capacity factors and operating performance. *Id.* at 24-33. Mr. Schlissel testified that the Commission should not give any weight to the economic analysis presented by IPL Witness Soller. Schlissel Direct at 40-41. Mr. Schlissel presented his own economic analysis and testified that the Commission should reject the Company's request for the CPCN and instead require IPL to begin planning for the retirement of Petersburg Units 1-4 through its current IRP process. *Id.* at 40-49. Mr. Schlissel added that the Commission should require the Company to evaluate the economics of alternatives to Petersburg's continued operation in the context of its ongoing IRP analysis. *Id.* at 3. He testified that because IPL is basing its economic analyses on such a drastic change in future circumstances from what we have seen in recent years, that if the Company is allowed to undertake the proposed NAAQS and CCR environmental upgrades, it should be required to bear some of the risks that the revenues it receives from selling Petersburg's energy and capacity into the Midcontinent Independent System Operator ("MISO") markets do not fully recover its future costs of producing power at the plant. *Id.* at 49. He testified that the Commission should adopt a mechanism so that IPL (and its owner) would bear the risks that its projections in this proceeding are not accurate. *Id.* at 49. More specifically, he stated that in any year in which the total revenues from selling Petersburg's energy, capacity and auxiliary services into the MISO markets do not fully cover the total costs of producing power at

Petersburg (including fuel, non-fuel O&M (both variable and fixed), capital expenditures and emissions costs, including the costs of CO₂ emissions when prices are set), the Company, not the ratepayers, would bear the net shortfall. *Id.* In addition, Mr. Schlissel proposed the Commission should adopt the condition on granting the CPCN that it adopted in Cause 44242. He stated specifically, the Commission found in the Order in that Cause (at page 36) that, “in the event that [Harding Street Station Unit 7] is taken out of service . . . IPL should not continue to collect depreciation expense for the [Harding Street Station Unit 7] clean energy projects that are . . . approved in this Order.” *Id.* at 50.

F. IPL’s Rebuttal

(1) OUCC Concerns. Mr. Scott responded to Mr. Alvarez’s concerns that some of the components in the NAAQS Compliance Project are “non-essential” (Scott Rebuttal at 2-3); addressed IPL’s confidence in the cost estimate and the calculation of the contingency (Scott Rebuttal at 2-4); and explained why a cap on the individual project components would inhibit flexibility and why the statutory process reasonably addresses the potential for increases in the project cost estimate. Scott Rebuttal at 4-6. Mr. Scott clarified the costs included in the Backup Dewatering Filter component (Scott Rebuttal at 6). He explained the relationship between the Limestone Conveyor Fire suppression system and the “belt bearing” and testified that given the relatively modest investment associated with this project, its benefits to customers and its co-benefit of improving IPL’s safety system, it should be approved. Scott Rebuttal at 7-8.

Mr. Scott clarified the Electric Switchgear project in light of the concerns raised by Mr. Alvarez and explained that the Electric Switchgear is not intended to serve other loads than those required by the Petersburg Unit 1 and Unit 2 FGD systems. Scott Rebuttal at 8-10. Among other things, he added that if the existing transformer fails, both Petersburg Units 1 and 2 would need to be removed from service until a new transformer could be procured and installed (estimated to be 180 days). Scott Rebuttal at 10. He explained that the new backup switchgear will avoid the unit outage and market purchases that would otherwise occur if the existing switchgear failed. He concluded that given the longer lead-time associated with replacing the switchgear in the event of a failure, this project provides important reliability benefits and should be approved. Scott Rebuttal at 10-11.

Mr. Scott also responded to Mr. Alvarez’s assertions regarding the Emergency Limestone Conveyance component of the NAAQS Project. He explained that there is no new building proposed for this component and testified that this is a cost-effective solution that should be approved. Scott Rebuttal at 11.

Mr. Scott also addressed the OUCC’s concerns regarding the Emergency Ball Mill Component of the project. Among other things, he clarified the scope of work, explained that a new building adjacent to the existing limestone preparation building is necessary because the design of the ball mill is for indoor operation and discussed why he disagreed with Mr. Alvarez’s contention that this project component is non-essential. Scott Rebuttal at 12-17.

In response to Ms. Armstrong’s discussion of the need for the NAAQS Compliance Project, Mr. Scott pointed out that while IPL is aware that the Company can meet the new limits

with the existing equipment at times, the concern (and the core of IPL's case) is that IPL needs to meet the new limits continuously because when IPL cannot, it would be required to remove the generating unit from service. He added that with the exception of the DBA Project, the requested projects are all aimed at improving the reliability of the scrubber and minimizing their impact to EFOR. Scott Rebuttal at 19-20.

In response to Ms. Armstrong's testimony regarding ozone NAAQS, strengthened NO_x emission standards and future SO₂ and particulate matter emission restrictions, Ms. Collier testified that the simple payback period for the NAAQS Compliance Project is less than two years and IPL does not anticipate being required to install additional controls for NAAQS or New Source Review ("NSR") beyond those included in the economic analysis related to this proceeding, and certainly does not expect such requirements during the two year payback period. Collier Rebuttal at 4. She explained that IPL has made reasonable, conservative assumptions for future environmental costs based on the information currently available and testified that the magnitude of each of these costs, and whether they will actually materialize in the future, remains unknown. Collier Rebuttal at 4-5.

Mr. Scott testified that a special cap on the CCR Compliance costs is not warranted because the governing statute already addresses what happens in the event project costs exceed the projected costs approved by the Commission. He said the Company agrees that it is reasonable to require the Company to justify increases in the project estimate as provided in the governing statute. Scott Rebuttal at 17. He explained that IPL has been utilizing an Engineering Procurement and Construction ("EPC") methodology for most of the environmental compliance projects approved by the Commission over the past five years. He stated that the structure of an EPC contract does not provide line by line detail for the entire scope of work but rather categories of spend for the various aspects of the project (labor, materials, mobilization, engineering, administrative costs, etc.). Scott Rebuttal at 17-18. He clarified that IPL does not anticipate that there will be incrementally more O&M or a savings of O&M to handle bottom ash using the Bottom Ash System compared to handling bottom ash through the current pond system. *Id.* at 18. Mr. Cutshaw added that he did not see the necessity of an upfront blanket limitation regarding carrying costs should actual costs exceed the Commission approved projected costs. Cutshaw Rebuttal at 7-8.

Ms. Collier testified that the preliminary structural stability analysis Ms. Armstrong reviewed is the same as the final analysis published after the OUCC filed its case-in-chief. Collier Rebuttal at 2. She added that this analysis confirms the need for the CCR Compliance Project. Collier Rebuttal at 2.

Ms. Soller, Mr. Scott and Ms. Collier explained why a delay to wait on the filing of the new IRP is unwarranted, creates uncertainty, increases risk and would adversely affect the Company's ability to cost effectively comply with the CCR requirements addressed by the proposed Compliance Project. Soller Rebuttal at 3, 10; Scott Rebuttal at 18-19; Collier Rebuttal at 2-3.

Ms. Soller explained that Mr. Rutter's review of IPL's modeling does not recognize the robustness of IPL's probabilistic analysis in this case. Soller Rebuttal at 3. She added that his analysis of options to replace Petersburg generation does not warrant rejection of IPL's proposal.

Id. She explained that where, as here, the analysis presented by IPL includes a wide range of sensitivities and scenarios, one would not expect all model runs to identify the same option as least cost. She testified that IPL's analysis evaluates a broad range of plausible risks with varying magnitudes and probabilities and assesses the potential ramifications of those risks and is the same type of economic analysis used in IPL's NPDES compliance case. *Id.* She said it is not surprising that in a handful of scenarios the retrofit option is not the least cost option and added that this underscores the robustness of the analysis performed by IPL. *Id.* at 3-4. Ms. Soller stated that the important takeaway, which is missed by focusing on specific scenarios, is that the economic analyses indicate that the Compliance Projects are the reasonable least cost option based upon the aggregate expected value of all scenarios. *Id.* at 4. Ms. Soller also disagreed that the numerical differences in the PVRR results are not significant enough, explaining that Attachment JMS-2 includes overlapping costs to reflect the true value of individual measures on unit viability and simply summing these PVRR values overstates the impact of the proposed work and understates the true difference in costs between the alternatives modeled. Soller Rebuttal at 4. She also explained that comparing percentage variances does not recognize the significant differences in actual costs (*i.e.* PVRR dollars). *Id.* at 4-5.

Ms. Soller explained that the high gas cost inputs in IPL's modeling serve as a proxy for supply and demand changes. She said there is no need to assess the risk associated with fuel source diversity or fuel source availability in this proceeding because such risk would only serve to make IPL's Compliance Projects even more attractive. *Id.* at 6. Ms. Soller stated that in discovery, Mr. Rutter acknowledged that his discussion of these issues does not suggest they would negatively impact the cost-effectiveness of IPL's NAAQS and CCR Compliance Projects but could impact the PVRR for the two gas options. She stated that IPL agrees the issues with natural gas delivery could increase costs, which would make the Compliance Projects more attractive. *Id.*

With respect to the probability analysis, Ms. Soller explained that IPL addressed potential environmental rule changes by explicitly assigning probabilities to the costs of future environmental regulations. Ms. Soller further addressed Mr. Rutter's analysis (Soller Rebuttal at 7-8) and explained that the Company's proposed projects are consistent with IPL's most recent IRP. Soller Rebuttal at 8-10.

She added that the 2016 IRP modeling results supporting the continued economic operation of Petersburg are available on IPL's public website, and had been discussed in public meetings in April, June, August and September 2016. *Id.* She said the estimated Petersburg unit retirement dates based on the end of each unit's useful life have not changed between the 2014 and 2016 IRP, which are the salient data points for the Compliance Projects. She stated that IPL was not asked to consider varying inputs for natural gas prices or changes in future environmental costs during the IRP stakeholder process. *Id.* at 9-10. Ms. Soller also explained why additional model runs or a delay in this proceeding are not needed (*Id.* at 10) and addressed the comparative cost spreadsheet analysis Mr. Rutter presented. *Id.* at 11-15. She explained that in discovery, the OUCC stated that Mr. Rutter's analysis was developed as an exercise to assess the reasonability of various options in light of IPL's request in this Cause and was not developed to consider any one course of action by IPL. Soller Rebuttal at 12.

Ms. Soller also addressed resources in the MISO footprint and explained that there are insufficient resources within Zone 6 (where IPL is located) to replace Petersburg. Soller Rebuttal at 15-16. She stated that resource imports from other zones are allowable but subject to price risk and added that price risk would occur due to the lack of IPL owned “steel in the ground” with associated fixed costs embedded in retail rates as well as market price variances from zone to zone. *Id.* She added that imported capacity resources do not have the physical reliability hedge that resources within the zone possess. *Id.* at 16.

Mr. Soller concluded that the delay suggested by Mr. Rutter is not necessary and that, as the OUCC concedes, Mr. Rutter’s comparative cost analysis was not developed to consider any one course of action by IPL. She also concluded that IPL agrees with Mr. Rutter’s qualitative assessment that potential natural gas supply and demand changes and fuel diversity benefits may improve the cost effectiveness of the Compliance Projects. *Id.* at 16.

In response to Mr. Blakley’s summary of IPL’s proposal regarding its ECCRA and federally mandated costs, Mr. Cutshaw clarified that the proposal comes from the governing statute and the implementation IPL seeks is the same accounting as approved for the NPDES Compliance Project in Cause No. 44540. Cutshaw Rebuttal at 2-4. Mr. Cutshaw disagreed with Mr. Blakley’s concern regarding the recovery of federal income taxes and explained that IPL does not recover income taxes on the same earnings twice. Cutshaw Rebuttal at 4-5. Mr. Cutshaw also explained why he disagreed with Mr. Blakley’s other accounting and ratemaking concerns and stated that the proposal approved in Cause No. 44540 is the same as IPL is making in this proceeding. Cutshaw Rebuttal at 6.

Mr. Cutshaw responded favorably to Mr. Blakley’s suggestion that the parties try to reach an agreement to include the NAAQS and CCR Compliance Projects in IPL’s next rate case because such an agreement would minimize costs. Cutshaw Rebuttal at 6-7. Mr. Cutshaw noted the challenges in achieving such an agreement. *Id.* Mr. Cutshaw testified that while the costs of O&M for the ball mill are embedded in IPL’s base rates, beginning with ECR-27, IPL is reflecting a credit for the reduction in O&M costs at Harding Street, including O&M costs of the ball mill, due to the conversion to natural gas. Thus, he said there is no double counting of O&M costs associated with the ball mill and therefore no need for the Commission to act on Mr. Alvarez’s recommendation. Cutshaw Rebuttal at 7.

(2) Industrial Group. Mr. Cutshaw disagreed with Mr. Phillips’ recommendation regarding the allocation of ECCRA costs and explained that the methodology proposed here is the same as reflected in IPL’s tariff approved in IPL’s last rate case. Cutshaw Rebuttal at 8-9. He added that IPL expects to soon file another general rate case and that is the most appropriate venue for the Commission to consider Mr. Phillips’ proposed change. *Id.* Mr. Cutshaw also explained that IPL’s ECCRA filing already provides project by project cost information and includes detailed information. He testified that IPL believes that the current presentation of costs provides complete transparency which would allow an interested party to breakdown the ECCRA factors by individual project if so desired. Cutshaw Rebuttal at 9-10. Mr. Cutshaw explained that Mr. Phillips’ proposed limitation on carrying costs would penalize IPL by requiring the cessation of carrying costs on the Compliance Projects before the anticipated date they would be included in basic rates and added that he was not aware of any such

requirement being imposed in the statute or by the Commission in prior cases. Cutshaw Rebuttal at 10-11.

(3) HEC Concerns -- CCR Project. Mr. Scott and Ms. Soller disagreed with Dr. Frank's statement that IPL did not consider alternative plans. They discussed the evaluation of alternatives and pointed out where the information was provided in IPL's case-in-chief. Scott Rebuttal at 20-21; Soller Rebuttal at 32-37.

Ms. Collier stated Dr. Frank does not address the NAAQS Compliance Project and does not specifically challenge IPL's Cost estimate for the CCR Compliance Project. Collier Rebuttal at 5. Ms. Collier testified that much of Dr. Frank's testimony speculates about future potential environmental costs. She said Dr. Frank does not quantify these potential costs, and her speculation is not grounds to reject IPL's proposal. Ms. Collier added that, as OUCC witness Armstrong acknowledged, IPL has already accounted for future environmental costs in its economic analysis. Collier Rebuttal at 5-6. She added that many of the potential costs mentioned by Dr. Frank may not even be applicable to IPL, or would be incurred by IPL regardless of the decision made in this proceeding. *Id.* at 6. With respect to the potential for groundwater impacts at Petersburg, Ms. Collier testified that these concerns are premature at this time and do not affect the necessity and reasonableness of the Compliance Projects. *Id.* at 6. Ms. Collier stated that IPL will address these costs when appropriate or necessary, and IPL will comply with all applicable environmental regulations. *Id.* Ms. Collier further responded to Dr. Frank's concerns and showed that taken together, Dr. Frank's concerns are not a reason for the Commission to be concerned in this proceeding. *Id.* at 6-11.

In response to Dr. Frank (and Mr. Rutter) Ms. Soller stated that waiting to decide the future of Petersburg is not a good option in light of the pending compliance date, which requires Petersburg operations to effectively cease if the bottom ash dewatering system is not placed in service prior to April 2018. Soller Rebuttal at 10-11, 37-38. She added that other CCR requirements, including those related to impoundment closure and the associated cost of compliance, will be incurred regardless of the outcome of this case and explained that the economic benefits of the project to IPL's customers support moving forward with the projects in a timely manner. *Id.* at 10-11.

Ms. Soller testified that IPL's analysis did not assume that a compliance decision made today is a commitment for the remaining planning life of the unit. Soller Rebuttal at 32. She stated the Compliance Projects are the overall reasonable least cost option to comply with NAAQS-SO₂ and near-term CCR requirements even if a subsequent decision is made to retire or cease operating the Petersburg units as coal-fired units. She explained that IPL provided a wealth of detail regarding the costs associated with the CCR Project, both in testimony and in supporting workpapers.

Finally, Ms. Soller summarized how the Compliance Projects align with IPL's IRP and concluded that IPL's Compliance Projects are the economic options to provide reasonable least cost service to customers. Soller Rebuttal at 38-39.

(4) II Concerns. Mr. Scott disagreed with Mr. Schlissel's concerns about the impact of aging on the performance of the Petersburg units. Scott Rebuttal at

20. He explained that Mr. Schlissel's source is outdated and asset management strategies have since been employed to continue to improve plant performance. He added that IPL's asset life cycle planning proactively includes continuous improvements and explained that following an uptick in EFOR at the Petersburg units between 2009 and 2011, IPL worked to identify the sources of the issues affecting operating performance. Mr. Scott testified that over the past five years, IPL has addressed these issues through the major overhaul outages on each of the Petersburg units beginning in 2011 with Petersburg Unit 1 and ending with Petersburg Unit 3 in 2015. He said that in 2016, IPL is forecasting the Petersburg EFOR to be less than 4% which will be one of the lowest annual EFOR rates in its history. Scott Rebuttal at 20.

Ms. Soller showed there are a number of analytical errors that pervade Mr. Schlissel's testimony and undermine his conclusions. Soller Rebuttal at 17. By way of example, she stated that throughout his testimony Mr. Schlissel presents an analysis of IPL's model results based on the output of a single endpoint for a single unit and tries to extrapolate to the other units. She said this produces inaccurate findings because each unit is only optimized in that respective unit's model runs. She added that the proper approach would be to look at the weighted probabilistic average value across all the endpoints, as IPL did. She explained that when viewed correctly, IPL's modeling results do not support the conclusions drawn by Mr. Schlissel. Soller Rebuttal at 17.

Ms. Soller reiterated that there are differences between a portfolio analysis conducted in an IRP and the project analysis performed in this proceeding. She said wind and solar assets are included in the IRP modeling as resource replacement options with declining cost curves. She stated thus the potential for these resources to be significant contributors to IPL's portfolio has already been considered and that energy efficiency has also already been considered in IPL's analysis through the IRP. Soller Rebuttal at 18. She stated that these efforts depict the consideration of "cleaner forms of energy" to comply with the CCR Rule and added that IPL also considered natural gas refueling or replacement as a "cleaner" resource than coal fired generation. Soller Rebuttal at 18.

Ms. Soller explained that, while the natural gas prices used in IPL's analysis are higher than recent actual prices, they reflect a long-term view of a range of potential outcomes to reflect possible risk, are based on upon a fundamental model of the Eastern Interconnect and are reasonable. Soller Rebuttal at 18-20. She explained that using actual recent costs and forward curves as described by Mr. Schlissel would result in a much less robust assessment of potential fuel cost risk. She said forward curves are excellent tools for short-term decision making such as market offer behavior; however they are not intended to be used for long-term planning purposes. She added that forward curves rely upon bids and offers which may reflect minimal activity, where fundamental forecasts include projected market impacts and robust correlation modeling. She explained that in other words, forward curves represent a "snapshot" in time that is not suitable for the long-term analysis relevant here. *Id.* at 19.

With respect to Mr. Schlissel's statements regarding renewable energy, Ms. Soller explained that Mr. Schlissel's numbers reflect various levels of generation proposed throughout the United States, not solely in the MISO footprint and also ignore the limited capacity credits offered by these types of resources. Soller Rebuttal at 20-21. She stated that the ABB

fundamental forecasts account for proposed resource additions including wind and solar and that IPL's IRP analysis considered the potential role for wind and solar and concluded that a combined cycle gas turbine ("CCGT") was the most cost-effective resource addition to replace Petersburg. *Id.* at 21.

Ms. Soller explained that much like relying on forward curves in lieu of a more fundamental analysis, Mr. Schlissel's presentation of partial year data for 2016 does not reasonably depict long-term projections of Petersburg's expected operating performance. She stated that IPL does not dispute the point raised by Mr. Schlissel that coal generation was displaced by gas-fired generation during the recent low gas price phenomenon, which lowered costs for customers. Soller Rebuttal at 21-22. She said the weighted probabilistic modeling results indicate the Compliance Projects are economic based on projected dispatch of the units over the study period. *Id.* at 22.

Ms. Soller explained why Mr. Schlissel's comparison of IPL's projected Petersburg unit-specific operating performance to actual historical performance is not accurate. She stated that Mr. Schlissel selected one sole endpoint out of 32 options for one Petersburg unit and then inaccurately summed unit capacity factors. She testified that the capacity factors for each unit are only optimized in that respective unit's model results. *Id.* at 22-23. She showed that IPL is not projecting dramatically different projected Petersburg plant performance after the NAAQS and CCR Compliance Projects are completed and Mr. Schlissel's claim otherwise should be rejected. *Id.* at 23.

Ms. Soller also showed that Mr. Schlissel's comparison of net revenues from the Petersburg Plant with and without capacity revenues is not accurate and that Petersburg remains an economic resource with the Compliance Project costs. *Id.* at 23-24. She showed that the projected capacity prices used in IPL's analysis are not too high as asserted by Mr. Schlissel. Soller Rebuttal at 23-26.

Ms. Soller disagreed with Mr. Schlissel's recommendation that IPL's economic analyses be given no weight in this proceeding and explained that IPL's analyses are based upon risks and uncertainties with "off-ramps" to reflect actual business operating decisions options between now and whenever the Petersburg units are retired. She stated that Mr. Schlissel's criticisms of IPL's analyses are flawed and should be rejected. Soller Rebuttal at 26-27.

Ms. Soller testified that Mr. Schlissel prepared a simplified analysis of costs and assumptions cherry-picked from the data presented in this case with unsupported escalation factors and estimated fuel and energy market prices based solely on forward curves without the dynamic nature of economic dispatch or future carbon impacts. Soller Rebuttal at 27-28.

She explained that Mr. Schlissel's use of forward curves is not as robust as long-term planning requires before making irretrievable decisions to retire valuable assets. Soller Rebuttal at 27. She said he inferred escalated O&M costs based on historic changes on an annual percentage basis. She said neither utility operations nor ratemaking are based upon these principles. She stated that the historical changes in O&M are due to control equipment required by environmental regulations such as the Mercury and Air Toxics Standards ("MATS") and National Pollutant Discharge Elimination System ("NPDES") and future estimated impacts are

included in IPL's model as shown in her workpaper JMS-1. Soller Rebuttal at 27. She said Mr. Schlissel's analysis ignores this and assumes hypothetical annual increases. In addition, she explained that his overstated fuel costs were escalated annually instead of being based on a natural gas forecast or coal forecast provided by IPL based on executed contracts. She stated that his hypothetical production cost increases of +5% or +10% are not explained and do not reflect future worlds based on specific potential changes. She said, therefore, the resultant net present value numbers presented on page 43 of Mr. Schlissel's testimony are not substantiated. She concluded that these substantial flaws in Mr. Schlissel's analysis warrant its rejection. Soller Rebuttal at 27-28.

Ms. Soller testified that Mr. Schlissel's assertion regarding excess capacity ignores the fact that plant investment is often "lumpy" in order to achieve economies of scale that would otherwise not be captured. Soller Rebuttal at 28. She said the reserve margins resulting from IRP analyses include Commission-approved resource changes, including the Eagle Valley CCGT approved in Cause No. 44339. She stated that the Commission found that IPL's utility-specific plan, including the Eagle Valley CCGT and the Harding Street Refueling "is a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers." 44339 Order, at 28, 39. She said the Eagle Valley CCGT project is not the subject of this proceeding and the treatment of off-system sales of capacity and energy from the Eagle Valley CCGT will be addressed in IPL's subsequent rate case where the CCGT is reflected in rate base. *Id.* at 28.

She showed that the cost of replacing any or all of the Petersburg units with market purchases of energy or capacity could be exorbitant. *Id.* She refuted Mr. Schlissel's assertions that Petersburg could be replaced in the near future with wind and energy efficiency and showed that the level of energy and wind underlying his contention is inconsistent with IPL's 2014 and 2016 IRP analysis. *Id.* at 29-30.

Ms. Soller found it odd that while Mr. Schlissel did not include carbon costs in his own analysis, he opined about the need to reduce carbon emissions. She testified that as a leader among Indiana utilities, IPL has dramatically changed its resource portfolio over the last 10 years by reducing coal capacity reliance from 79% to 44% from 2007 to 2017. Soller Rebuttal at 30. She said IPL presented multiple comparative carbon metrics for each scenario in the 2016 IRP public meetings and added that IPL welcomes continued stakeholder discussion related to this topic, but this is not a reason to reject the proposal in this proceeding. Soller Rebuttal at 30.

Finally, Ms. Soller explained why the Commission should not adopt Mr. Schlissel's recommendation regarding a special ratemaking mechanism so that IPL bears risk if its projections are not accurate. Soller Rebuttal at 32. She testified that projections are established to inform stakeholders of possible risks and opportunities given a range of uncertain futures. She said, as such, they are seldom 100% correct. She stated that a utility's decisions must be judged based upon what was known or knowable at the time those decisions were made by the utility. Soller Rebuttal at 31. She said Mr. Schlissel's recommendation seeks the Commission to use hindsight and assess the outcome, not the decisions or actions. She stated that this approach is not consistent with the pre-approval process established by our General Assembly. She said the pre-approval process is reasonable and consistent with the regulatory policy that one cannot judge the prudence of a course of action based on how it turned out, as opposed to its reasonableness under the circumstances when the course of action was adopted. She said Mr.

Schlissel's recommendation amounts to a "wait and see" approach to determining prudence and cost recovery, which is contrary to sound regulatory policy and the cost recovery framework provided in the Federally Mandated Cost statute. *Id.* at 30-31. She concluded that Mr. Schlissel's criticisms of IPL's analysis are unfounded and are contradicted by IPL's modeling results. She further concluded that his own analysis is simplistic and flawed and should be rejected. *Id.* at 31.

Mr. Cutshaw added that the Order in Cause No. 44242 was addressed to the circumstances in that proceeding. Cutshaw Rebuttal at 11. He said that decision does not justify the extraordinary conditions Mr. Schlissel recommends here. He explained that the Commission's Order in Cause No. 44242 is addressed to the ECCRA and speaks of a cessation of the collection of depreciation expense through the ECCRA in the event HSS 7 is removed from service prior to the full depreciation of the MATS retrofit project (which was subsequently replaced with the unit refueling authorized by the Commission in Cause No. 44540). *Id.* He stated that the 44242 Order does not direct that no form of recovery of prudently-incurred costs should be permitted in the event of a unit retirement. Mr. Cutshaw explained that Mr. Schlissel's broad recommendation fails to recognize that there is a significant difference between ceasing the incremental recovery of the MATS project depreciation expense through the ECCRA mechanism and the rejection of the usual treatment of undepreciated capital investment in the ratemaking process upon the retirement of a unit of property. He said the accounting and ratemaking proposal in this proceeding is addressed in the 80% timely / 20% deferral cost recovery authorized in the statute. Cutshaw Rebuttal at 12. He said if the Compliance Project is retired, IPL will no longer record ongoing depreciation expense on the retired property. He said if there is no recorded depreciation expense, there would be no depreciation expense to timely recover through the ECCRA and no ongoing depreciation expense to defer. Mr. Cutshaw testified that to the extent Mr. Schlissel seeks a Commission order that goes beyond the 80% timely / 20% deferral cost recovery, that proposal should be denied as it seeks to prejudice the future. He said it is well established that the remaining book value of a retired unit of used and useful utility property is recognizable in the traditional ratemaking process through the setting of depreciation rates. He added that the recovery of prudently-incurred costs, either through rate base (which involves depreciation and return) or through project cost amortization (which involves expensing the project costs and carrying costs) represents a fundamental element of sound regulatory policy. Thus, Mr. Cutshaw concluded that the Commission should not adopt Mr. Schlissel's recommendation. Cutshaw Rebuttal at 12.

5. **Overview of Settlement Agreement and Supporting Testimony.** The Settlement Agreement entered into by and among IPL, Industrial Group and the OUCC ("Settling Parties") is attached hereto and incorporated herein by reference. The Settlement Agreement is not unanimous, as the Joint Intervenors and HEC have not joined. We summarize the testimony supporting and opposing the Settlement Agreement below.

A. **Settling Parties.** OUCC witness Ron Keen, Director of the OUCC RPC Division, described the facts and circumstances that led to the Settlement. Mr. Cutshaw and Mr. Scott also provided overview and background discussion as to how the settlement terms related to the parties' litigation positions.

(1) Section A of the Settlement Agreement. Mr. Keen and Mr. Cutshaw explained that in Section A1 of the Settlement Agreement the Settling Parties agreed to issuance by the Commission of a CPCN under Ind. Code § 8-1-8.4-7 for each Compliance Project subject to the conditions set forth in the Settlement Agreement, which we further discuss below. Mr. Cutshaw added that this section also addresses the cost estimates for these projects. Cutshaw Settlement at 2-5.

Mr. Scott and Mr. Cutshaw explained that the NAAQS Compliance Project included a proposal to move a ball mill from Harding Street Station to Petersburg Generating Station. Scott Settlement at 2-3; Cutshaw Settlement at 4-5. They explained that the OUCC challenged whether this component was essential to NAAQS SO₂ Compliance. Mr. Keen, Mr. Scott and Mr. Cutshaw stated that Sections A1a through d of the Settlement Agreement concern the Settling Parties' agreement to withdraw the Emergency Ball Mill component from the NAAQS Compliance Project. They stated that the withdrawal does not foreclose IPL from making future requests involving this ball mill, nor does it limit the Settling Parties' position regarding any such future requests. *Id.*; Keen Settlement at 3.

Mr. Keen explained that Section A1b provides that purchased power costs related to a Petersburg generating unit derate and outage that is demonstrated to be due solely to the failure of an existing ball mill will be subject to a rebuttable presumption that such costs are reasonable and recoverable in IPL's fuel adjustment clause proceedings. Keen Settlement at 4. Mr. Scott testified that under the new NAAQS SO₂ limits IPL will not be able to operate a Petersburg unit without the FGD in service. He said Section A1b recognizes that the Emergency Ball Mill component of the NAAQS Compliance Project was proposed to avoid a unit derate or outage that would result from a FGD system failure due to insufficient quantities of processed limestone. He said that if there is a unit derate or outage due to the failure of an existing ball mill, IPL may need to purchase power from the market. Scott Settlement at 2-3. IPL Witness Cutshaw explained that Section A1b recognizes the potential for a ball mill failure to cause a Petersburg unit derate or outage and addresses the recovery of associated costs through IPL's fuel adjustment clause proceedings. Cutshaw Settlement at 5-6. Mr. Keen added that notwithstanding this Settlement, purchased power costs will still be subject to calculation under the benchmark process and stated further that no party is foreclosed from seeking detailed information regarding the derate or outage referenced herein. Keen Settlement at 4.

Mr. Scott and Mr. Keen explained that Section A1c revises the NAAQS Compliance Project to reflect the removal of the Emergency Ball Mill component as well as a reduction of the Owner's Project Costs and contingency. They said the Settlement Agreement reduces the estimated cost of this Project from approximately \$47.9 million to approximately \$29.2 million, exclusive of AFUDC. Scott Settlement at 3, Attachment BDS-1S; Keen Settlement at 6. Mr. Keen stated that AFUDC will be accrued on the Project and included in the Project costs. Mr. Keen and Mr. Scott said the revised estimate is detailed in Mr. Scott's attachment. Among other things, Mr. Scott and Mr. Keen said the revised cost estimate recalculates and reduces the project contingency to reflect the removal of the Emergency Ball Mill Component and a negotiated reduction of the project contingency. *Id.* Mr. Scott added that while he continues to believe that contingency is an important aspect of project planning, given the removal of the Emergency Ball Mill component from the overall Project, IPL agreed to the reduced project contingency as part

of the overall settlement compromise and will work to manage the Project within this constraint. Scott Settlement at 3-4.

Mr. Scott also presented the EFOR Benefit Cost Analysis for the NAAQS Compliance Project updated to reflect the Settlement Agreement. Scott Settlement at 4-5; Petitioner's Attachment BDS-2S. He said this analysis showed that none of the remaining measures' benefit cost ratios were reduced to below 1.0 compared to what was presented in Table 4 in his direct testimony. *Id.* at 4.

Mr. Scott provided background related to the Chapter 8.7 issue resolved in Section A1d of the Settlement Agreement. Scott Settlement at 5. He said Section A1d sets forth the Settling Parties' agreement to the issuance of approval of the NAAQS Compliance Project under Chapter 8.7 to the extent required. Mr. Keen said more specifically that, in this section, the Settling Parties stipulate and agree that to the extent approval of the NAAQS Compliance Project is required under Ind. Code ch. 8-1-8.7, they request the Commission approve those Projects. Keen Settlement at 4. Both Mr. Scott and Mr. Keen testified that this agreement is limited to the circumstances of this Project and is not precedential with regard to any future IPL compliance project. Scott Settlement at 5; Keen Settlement at 4-5.

Mr. Keen explained that Section A1e provides that the Settling Parties agree to Commission approval of the estimated Federally Mandated Costs as reasonable for the CCR Bottom Ash Project in the amount of \$46,900,000 exclusive of AFUDC as shown on Petitioner's Attachment BDS-6. Mr. Keen said AFUDC will be accrued on the Project and included in the Project Costs. Keen Settlement at 5. Mr. Scott explained that the CCR Compliance cost estimate was not challenged and Section A1e memorializes the Settling Parties' agreement that this cost estimate should be approved. Scott Settlement at 5-6.

(2) Section A2 of the Settlement Agreement. Mr. Keen and Mr. Cutshaw explained that Section A2 addresses accounting and ratemaking issues. They testified that in this Section, the Settling Parties agree to Commission approval of IPL's proposed accounting and ratemaking, including cost recovery and authority to defer costs until such costs are reflected in rates subject to the terms and conditions set forth in this section. Keen Settlement at 5; Cutshaw Settlement at 6. Mr. Cutshaw testified that this allows cost recovery on an 80/20 basis as discussed in his direct testimony. He said the cost recovery will be implemented in IPL's ECR proceedings, docketed as Cause No. 42170 ECR-[X]. He said the mechanics of this implementation are consistent with those currently in place and are also subject to Section 3 of the Settlement Agreement. Cutshaw Settlement at 6.

Mr. Cutshaw stated that in response to concerns about costs, IPL agreed to cap the total deferrals of the Compliance Projects (Monthly Deferrals and Carrying Charges) at \$14,500,000 or cease to add to the deferrals five years following the last in-service date of the Compliance Projects, whichever is less. Mr. Keen echoed this point. Keen Settlement at 5. Mr. Scott testified that the last in-service date of the Compliance Projects is expected to be the in-service date for the switchgear/transformer component of the NAAQS Compliance Project. He said this component involves longer lead time equipment and is estimated to be completed by January 1, 2018, assuming an order approving the project in the end of April 2017 timeframe. Scott

Settlement at 6. Mr. Keen and Mr. Cutshaw stated that the Settlement Agreement provides that in IPL's next rate case subsequent to the rate case expected to be filed before January 1, 2017, the deferrals will be included in rate base and amortized over a four year period. Mr. Cutshaw testified that this ratemaking treatment is reasonable and consistent with the treatment of similar costs. Cutshaw Settlement at 6. Mr. Cutshaw added that while this provision does not reflect IPL's position, the Company agreed to this and other terms of the overall Agreement in the spirit of compromise as part of the give and take of settlement negotiations. *Id.* at 7.

Mr. Keen explained that Section A2b provides that to the extent actual project costs exceed the total project cost estimate approved by the Commission by more than 25% on a total project basis, IPL shall provide specific justification and obtain specific approval from the Commission before any such costs are authorized for recovery in IPL's next general rate case (after the rate case to be filed by January 2017). Keen Settlement at 5. Mr. Keen added that the agreement provides however that IPL shall not seek recovery of any deferred amounts in excess of that allowed in Paragraph 2a. Mr. Keen stated that the Settling Parties preserve all rights and positions they may have in any such proceeding other than the prohibition against recovery of deferred amounts in excess of that allowed in Paragraph 2a. *Id.* at 5-6. Mr. Cutshaw explained that this section of the Settlement Agreement resolves the application of Ind. Code § 8-1-8.4-7(c)(3). Cutshaw Settlement at 7. He said the Settlement Agreement provides that the cost will be addressed on a per project basis, not per component basis. *Id.* He testified that this "project" approach is consistent with IPL's other compliance projects. *Id.* Mr. Scott testified that the total project approach reflected in Section A2b is reasonable. Scott Settlement at 6. He said the cost estimate was prepared as a project estimate and should be approved, managed and reviewed on a total project basis. He added that this approach is consistent with that taken in IPL's other Commission-approved compliance projects and is necessary to provide flexibility in project management and implementation, including the negotiations with the EPC contractor. Scott Settlement at 6.

(3) Section A3 of the Settlement Agreement. Mr. Keen and Mr. Cutshaw testified that Section A3a provides the agreement to allocate costs in the ECCRA on an individual rate code basis to Rates HL and PL, based on the allocation factors from the Company's cost of service study as approved in the Company's most recent base rate case (Cause No. 44576/44602). Cutshaw Settlement at 7; Keen Settlement at 6. Mr. Cutshaw said Rate HL is already calculated separately in the ECCRA. He said this agreement recognizes the difference between rate codes and rate classes. He stated that while IPL has grouped rate codes, as explained in his rebuttal, IPL has not grouped rate classes. He said grouping certain rate codes together provides a larger base for the allocation of cost to similarly situated customers. He explained that if a rate code has very few customers, allocating costs to the small group could be problematic in the event a customer leaves the small group. He said the change agreed to in the Settlement Agreement is reasonable for the Large commercial and industrial ("C&I") rate class and does not impact the Residential or Small C&I rate classes. Cutshaw Settlement at 7-8.

Mr. Cutshaw explained that Section A3a also recognizes that IPL provided notice of its intention to file a general rate case before the end of 2016. Cutshaw Settlement at 8. He said given this, the Settling Parties agreed that any further issues regarding cost allocation should be

raised in the general rate case and not in individual tracker proceedings that may be filed while the rate case is pending. Mr. Keen echoed this point and explained that the Settling Parties agreed that between the date of this Settlement and the date of a final order in IPL's next general rate case, expected to be filed before January 1, 2017, no Settling Party will propose modification to the cost allocation in IPL's tracker mechanisms in a tracker proceeding. Keen Settlement at 6. Both Mr. Keen and Mr. Cutshaw testified that this provision does not otherwise limit the Settling Parties' rights to raise issues regarding cost allocation. *Id.*; Cutshaw Settlement at 8. Mr. Keen added that this Settlement term does not in any manner limit or otherwise restrict any Settling Party's rights to otherwise challenge proposed recovery in such tracker proceedings; challenge any new tracker or other proposed rate recovery mechanism (including cost allocation) whether or not presented in a separate proceeding or in a general rate case; propose modifications to IPL's current, or proposed, trackers and other rate recovery mechanisms in the next general rate case; or present cost of service, cost allocation, or rate design testimony in the next general rate case. ~~Not does~~ He added that this Settlement term does not in any manner limit or otherwise restrict any Settling Party's right to propose modifications in adjustment proceedings after the date of the final order in IPL's next general rate case. Mr. Keen added that if IPL does not file the rate case before March 1, 2017, any Settling Party may propose revisions to IPL's tracker or other rate recovery mechanisms in any adjustment proceeding. Keen Settlement at 6-7.

Mr. Cutshaw testified that Section A3b accepts his rebuttal testimony regarding the provision of project by project cost information in the ECCRA filings. Cutshaw Settlement at 8. Mr. Keen explained that under this settlement term, IPL shall provide project by project cost information in its public exhibits in its ECCRA filings for the NAAQS and CCR Compliance Projects, including a level of detail comparable to that shown on Petitioner's Attachment JLC-2R, as well as any future projects approved by the Commission for inclusion in the ECCRA filings. Keen Settlement at 7.

Mr. Scott noted that his direct testimony discussed IPL's willingness to keep the Commission informed by providing status reports and any revisions to cost estimates as part of the Company's ongoing ECR cost recovery filings. He said Section A3c accepts the ongoing review of the Compliance Projects. Scott Settlement at 6. Mr. Cutshaw and Mr. Keen explained that Section A3c provides that IPL will keep the Commission and the Settling Parties informed of the status of the Compliance Projects by including progress reports and any revisions to the cost estimate for the Compliance Projects in the ECR proceedings. Mr. Keen noted that the progress reports will continue until the project is complete. Keen Settlement at 7. Mr. Scott and Mr. Keen added that the Settlement Agreement provides for transparency by specifying that IPL will make the EPC contract available for review in the ECR proceedings (subject to the protection of confidential information) and that IPL will report on use of the 5% project contingency. Scott Settlement at 6-7; Keen Settlement at 7. Mr. Scott stated that this is consistent with the approach taken by IPL with other construction projects. Scott Settlement at 7.

(4) Other Provisions of the Settlement Agreement. Mr. Scott explained that Section A4 of the Settlement Agreement recognizes the importance of a timely Commission decision and discussed the related compliance deadlines and associated factors. Scott Settlement at 7. Mr. Cutshaw added that the other provisions of the

Settlement Agreement address the presentation of the Agreement to the Commission and its effect and use. Cutshaw Settlement at 8-9.

(5) Economic Analysis. Ms. Soller explained that the withdrawal of the Emergency Ball Mill component from the project and revision of the NAAQS Compliance Project cost estimate do not materially affect the economic analyses. She presented her updated economic analysis and her conclusion that with this component withdrawn, the economic analyses continue to indicate that the IPL Compliance Projects are the reasonable least cost options based upon the aggregate expected value of all scenarios. Soller Settlement at 7-8. She testified that while the original proposed Compliance Projects remain cost-effective for customers, the Compliance Projects as revised to reflect the Settlement Agreement remain economic for customers as shown by revised PVRR values. *Id.* at 9.

(6) Rate and Financial Impact. Mr. Cutshaw updated the rate impact and financial impact analysis for the Compliance Projects included with his direct testimony to reflect the terms of the Settlement Agreement. Cutshaw Settlement at 9-10.

(7) Public Interest. In his direct testimony, Mr. Scott presented his opinion that the Compliance Projects serve the public convenience and necessity. He explained that the Settlement Agreement reflects a negotiated compromise and provides a reasonable and cost effective means to achieve timely and cost effective compliance while maintaining safe, reliable and economic service in compliance with the environmental policy established by our federal government. Scott Settlement at 8-9. He added that the Settlement Agreement provides a balanced and comprehensive resolution of the issues in this Cause and approval serves the public interest.

Mr. Cutshaw and Mr. Keen also explained why in their respective view the Settlement Agreement is in the public interest and supported by substantial evidence. Cutshaw Settlement at 11; Keen Settlement at 7-8. Mr. Cutshaw testified that, taken as a whole, the Settlement Agreement represents the result of good faith, arms-length negotiations of the conceptual framework and details of the Settlement Agreement. He noted that experts were involved with legal counsel and many hours were devoted to the settlement discussions. He concluded the Settlement Agreement is in the public interest. Cutshaw Settlement at 11. Mr. Keen explained that public policy supports the Settlement Agreement, and that the Settlement Agreement also serves the public interest by avoiding contentious and costly litigation. Keen Settlement at 8. He said given the agreement reached on the ratepayer benefits as outlined in the Settlement Agreement, the OUCC believes the Settling Parties struck a fair resolution of the divergent positions initially taken by the Settling Parties. He concluded the Settlement Agreement is supported by substantial evidence, is in the public interest and should be approved. Keen Settlement at 8.

B. Non-Settling Parties. JI was the only Non-Settling Party to submit testimony regarding the Settlement Agreement. That testimony, presented by JI Witness Schlissel, did not specifically address the terms of the Settlement Agreement. Rather, Mr. Schlissel presented his finding that the results of Ms. Soller's new modeling analyses use the same very high assumptions for future natural gas prices, energy market prices and

capacity prices that distorted the results of her original modeling analyses to bias them in favor of completing the proposed environmental upgrades and continuing to operate Petersburg Units 1-4. Mr. Schlissel also stated that although IPL has refused to provide the more recent ABB natural gas, energy market and capacity market forecasts that have been released in 2016, public information shows that ABB has projected lower natural gas prices in its Spring 2016 Forecast than it had in the Fall 2015 Forecast used by Ms. Soller in her new modeling. He said it is likely that ABB's Spring 2016 forecasts of peak and off peak energy market prices are similarly lower than the prices Ms. Soller has used. Mr. Schlissel stated that IPL has never attempted to verify the accuracy of the ABB Forecasts of natural gas and energy market prices that it relies on by comparing prior years' ABB Forecasts to subsequent actual market prices. He said as with IPL's original analysis, ABB's Low Gas Price forecast is the most reasonable one to use as a base case to evaluate the proposed Settlement. He repeated his contention that IPL should also run high and low gas sensitivity studies around a revised base case, with the new base case derived from the ABB Fall 2015 Low Gas Price forecast. Schlissel Settlement at 1-2, 4-13.

Mr. Schlissel stated that the continued operation of all four Petersburg units is uneconomic as the Company's projected costs of operating the plant are higher than the forecasted energy market revenues. ~~He repeated his assertion that Ms. Soller's Low Gas Price analyses rely on an extreme forecast of future capacity prices that, if realized, would be far higher than have been experienced to date in MISO, PJM or any of the other regional Independent System Operators. He claimed that substituting those faulty assumptions~~ Mr. Schlissel was critical of IPL's reliance on capacity market forecasts that he said assume significant increases throughout the analysis period that are not consistent with experience in actual capacity markets at MISO and PJM. Schlissel Settlement at 14-21. Mr. Schlissel stated that IPL's capacity price assumptions skew IPL's analysis in favor of its proposed projects. Id. at 16-21. Mr. Schlissel illustrated his point in his testimony by presenting Figures S9 through S12 showing the net revenues generated by the Petersburg units in low gas price scenarios from the Company's modeling, with and without capacity revenues included. Id. Mr. Schlissel found that substituting IPL's capacity price forecast with a more plausible capacity price forecast shows that the proposed NAAQS and CCR upgrades will not provide net benefits. He presented an alternative economic analysis to support his view. Schlissel Settlement at 2, 14. Id. Mr. Schlissel also completed his own economic analysis using IPL's low gas price scenario as his base case and a capacity price forecast capped at \$100/MW-day and argued that IPL's proposed NAAQS and CCR projects in this proceeding were not economic. Id. at 22-27.

Mr. Schlissel ~~proposed~~ testified that the proposed Settlement and IPL's requested CPCN should be rejected. He said instead, IPL should be directed to develop a plan that would (1) evaluate retirement of each of the Petersburg units within the next few years, and (2) develop the most cost-effective alternative portfolio of demand-side measures and supply-side options including market purchases, new wind and solar resources, and new natural gas-fired capacity. Schlissel Settlement at 3.

He added that if the Commission does approve the proposed Settlement, it should attach the ~~condition~~ conditions set forth in his direct testimony that IPL ~~bears~~ bear the risk of net revenue

[shortfalls or stranded costs](#) in the event that actual natural gas, energy market, and/or capacity prices are lower than forecasted by IPL. Schlissel Settlement at 3-4.

C. Settling Parties’ Rebuttal. Ms. Soller explained that the JI testimony does not dispute any specific issues from the Settlement Agreement; rather, the testimony repeats criticisms of the IPL analysis and assumptions from Mr. Schlissel’s direct testimony. She said the JI testimony acknowledges IPL’s use of multiple endpoints to reflect a range of future scenarios. However, she explained Mr. Schlissel focuses solely on those endpoints with low natural gas and low market energy price forecasts. She stated that focusing solely on low price forecasts does not result in a robust analysis and does not appropriately consider a range of future risks. She added that even if low natural gas and low energy prices prevail, the Compliance Projects remain a reasonable least cost approach to compliance. Soller Settlement Rebuttal at 2.

Ms. Soller disagreed with Mr. Schlissel’s characterization of the forecasted assumptions as “very high”. She stated that as explained in her direct and rebuttal testimony, IPL’s economic analysis reflects base assumptions as well as low and high pricing assumptions. She said IPL used the most recent natural gas and market price information available during the preparation time period in its analyses in this proceeding. She said this is the same approach and the same source IPL used in previous Commission proceedings. Soller Settlement Rebuttal at 2-3.

Ms. Soller testified that there was no intention to bias any results in any of these proceedings. She explained that as stated on page 6 of IPL’s response to the JI’s motion to compel in this proceeding, “[d]ue to the passage of time, it is generally the case that new data will become available while a docket is pending, but the Company and the Commission must make decisions based on the information available at the time of a filing.” Soller Settlement Rebuttal at 3. She said a utility must make decisions and implement project planning based upon information at a specific point in time in order to meet compliance timelines, as IPL did in this proceeding. She explained that IPL used a sensitivity analysis and decision tree to assess the impact of potential changes in the modeling assumptions. She explained that this approach is consistent with decision analysis best practices. Soller Settlement Rebuttal at 3.

In response to Mr. Schlissel’s contentions about low natural gas prices, Ms. Soller stated that while she had not reviewed the ABB Spring 2016 and ABB Fall 2016 forecasts, she recognized that the ABB 2015 Fall Reference Case forecasts are higher than the more recent ABB Spring 2016 forecast as shown in Mr. Schlissel’s Figure S2. Soller Settlement Rebuttal at 3-4. That said, Ms. Soller stated that she does not see a “sharp increase” in ABB’s 2015 Fall Reference case natural gas prices as shown in Mr. Schlissel’s Figure S2. She added, in fact, in Mr. Schlissel’s Figure S2, the ABB Spring 2016 Reference case natural gas prices appear to follow the same shape as the 2015 Fall Reference case data. Soller Settlement Rebuttal at 5-6. Ms. Soller clarified that without a scale on the y-axis in Mr. Schlissel’s Figure S2, it is impossible to determine if costs are significantly lower. She added that his figure also indicates the Annual Energy Outlook (“AEO”) 2016 dataset aligns with the ABB Fall 2015 forecast through approximately 2026. She stated thereafter, the AEO 2016 forecasted prices are lower than the ABB Spring 2016 forecast; however, the legend notes the AEO data does not include the Clean Power Plan.

She said IPL's modeling is reasonable notwithstanding this concern. She stated that the base, high and low forecasts used in IPL's economic analysis reasonably reflect a diverse range of future worlds. She added that while the JI testimony cited concerns about natural gas price forecasts not being low enough, the OUCC testimony cited concerns that decreased supply of natural gas may drive prices to be even higher. Soller Settlement Rebuttal at 4 (citing Rutter Direct at 7).

Ms. Soller stated that updating forecasts is not simply a matter of purchasing new information. She said if the updated ABB forecast data were utilized, IPL would also need to update all model runs, review output data, and revise exhibits to fully reflect modeled outcomes due to dispatch reprioritization. Soller Settlement Rebuttal at 4. She said that once the new economic analysis was available, the other parties would need time to assess it and file testimony, and then IPL would need an opportunity to present rebuttal testimony. She stated that all the while, time would continue to pass, compliance deadlines would draw nearer and new information, both actual and forecast, would continue to become available. She explained that continuing to delay a decision to assess more information does not constitute good decision-making. She said IPL's analysis reasonably bounds the potential future outcomes and provides a reasonable foundation for a decision to move forward with the proposed Compliance Projects as provided in the Settlement Agreement. Soller Settlement Rebuttal at 4-5.

Ms. Soller also disagreed with Mr. Schlissel's contention regarding whether IPL had evaluated the accuracy of ABB's forecast. She explained that ABB is an industry leader in forecast development for the energy industry with clients including over 100 electric utilities and consulting firms such as the Electric Power Research Institute. She said that in discovery the JI asked for a copy of all assessments prepared by or for IPL and IPL responded that IPL did not have any such work products. She explained that while IPL does not have a formal written comparative document, the Company is aware of other sources of forecasted data including the AEO, inputs to MISO MTEP studies, and the State Utility Forecasting Group which are reviewed for general trend analyses. She said ABB's forecasts generally align with these other sources.

She responded that the Commission addressed the provision of the new ABB forecasts in its December 22, 2016 docket entry and reiterated that IPL does not have these forecasts and does not need them. She stated that IPL did not purchase ABB's 2016 Spring Reference case data because it was not fully available until May 2016, the same month that IPL's case-in-chief was filed in this proceeding. In addition, she said IPL's 2016 IRP analysis was well underway by that time using the 2015 Fall Reference case data. She said the ABB 2016 Fall Reference case is not fully available until January 2017. She testified that if Joint Intervenors wanted this information they could have purchased it from ABB.

Ms. Soller pointed out that her rebuttal testimony (p. 19) explained why it is reasonable to rely on forecasts. She stated that differences between actual prices and forecasted prices do not render use of a forecast unreasonable. Soller Settlement Rebuttal at 7. She clarified that Mr. Schlissel's discussion of the "significant" difference compares the actual prices to the ABB Base and High gas scenarios. She said this comment is not addressed to the ABB 2015 Fall Reference Case low gas scenarios. She added that the data from Figure S1 indicates prices in the first half of 2016 were close to the low ABB forecast and prices in the second half of 2016 were close to

the base ABB forecast. She also presented an analysis showing that recent natural gas prices are more supportive of the base ABB forecast used in IPL's analysis than ABB's low natural gas forecast. Soller Settlement Rebuttal at 7.

Ms. Soller testified that focusing on a short-term market view based on recent history does not properly account for future risks which may include significantly different and higher energy costs. She added that this issue is not sufficient grounds to discount IPL's analysis.

Ms. Soller also stated that Mr. Schlissel is recommending a permanent and irreversible decision to retire the entire Petersburg plant based on a premise that low natural gas prices will prevail based on forward curves in 2016, giving very little consideration for future uncertainty in market prices. She said IPL, on the other hand, recognizes that forecasts are seldom 100% correct and utilizes a robust, probabilistic approach to derive the economic value of the environmental projects agreed upon by the settling parties. Soller Settlement Rebuttal at 8. She added that Mr. Schlissel also fails to account for the option value of retrofitting the Petersburg units. She said that through the real option overlay, IPL is able to truly reflect the value of retrofitting the units now given future uncertainty.

Ms. Soller explained that the CCR and NAAQS Compliance Projects are reasonable even if low natural gas prevails. She stated that under this scenario, customers will benefit from low natural gas prices through MISO market purchases during hours when they are more cost effective than dispatching IPL units. She added that the Petersburg generating facility is "steel in the ground" and serves as a hedge against market volatility if natural gas prices increase significantly. She said IPL's ability to purchase and store coal minimizes customer exposure to fluctuating natural gas prices. She said this fleet fuel diversity mitigates risks, which is especially pertinent given IPL's recent fleet changes at Harding Street, which also relies on natural gas. Soller Settlement Rebuttal at 8.

Ms. Soller said she recognizes that the possibility of low natural gas prices or interest in reducing CO₂ means the Petersburg units may not be dispatched as much as forecasted in IPL's analysis. She disagreed that these potential future outcomes support a decision to retire these Petersburg units now rather than invest in the proposed CCR and NAAQS Compliance Projects. She said Mr. Schlissel's focus primarily on energy prices overlooks the capacity value of the Petersburg units. She said furthermore, retiring the units now reduces future optionality and flexibility. She explained that in its 2016 IRP, IPL described a hybrid resource portfolio which may be a combination of multiple scenarios it modeled as a possible future outcome whereby the Petersburg units serve as intermediate or peaking units respectively. Thus, Petersburg Station would still provide significant capacity value for customers. She stated prematurely retiring the Petersburg units would close the door on this possibility.

She explained that retiring Petersburg based on the premise of continued low natural gas and market energy prices is a large gamble to take on behalf of customers. Soller Settlement Rebuttal at 9. She stated that the CCR Compliance Project is necessary to continue to operate any of the Petersburg units beyond the CCR compliance deadline. She said the Petersburg capacity could not be replaced in an economic manner prior to the CCR compliance date under the current variance of September 2018, which would prompt significant capacity and energy market dependence. She stated that gas prices can increase significantly with little notice. She

said this would result in high cost market purchases and negate the assumed benefits of a low natural gas price scenario. She stated that with IPL 2018 peak loads forecasted near 2,900 MW and generation assets of approximately 1,652 MW if Petersburg was retired and following the commercial operation of Eagle Valley CCGT, retail customers could rely on the energy market for up to 1,310 MW per hour. *Id.* at 9-10; Attachment JMS-2SR. She said the net result would be an annual capacity shortfall of 43% of needed resources and an energy shortfall of up to 47% during peak hours. She stated that this is not an acceptable position for IPL or its customers. She testified that because the cost of the CCR Compliance Project does not change materially by the number of operating units, this compliance cost does not justify the retirement of any Petersburg unit. She added that the NAAQS Compliance Project is also reasonable even if low natural gas prices prevail. *Id.* at 10, 14-16.

Ms. Soller disagreed with Mr. Schlissel's contention that the forecasted capacity prices in IPL's modeling are extremely high and pointed out that his analysis is based on PJM, while IPL is a member of MISO, which does not have a transparent forward capacity market like PJM and other Regional Transmission Organizations ("RTOs"). She stated that IPL used a capacity forecast with prices approaching Cost of New Entry ("CONE") fairly quickly. As also explained in her rebuttal (p. 25), she said the clearing price in the 2016-2017 MISO Capacity Auction would have been within \$0.84 of the MISO established \$260 MW-day value of CONE had capacity equivalent to the value of Petersburg not been available. *Id.* at 10. Ms. Soller stated that the PJM historic capacity market is not necessarily indicative of MISO capacity auction future results. She said the fact that PJM capacity prices have not reached CONE is irrelevant. She added that in light of recently announced generating unit retirements in Indiana, higher capacity prices are more likely in MISO. *Id.* at 10-12.

Ms. Soller also disagreed with Mr. Schlissel's assessment of Petersburg gross margins with and without capacity revenues to describe the Petersburg unit economics. Soller Settlement Rebuttal at 12. She stated that Mr. Schlissel focused solely on the low gas scenario endpoints, which only tell a part of the story. She stated that it is proper to model energy and capacity contributions separately to reflect electricity market interactions and that ignoring the results of the base and high natural gas and market price forecast scenario endpoints is not wise. She said the PVRR analysis is a more holistic way to evaluate the Compliance Projects and alternatives.

She stated that it is not necessary for capacity values to reach CONE for Petersburg to add significant value for customers. She presented a simple payback analysis based on capacity alone, which showed a simple payback period of just over a year for the CCR Compliance Project if one assumes the most recent MISO Auction Clearing Price ("ACP") in Zone 6 of \$72/MW-day.¹ She showed that even if one cuts the MISO ACP value in half, the payback period based on capacity value only is still just over two years. Soller Settlement Rebuttal at 12-13; Figure 2. She explained that the payback period analysis shows that the cost of the CCR Compliance Project is lower than the cost of providing a capacity purchase alternative to the Petersburg units.

Ms. Soller added that energy contributions and natural gas prices do not impact the capacity value payback analysis. She added that although IPL fully expects the Petersburg units

¹ During cross-examination, Ms. Soller noted that this was the same near-term capacity price Mr. Schlissel used in his analysis. Tr. at B-65.

to be dispatched to provide energy value in the MISO market during the short term payback period, the analysis demonstrates the reasonableness of the CCR Project based on capacity value alone. She said this capacity value analysis was presented because it diffuses the arguments about market energy prices and natural gas forecasts raised in the JI testimony. *Id.* at 13.

Ms. Soller testified that the modified NAAQS Compliance Project remains reasonable even under low natural gas and low market energy pricing scenarios. She discussed this in her rebuttal testimony and in her settlement testimony. To further illustrate this point, she said IPL performed a sensitivity of IPL's analysis presented in her rebuttal testimony by evaluating the originally proposed NAAQS Compliance Project economics in a scenario with 60% probability of low gas and energy prices. In response to the JI settlement testimony, IPL performed an additional sensitivity of the NAAQS Compliance Project as modified in the Settlement Agreement with 100% low natural gas and energy prices. She believes the analysis presented in her settlement testimony is reasonable, but said IPL performed this sensitivity to evaluate the economics in a future in which low gas prices prevail. Soller Settlement Rebuttal at 14-15. Her analysis of the modified NAAQS Compliance Project showed that retrofitting Petersburg Units 1, 3 and 4 with the modified NAAQS Compliance Project remains the reasonable least cost option. She said that while the analysis shows the retrofit decision regarding Petersburg Unit 2 is not as clear under this 100% low gas price sensitivity, she discussed other reasons why the Petersburg Unit 2 retrofit remains a reasonable least cost choice. She first noted that the analysis presented only one view of the future. She added that while low natural gas and market energy prices may prevail, there is also real potential that they may not. She said that is why a reasonable compliance plan should be based on a robust range of gas and market energy price forecasts. She said it is unreasonable to consider only one of the forecast extremes and a portion of IPL's probabilistic modeling approach to draw conclusions and make irreversible decisions. She said IPL's analysis reasonably considers the investment in light of the potential for high as well as low gas and market energy prices. *Id.* at 16.

She said retrofitting Petersburg Unit 2 for NAAQS SO₂ compliance will enhance and improve the reliability and integrity of the FGD systems and thus unit reliability as stated in IPL's direct testimony. Also, she said retrofitting the unit will also maintain operational optionality and flexibility to further enhance Petersburg Unit 2 such as refueling it in the future to benefit customers. She added that the NAAQS SO₂ Compliance Project measures for Petersburg Unit 2 consist of installing redundant switchgear and a transformer. She said this equipment has a "long lead time", meaning that it can take six to nine months to obtain a replacement if the switchgear or transformer fails. She said IPL used a conservative value of 180 days in its cost/benefit analyses and that IPL's analysis of the EFOR risk supports the conclusion that this component should be pursued at this time. She stated that if the project is not pursued, customers will be exposed to energy market purchase costs for an extended period of time due to the long lead time nature of this equipment. Soller Settlement Rebuttal at 16-17.

Ms. Soller refuted Mr. Schlissel's contention that IPL's economic analysis should not be given any weight by showing that IPL's analysis mirrors best practices for planning with uncertainty and making quality decisions. She explained why Mr. Schlissel's analysis is not consistent with the elements of a quality decision.

Ms. Soller also discussed her concerns with Mr. Schlissel's alternative economic analysis, stating that even as revised, the analysis continues to be simplistic and focused solely on low natural gas and market energy price forecasts. Soller Settlement Rebuttal at 21.

Ms. Soller pointed out that she responded to Mr. Schlissel's proposed cost recovery conditions in her rebuttal testimony and stated that the regulatory framework does not provide for after the fact prudence determinations as suggested by Mr. Schlissel's proposed cost disallowance. She stated that in addition, he does not propose the method in which to accomplish this review. *Id.* at 22. She said if such a review was proposed, the methodology should be established now, not after projects are completed.

Ms. Soller testified that the price for retail electric service is reasonably and necessarily based on the cost of providing that service. She said Indiana's regulatory framework allows for certain costs of providing service, including the cost of complying with federal mandates, to be pre-approved. Soller Settlement Rebuttal at 22. She said the pre-approval process necessarily requires decisions to be made based on what is known or knowable at the time the decision must be made. She stated that while this necessarily requires use of forecasted information, forecasted prices are not intended to reflect a crystal ball image of the future. Rather, as used in this proceeding, the forecasts used in IPL's analysis reasonably account for a range of potential future scenarios. She noted that as explained in her rebuttal testimony, projections are established to inform stakeholders of possible risks and opportunities given a range of uncertain futures. She said the pre-approval process provides for prudence determinations to be made upfront. She added that IPL's economic analysis comports with good decision and planning and shows that the projects as agreed to in the Settlement Agreement reflect the reasonable least cost compliance path and this serves the interest of IPL's customers. *Id.*

Mr. Cutshaw refuted the notion that 1) the total revenues IPL receives from selling into the MISO markets are intended to provide cost recovery for the total costs of producing power at Petersburg; and 2) failure to have such a level of MISO revenue is somehow unreasonable and warrants the Commission imposing a penalty on the Company. Cutshaw Settlement Rebuttal at 1-3. He explained that Mr. Schlissel provided no details to support his recommendation. Mr. Cutshaw added that it would be unreasonable for the Commission to accept a recommendation without any understanding of the mechanics, complexity and cost of implementing it. *Id.* at 3-4.

Ms. Soller said she realizes that the Commission has at times modified settlement agreements to comport with the Commission's view of the public interest. Soller Settlement Rebuttal at 23. She added however, that Mr. Schlissel's proposed cost recovery condition is not a reasonable modification because it contravenes the regulatory framework provided by our General Assembly. She said the Settlement Agreement already reflects a negotiated compromise that reasonably addresses and constrains cost recovery for the Compliance Projects. She said the additional after-the-fact constraints proposed by Mr. Schlissel are unreasonable and should be rejected. Soller Settlement Rebuttal at 23.

After further discussing the risks of JI's recommendation compared to the Settlement Agreement, and summarizing her conclusions regarding the JI's testimony, Ms. Soller concluded that the Commission should approve the CCR and revised NAAQS SO₂ Compliance Projects as proposed in the Settlement Agreement. *Id.*

6. **Commission Discussion and Findings.** The Settling Parties request the Commission to approve the Settlement Agreement. Commission policy favors settlement. Settlements help advance matters with far greater speed and certainty and far less drain on public and private resources than litigation or other adversarial proceedings. That said, settlements presented to the Commission are not ordinary contracts between private parties. *U.S. Gypsum, Inc. v. Ind. Gas Co.*, 735 N.E.2d 790, 803 (Ind. 2000). When the Commission approves a settlement, that settlement “loses its status as a strictly private contract and takes on a public interest gloss.” *Id.* (quoting *Citizens Action Coalition v. PSI Energy*, 664 N.E.2d 401, 406 (Ind. Ct. App. 1996)). Thus, the Commission “may not accept a settlement merely because the private parties are satisfied; rather, [the Commission] must consider whether the public interest will be served by accepting the settlement.” *Citizens Action Coalition*, 664 N.E.2d at 406.

Any Commission decision, ruling, or order - including the approval of a settlement - must be supported by specific findings of fact and sufficient evidence. *U.S. Gypsum*, 735 N.E.2d at 795 (citing *Citizens Action Coalition v. Pub. Serv. Co.*, 582 N.E.2d 330, 333 (Ind. 1991)). The Commission’s own procedural rules require that settlements be supported by probative evidence. 170 I.A.C. 1-1.1-17(d). Therefore, before the Commission can approve the Settlement Agreement, we must determine whether the evidence in this Cause sufficiently supports the relief requested and the conclusions that the Settlement Agreement is reasonable and just and that such agreement serves the public interest. While our decision is based on the record as whole, the foregoing summary of the evidence facilitates our consideration of the Settlement Agreement. Furthermore, we will carefully consider a settlement that has been entered by representatives of all customer classes, including OUCC (that represents all ratepayers), even though there may be intervenors in opposition. *American Suburban Utils.*, Cause No. 41254, at 4-5 (IURC 4/14/1999).

A. Ind. Code ch. 8-1-8.4 (“Chapter 8.4”).

(1) Federally Mandated Requirements. (Ind. Code §§ 8-1-8.4-5, 8-1-8.4-6(b)(1)(A) and 8-1-8.4-7(b)(3)). The NAAQS SO₂ Compliance Project is proposed to allow IPL to comply at Petersburg Station with the federal NAAQS for SO₂ adopted by the EPA pursuant to section 109 of the federal CAA. The CCR Compliance Project is proposed to comply at Petersburg with the ~~CCR Rule~~incremental requirements created by the CCR Rule which are causing IPL to install and commission a bottom ash dewatering system. Scott Direct, at 3. The CCR Rule was adopted by EPA under Subtitle D of the RCRA. The CCR Compliance Project will also allow IPL’s Petersburg Station ~~will to~~ comply with the EPA’s Effluent Limitation Guidelines (“ELG”) for Steam Electric Generating Stations ~~as a result of the CCR Compliance Project~~. The new Steam Electric Generating ELGs were adopted pursuant to sections 301 and 304, among others, of the federal CWA.

JI argued that IPL’s proposed CCR Compliance Project is “piecemeal” because it concerns only a portion of CCR compliance. JIPO at 26. Notably, “compliance project” as defined in Chapter 8.4 allows a project related to “one (1) or more federally mandated requirements”. The CCR Project addresses the structural stability requirements of the CCR Rule, i.e. the requirement that owners or operators of ash ponds that do not demonstrate compliance

with certain structural stability requirement must cease operation of the ponds by April 17, 2017. Collier Direct at 7; Collier Rebuttal at 2. The record here shows that IPL was not able to demonstrate such compliance. Collier Rebuttal at 2. Per the terms of a variance obtained to allow time for the installation of the proposed CCR Compliance Project, IPL must cease operation of the ponds by April 11, 2018. Collier Direct at 7; Collier Rebuttal at 2. The installation of the closed-loop bottom ash handling system proposed in the CCR Project will eliminate all CCR wastewater discharges from the ash ponds at Petersburg. Collier Direct at 9. The proposed CCR Compliance Project is not piecemeal with respect to the structural stability requirements of the CCR Rule. While the CCR Rule imposes other requirements, the statute does not require all of these requirements to be addressed in one project. Rather, a compliance project can be addressed to one or more federal mandates. The record shows that the CCR Compliance Project logically addresses the near term bottom ash CCR requirements. Compliance with other aspects of the CCR Rule are not currently ripe for consideration.

We ~~Accordingly, we~~ find that the NAAQS SO₂, CCR and ELG requirements each represent federally mandated requirements as that term is defined in Ind. Code § 8-1-8.4-5. We further find that the NAAQS Compliance Project and the CCR Project bottom ash system at IPL's Petersburg Station each constitute a "compliance project" as defined in Ind. Code § 8-1-8.4-2. Finally, pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfied Ind. Code § 8-1-8.4-6(b)(1)(A).

(2) Projected Federally Mandated Costs. (Ind. Code §§ 8-1-8.4-4, 8-1-8.4-6(b)(1)(B), 8-1-8.4-7(b)(2), and 8-1-8.4-7(b)(3)). Chapter 8.4 directs the Commission to examine a list of factors enumerated in the statute, including "[a] description of the projected federally mandated costs associated with the proposed compliance project." As discussed below, we conclude IPL has satisfied this requirement.

(a) Estimated Cost. ~~The estimated cost of each project~~ As used in Chapter 8.4 "federally mandated costs" means "costs that an energy utility incurs in connection with a compliance project, including capital, operating, maintenance, depreciation, tax, or financing costs." The estimated cost of the NAAQS Compliance Project and the CCR Compliance Project was presented in detail and supported by IPL Witnesses Scott and Guletsky. This included capital investment and O&M. IPL estimated approximately \$2 million per year of additional ongoing operations and maintenance ("O&M") expense will be incurred for the NAAQS Compliance Project. Scott Direct at 20-21. ~~He~~ Mr. Scott clarified that IPL does not anticipate that there will be incrementally more O&M or a savings of O&M to handle bottom ash using the Bottom Ash System compared to handling bottom ash through the current pond system. Scott Direct at 31; Scott Rebuttal at 18. The estimates were reviewed by the OUCC and Intervenors. The OUCC raised an issue regarding the contingency which was rebutted by IPL Witness Scott. This issue was resolved by a negotiated reduction of the NAAQS SO₂ project contingency. This negotiated resolution is reflected in the estimated cost of the NAAQS SO₂ Compliance Project as modified by the Settlement Agreement, which is \$29.2 million. Settling Parties Ex. 1 (Settlement Agreement, Section A1c); Scott Settlement Testimony at 3. The estimated cost of the CCR Compliance Project is \$46,900,000. Scott Direct at 12, 29; Settlement Agreement Sections A1c and A1e. While each project total is exclusive of AFUDC, AFUDC will be accrued on the respective Project and included in

the respective project costs. While the demolition costs are necessarily incurred, IPL does not propose to reflect demolition costs in the construction costs upon which it will earn a return in the ECCRA. Cutshaw Direct at 15. Finally, as noted by IPL Witness Scott O&M expense will also be incurred.

Mr. Schlissel and Dr. Frank, the Non-Settling Parties' respective witnesses, did not challenge the cost estimates of the NAAQS SO₂ and CCR Compliance Projects in either direct or settlement testimony. Dr. Frank discussed the CCR Compliance Propose against a timeline of other future environmental requirements and the associated cost of compliance. OUCC Witness Armstrong acknowledged (p. 25), that IPL had accounted for future environmental costs in its economic analysis. In her rebuttal, Ms. Collier explained that many of the potential costs mentioned by Dr. Frank may not even be applicable to IPL, or would be incurred by IPL regardless of the decision made in this proceeding. Collier Rebuttal at 5-6.

With regard to these potential future environmental requirements, JI contends (JIPO at 26) that IPL "should have presented the Commission an analysis of the risk that corrective actions will be required and an estimate of the associated costs." JI further contends that a "full accounting of the risks and costs associated with [all aspects of the] CCR rule" "would make it possible for the Commission to determine whether IPL should have considered alternative approaches to CCR rule compliance". *Id.* JI contends that because such a "full accounting" has not been provided, the Commission is "unable to evaluate the proposed project nor evaluate alternatives under Chapter 8.4." *Id.* We disagree. Ind. Code § 8.4-6(b)(1)(B) requires the utility to present a "description of the projected federally mandated costs associated with the proposed compliance project". The statute does not require a "full accounting" of all possible future costs associated with other possible compliance projects, including costs which may never be incurred and costs that cannot now be determined. JI's argument exceeds the scope of what is required under Ind. Code § 8.4-6(b)(1)(B). We discuss the potential for future environmental compliance requirements and costs below in our consideration of Ind. Code § 8.4-6(b)(1)(D).

We find the estimated cost of each project as set forth in the Settlement Agreement and supported by IPL Witness Scott is reasonable and should be approved. Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we further find that IPL has satisfied Ind. Code § 8-1-8.4-6(b)(1)(B).

(3) Compliance with Federally Mandated Requirements. (Ind. Code §§ 8-1-8.4-6(b)(1)(C)) and 8-1-8.4-7(b)(3)). As described by IPL Witnesses Scott and Collier, IPL will be required to comply with the new emission limits established in the Indiana SIP to address NAAQS for SO₂ emissions beginning on January 1, 2017. Scott Direct at 11. Specifically, the 30-day rolling average emission limits will be significantly decreased. Prior to these new limits, if an FGD system was experiencing an outage or was not operating at full capacity, IPL could continue to run the generating unit for a short time to make the necessary repairs and still be under the 30-day rolling average limit. Beginning January 1, 2017, this is no longer the case because the limits are so low that the generating unit will need to be shut down almost immediately in the event of a FGD malfunction or outage in order to stay within the new limits. Essentially, a FGD outage will result in a generating unit outage with its attendant economic consequences. IPL Witnesses Scott and Guletsky established that the NAAQS Compliance Project is undertaken to enhance and improve the reliability and integrity of existing FGD systems.

This Project is related to compliance; the Project reduces the emissions of SO₂ that are created and released through the combustion of coal at Petersburg Station in order that the Petersburg units will consistently and continuously meet the new limits established in the Indiana SIP to address the SO₂ NAAQS as required by the CAA. Scott Direct at 21-22.

IPL Witnesses Scott and Guletsky explained that the CCR Compliance Project will install a bottom ash dewatering system at Petersburg. The CCR Compliance Project is driven by the CCR Rule. Scott Direct at 25. In addition, the ELG Rule will require that this Project be completed. *Id.* These rules impact the ash settling ponds which are used to treat the ash that is generated during the coal combustion process and then transported to the ponds via a wet sluicing process. The record shows that, as a result of environmental mandates, ultimately the IPL ash ponds will be required to cease receiving waste streams and must be closed. Because the ponds will be taken out of service, IPL will need to modify the existing design of its bottom ash handling systems at the Petersburg facility. This will be required because the existing ash ponds can no longer be utilized cost effectively for the retention and settling of ash from the wet bottom ash handling systems on each Unit. Scott Direct at 25.

Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfies Ind. Code § 8-1-8.4-6(b)(1)(C).

(4) Alternative Plans for Compliance. (Ind. Code §§ 8-1-8.4-6(b)(1)(D) and 8-1-8.4-7(b)(3)). Chapter 8.4 directs the Commission to examine a list of factors enumerated in the statute, including "Alternative plans that demonstrate that the proposed compliance project is reasonable and necessary." Ind. Code § 8-1-8.4-6(b)(1)(D). The statute provides that the foregoing must be set forth in the utility's filing in accordance with Ind. Code § 8-1-8.4-7(a) ("Section 7(a)"). Section 7(a) states the utility must provide the information, supported with technical information in as much detail as the Commission requires. As noted above, IPL presented extensive technical evidence and supporting workpapers and timely responded to the Commission's questions regarding IPL's analysis.

(a) HEC Criticism. [While HEC did not file a post-hearing brief.](#) HEC Witness Frank (pp. 4 and 28) asserted summarily that IPL's plan does not meet this requirement. Dr. Frank did not explain why she believes this is so and we find this criticism is meritless. The record reflects substantial evidence addressed to this requirement. Mr. Scott and Ms. Soller presented analyses assessing alternatives and showing that each Compliance Project is a reasonable and cost-effective means to comply with the NAAQS-SO₂ compliance requirements and the CCR Rule. This testimony was supported by Witnesses Guletsky and Crockett. With respect to the NAAQS Compliance Project, Mr. Scott and Ms. Guletsky explained how the control measures were selected and presented the supporting cost-benefit analyses. With respect to the CCR Compliance Project, Mr. Scott explained that IPL evaluated alternative means for stabilizing the ponds but quickly realized that the cost associated with such a solution would not be prudent as such a solution would only be temporary and at a much higher level than what IPL is proposing. Scott Direct at 26-29; Scott Rebuttal at 20-21. Ms. Guletsky explained that the new ELG Rule will require dry or

closed loop bottom ash handling by a date to be specified by the NPDES permitting authority that is between November 1, 2018 and December 31, 2023. Guletsky Direct at 17. Thus the record shows if an alternative to the proposed CCR Compliance Project were pursued, it would be short-lived, as it would need to be retired and replaced with a system nearly identical to what is being proposed in this proceeding, sometime in the next six years. Scott Rebuttal at 21.

In its proposed order and post-hearing brief, JI took up the HEC criticism and urged the Commission to enlarge the scope of this proceeding to address other CCR Rule requirements and potential alternatives for compliance with those requirements. JIPO at 26; JI Brief at 20. We decline to do so. The purpose of this proceeding as it relates to CCR Rule compliance is to review IPL's proposal to install and commission a bottom ash dewatering system to allow IPL to stop discharging wastewater to the ash ponds by April 11, 2018. Collier Rebuttal at 10. As discussed above, the record shows IPL considered the relevant alternative options for compliance with the structural stability requirements of the CCR Rule.

IPL's economic analysis reasonably captured potential future environmental costs in its consideration of alternatives to continuing to operate the Petersburg Units. As Ms. Collier explained, many of the potential costs mentioned by Dr. Frank may not even be applicable to IPL, or would be incurred by IPL regardless of the decision made in this proceeding. Collier Rebuttal at 5-6. We find IPL's economic analysis is consistent with what we have accepted in other filings under Chapter 8.4 and, as further discussed below, IPL's economic analysis of alternatives demonstrates that the proposed Compliance Projects are reasonable and necessary. Therefore, we find that IPL adequately addressed alternative plans for compliance.

(b) Joint Intervenor Opposition. In its post hearing filing JI claimed repeatedly that IPL's analysis is "biased". JIPO at 28-30. Put another way, JI argues the utility unfairly caused the analysis to favor a particular result. As discussed below, JI's filing ignores or mischaracterizes substantial record evidence and does not otherwise withstand scrutiny. IPL's analysis reasonably relied on independent expert analysis, such as that provided by ABB and its fundamentals-based forecast, and ICF. See Crockett Direct at 8; Soller Direct at 11. The fact that reasonable assumptions and robust modeling lead to the conclusion that the Compliance Projects should be implemented may not be to JI's liking, but this alone does not indicate bias. A party's claims must necessarily be reconciled with the record as a whole. For example, JI proposes the Commission sweep aside IPL's analysis by finding that "IPL vests too much faith in the forecasts it purchased from ABB without taking any steps to test their accuracy." JIPO at 28. This proposed finding ignores Ms. Soller's rebuttal testimony showing that ABB is an industry leader in the forecast development, that IPL has taken steps to evaluate ABB's forecast accuracy, and that reliance on the ABB forecast used in IPL's analysis is reasonable. Soller Rebuttal at 18; Soller Settlement Rebuttal at 3-6; Tr. at B-52 to B-54. While the continued operation of Petersburg Station may not be in keeping with JI's objectives regarding the use of coal as a fuel for electricity generation, the goal in this proceeding is to identify the reasonable least cost means of complying with the above referenced federal mandates.

IPL's economic analysis includes production cost modeling, risk scenario development as well as the presentation of probabilistic decision trees and a real option overlay. Soller Direct at 8, 20. The additional decision tree evaluation formalizes and supplements the individual scenario evaluation. Soller Direct at 21. This stands in stark contrast to the simplistic spreadsheet analysis performed by Mr. Schlissel. Soller Settlement Rebuttal at 20. Substantial record evidence compels the conclusion that we reject both Mr. Schlissel's recommendation that Ms. Soller's economic analyses be given no weight and JI's assertion that IPL's analysis is somehow biased or unreasonable. Schlissel Direct at 40; Schlissel Settlement at ~~24~~, 21; JIPO at 28.

Ms. Soller presented the economic modeling results and other analysis undertaken to evaluate whether to retrofit, retire or refuel IPL's Petersburg units in light of the cost of complying with the NAAQS, CCR and other environmental rules. Soller Direct at 4-29; Soller Rebuttal at 19-20; Settlement at 2-9. She explained that to evaluate the economic merits of each Compliance Project (NAAQS-SO₂ and CCR-Bottom Ash), IPL estimated the full life cycle cost profile of the Petersburg units, and compared those costs to replacement of the coal units with alternative resource options over the estimated remaining life of the units. In order to assess various risks and uncertainties, this analysis included stress testing resource options by considering future unknown but plausible risks by way of scenario analysis. This was accomplished through a PVRR evaluation to identify an overall reasonable least cost plan. This helps to determine the future performance and robustness of the retrofit option and alternative solutions. See Soller Direct at 8-9; Soller Rebuttal at 34-36; Soller Settlement at 2-9; Soller Settlement Rebuttal at 14-17, 19-20, 23-25.

IPL's probabilistic and simple payback analysis is consistent with the methodology accepted in Cause No. 44540 regarding IPL's NPDES Compliance Plan. See Soller Settlement Rebuttal at 24. IPL's analysis is robust and properly focused on assessing compliance options, including alternatives to the proposed Compliance Projects. The production cost modeling performed by IPL comports with decision analysis best practices and provides a solid evidentiary foundation upon which the Commission can assess the reasonableness of IPL's proposed Compliance Projects and the Settlement Agreement. In contrast, the JI analysis seems to "frame" the problem statement to focus on retiring Petersburg versus complying with CCR and NAAQS SO₂ regulations. The information Mr. Schlissel used as inputs is limited to low gas and low market prices. His analysis tends to focus on recent market prices and impacts based upon the assumption that low natural gas prices and energy market prices will continue in the "coming years". Schlissel Settlement at 7. Ms. Soller's and Mr. Scott's response to Mr. Schlissel's analysis persuades us that his spreadsheet analysis is flawed and represents an overly simplified approach to a complex matter. Soller Rebuttal at 17, 21-22, 27; Scott Rebuttal at 20; Soller Settlement Rebuttal at 21. See *Indianapolis Power & Light Co.*, Cause No. 44242 at 31 (IURC 8/14/2013) (noting that presentation of cost/benefit study solely through an overly simplistic spreadsheet analysis was disappointing and limiting weight to place on it).

Mr. Schlissel argued that the results of IPL's analysis are driven by the extremely optimistic, unreasonable assumption that the future will be very different (and much more favorable to the economics of coal-fired generation) than the recent past. Schlissel Direct at 2; Schlissel Settlement at 1. In particular, Mr. Schlissel criticized the natural gas, energy and capacity prices in IPL's economic analysis. Schlissel Direct at 4-40; Schlissel Settlement at 2. We find Mr. Schlissel's focus on short term prices does not properly account for future risks

which may include significantly different and higher energy costs. See Soller Settlement Rebuttal at 7. IPL's economic analysis reflects base assumptions as well as low and high pricing assumptions. Soller Settlement Rebuttal at 2-3. IPL appropriately used a fundamental forecast to develop a more robust assessment of potential risks. Soller Rebuttal at 17. Consistent with past practice in Commission proceedings, IPL reasonably used the most recent natural gas and market price information available during the preparation time period in its analyses in this proceeding. Soller Settlement Rebuttal at 3. As discussed below, we find and conclude that IPL's analysis reasonably bounds the potential future outcomes and provides a reasonable foundation for a decision to move forward with the proposed Compliance Projects as provided in the Settlement Agreement. While the natural gas prices used in IPL's analysis are higher than recent actual prices, they reflect a long-term view of a range of potential outcomes to reflect possible risk, are based on upon a fundamental model of the Eastern Interconnect and are consistent with other 2016 forecasts. Soller Settlement Rebuttal at 4, 7; Soller Rebuttal at 17, 19, 20.

JI argues that the additional low gas price sensitivity analysis Ms. Soller presented in her settlement rebuttal does "nothing to salvage" IPL's case as the analysis was addressed to the NAAQS Compliance Project and ignored the CCR Compliance Project. JIPO at 28. Ms. Soller's additional analysis was conducted to respond to Mr. Schlissel's testimony and was not a substitute for the extensive additional economic modeling IPL presented in this case. When she was asked why she did not reference the CCR Projects in her discussion of this additional sensitivity analysis, Ms. Soller explained why the CCR Projects were reasonable to do based on the capacity value alone. Tr. at C-8 to C-9.

JI also urged the Commission to sweep aside the ABB forecast by finding that "the Commission is dismayed at IPL's decision not to update its modeling with the most up to date forecasts available at the time of filing its case-in-chief in this proceeding." JIPO at 28. Notably, JI made no attempt to reconcile this proposed finding with the record evidence. IPL used the ABB forecast available at the time it performed the economic analysis. The 2016 Spring Reference case was not fully available until May 2016, the same month that IPL's case-in-chief was filed. Soller Settlement Rebuttal at 6. The 2016 Fall Reference case was not fully available until January 2017, the same month as the final evidentiary hearing in this Cause. *Id.* In its filing, JI fails to adequately consider the substantial evidence demonstrating that reliance on the 2015 Fall Reference Case remains reasonable notwithstanding the subsequent issuance by ABB of other forecasts. Soller Rebuttal at 18-27; Soller Settlement Rebuttal at 2-7; Tr. at B-52 to B-54. Further, the record shows updating forecasted data in the modeling is not simply a matter of purchasing new information. Soller Settlement Rebuttal at 4. ~~If the~~ JI suggests (JI Brief at 8-9; JIPO at 23, 28) that IPL could have simply waited another four to six weeks to rerun its analysis. This ignores the additional delay such an approach would create. Furthermore, if updated ABB forecast data were utilized, IPL would also need to update all model runs, review output data, and revise exhibits to fully reflect modeled outcomes due to dispatch reprioritization. *Id.* Once the new economic analysis was available, the other parties would need time to assess it and file testimony, and then IPL would need an opportunity to present rebuttal testimony. *Id.* All the while, time would continue to pass, compliance deadlines would draw nearer and new information, both actual and forecast, would continue to become available. Continuing to delay a decision to assess more information does not constitute good decision-making. Nor is it conducive to administrative efficiency. *See Southern Ind. Gas & Elec. Co.*, Cause No. 44446, Order on Remand at 2 (IURC 6/22/2016) (declining to reopen record in CPCN proceeding to

admit evidence of changes in ELG Rule, natural gas prices and updated MISO capacity forecast). The record shows IPL must take action to ensure adequate and reliable utility service and compliance with approaching environmental compliance deadlines. The Settlement Agreement presents a reasonable path forward.

Further, while low natural gas and market energy prices may prevail, there is also real potential that they may not. While Mr. Schlissel raised concerns about IPL's natural gas price forecasts not being low enough, the OUCC testimony cited concerns that decreased supply of natural gas may drive prices even higher. Rutter Direct at 7. Moreover, the record shows that each Compliance Project remains reasonable even under low natural gas and low market energy pricing scenarios. Soller Settlement Rebuttal, 14-16. As explained by Ms. Soller, under this scenario, customers will benefit from low natural gas prices through MISO market purchases during hours when they are more cost effective than dispatching IPL units. *Id.* at 8-9. In addition, the Petersburg generating facility is "steel in the ground" and serves as a hedge against market volatility if natural gas prices increase significantly. *Id.* at 8. IPL's ability to purchase and store coal minimizes customer exposure to fluctuating natural gas prices. *Id.* This fleet fuel diversity mitigates risks, which is especially pertinent given IPL's recent fleet changes at Harding Street which also relies on natural gas. *Id.* Mr. Schlissel's analysis fails to recognize that retiring the units now reduces future optionality and flexibility. *Id.* at 9, 16.

Mr. Schlissel's focus primarily on energy prices overlooks the capacity value of the Petersburg units. Soller Settlement Rebuttal at 8-9. This is significant because the capacity value analysis demonstrates the reasonableness of the CCR Project regardless of the energy contribution and natural gas price issues raised by Joint Intervenors. In other words, even if we were to agree with Mr. Schlissel's concerns regarding the potential for low natural gas prices in the future and ignore the full range of potential future outcomes, the record shows Petersburg would continue to provide significant value from a capacity standpoint alone. Soller Settlement Rebuttal at 12-13. Although IPL fully expects the Petersburg units to be dispatched to provide energy value in the MISO market during the short term payback period, the capacity value analysis further demonstrates the reasonableness of the CCR Project. This capacity value payback analysis uses the same near-term capacity prices that Mr. Schlissel reflected in his own analysis. [This refutes JI's suggestion that the economics of IPL's proposed projects rely on capacity market forecasts that are unreasonable. See JIPO at 29; cf. Soller Rebuttal at 24-26; Soller Settlement Rebuttal at 10-12. In its post-hearing filing, JI argued that IPL's "simple payback" analysis "is an inadequate defense because it does not factor in the effects of energy markets on the economics of the Petersburg units." JIPO at 29. This argument misses the point of the "capacity value" analysis, which recognizes that "capacity value" is not correlated to energy market values or natural gas prices, and demonstrates that regardless of future energy prices, the capacity value alone justifies the CCR Project. Tr. at C-5.](#)

We further find ~~Mr. Schlissel~~JJ's other criticisms of the capacity prices in IPL's economic analysis lacks merit. Among other things, Mr. Schlissel's testimony is based on an analysis of PJM which is not representative of conditions in MISO, the relevant RTO. Soller [Rebuttal at 15-16, 24-26; Soller Settlement Rebuttal at 10-13; Soller Rebuttal at 15-16, 24-26.13.](#) Further, the record shows higher capacity prices are more likely in MISO in light of recently announced generating unit retirements in Indiana. Soller Settlement Rebuttal at 10. Moreover, it is not necessary for capacity prices to reach CONE in order for Petersburg to continue to provide

significant value, as shown in the capacity payback analysis presented by IPL. Soller Settlement Rebuttal at 12-13. JI's concerns regarding future capacity markets are not sufficient to overcome the substantial evidence demonstrating IPL's projected capacity prices are reasonable.

IPL's analysis included four carbon tax scenarios designed as a proxy for unknown future carbon costs. Crockett Direct at 5; also Soller Direct at 11-13. Thus, Mr. Schlissel's contention in his settlement testimony (p. 27), that IPL did not include CO₂ costs for multiple endpoints is inaccurate. Soller Settlement Rebuttal at 21. JI's post-hearing filing focuses on two of the four carbon tax scenarios IPL analyzed. JIPO at 28-31. In these two scenarios, ABB developed correlated gas and market prices. *Id.*; also Tr. at B-28 to B-29. In the moderate carbon tax scenario the ABB correlated gas and market prices commenced in 2020. *Id.* In the high carbon tax scenario the ABB correlated gas and market prices commenced in 2025. *Id.*

In its post-hearing briefing, JI argued that IPL's analysis is "unreasonable" and "biased". JI Brief at 10-11. JI's argument raises and confuses three points. First, JI argues that the 45% probability assigned to two or the four carbon scenarios is unreasonable. Second, JI argues about IPL's assumption that the ABB correlated pricing was 100% likely in the two carbon scenarios that used the ABB pricing. Third, JI argues that IPL should have expanded these two particular carbon scenarios to include an analysis of higher and lower natural gas prices. Notably JI's post-hearing brief fails to reconcile these arguments with the record as a whole. Doing so refutes the claim of bias and demonstrates that IPL's analysis is reasonable.

IPL's analysis assumed a 100% probability that the ABB correlated prices would occur in the two carbon scenarios JI criticizes. Put another way, in these two carbon scenarios IPL assumed the market prices would be those produced from the ABB correlated fundamentals forecast. IPL did not assume that the natural gas prices in these two scenarios would be higher or lower than those forecasted by ABB. Tr. at A-82 to A-84. Ms. Crockett explained that the carbon tax is basically an adder on to the market price. *Id.* at A-83. Consideration of higher or lower natural gas prices in these two scenarios would have required the development of additional market prices. *Id.* Consideration of higher gas or lower gas prices was not necessary given the impact that the high carbon costs would impute based on those assumptions, and doing this analysis would complicate the modeling without significantly changing the results. Tr. at B-29 to B-30. Relying on an established expert, such as ABB, and using information produced through the fundamentals analysis, is reasonable. Such reliance is not evidence of bias. While JI may not like the fact that the ABB correlated prices are higher as a result of the carbon tax, that is not a sound basis to ignore the modeling results. IPL's decision not to perform additional scenarios—given the extensive analysis already conducted—is also supported by substantial evidence showing the proposed projects are reasonable.

JI's argument that IPL's analysis assumed a "45% probability within the model that Congress will enact legislation creating a carbon tax" is inaccurate. JIPO at 24, 28-31; also JI Brief at 10. Ms. Soller explained that this is not a *prediction* that IPL believes a carbon tax will prevail, nor is that the intention of modeling carbon costs as a tax. The carbon tax costs are intended to forecast potential impacts only. Tr. at B-21 to B-31. IPL's two carbon tax scenarios are a reasonable proxy for potential costs that would impact IPL's coal-fired units.

JI's reference to the pricing in these two scenarios as "extremely high" is also inaccurate and provides no frame of reference. JIPO at 23, 28-31. While these prices may be high as compared to what JI might prefer or as compared to 2016 actual market and natural gas prices, the record does not demonstrate that these correlated prices are higher than what one might reasonably expect in the carbon tax scenarios. These correlated prices are the result of ABB's fundamentals analysis. We also note that JI's use of the words "extremely high" is disingenuous. Ms. Crockett's utterance of these words was in relationship to the prices being higher than the base case:

Q. Why is that?

A. Because when you introduce a carbon tax, especially as high as what we did in these scenarios, the market prices are extremely high, higher than -- than the base.

Q. What do you mean by extremely high?

A. The impact on the carbon tax and the gas price makes the market price go up by quite a bit. It's basically an adder -- That carbon tax is basically an adder on to the market price.

Tr. at A-83.

With respect to the four CO₂ scenarios, this part of IPL's probabilistic decision-tree analysis assigned a 45% probability to the moderate ICF and high carbon cost cases -- the two scenarios which used the ABB correlated market prices as discussed above. Soller Direct, at 13. JI argues that this weighting is somehow unreasonable because "IPL assumed a 100% probability that gas prices would be higher than its base case due to the carbon tax." JIPO at 29; JI Brief at 10. This argument confuses the purpose of these two distinct percentages. As discussed above, it was reasonable for IPL to assume that the correlated prices produced by ABB's fundamentals forecast would occur in these two carbon scenarios. This input is distinct from, and thus fails to invalidate, the 45% probability assigned in the decision-tree analysis. The 45% probability used in the decision-tree modeling merely reflects that the timing/costs associated with these two scenarios differs from the 55% probability assigned to the other two carbon scenarios, namely the low carbon case and the moderate EPA case.

While it is uncertain when or if Congress will enact legislation creating a carbon tax, we find it reasonable for IPL to take this potential cost into consideration. IPL's analysis included carbon costs in all scenarios. IPL modeled the EPA's proposed Clean Power Plan as starting in 2020, whereas the final Clean Power Plan is expected to start in 2022 or beyond. Tr. at C-26. Including the potential costs earlier provided modeling consistency and permitted more of a worst-case scenario view. *Id.* We find that IPL's analytical approach is reasonable. While JI argues (JIPO at 29) that the inclusion of carbon tax scenarios biases the modeling in favor of the Compliance Projects, we disagree as explained above. Additionally, we note that should such legislation fail to pass, such reduced carbon impacts would ostensibly offer greater value to coal-fired generating resources, such as Petersburg, versus any gas-fired or renewable

replacement resource. In other words, the approach taken by IPL is a conservative and responsible way to model carbon. Tr. at C-25.

We also find it reasonable to consider optionality and flexibility in the face of future uncertainty about carbon or other costs. Soller Settlement Rebuttal, at 9-10. The Petersburg units offer reliable, locally sourced generation. Absent the CCR Compliance Project, IPL could be required to shut down the Petersburg units by April 11, 2018 under the variance and as early as April 17, 2017 without the variance. Collier Rebuttal at 3. The need to immediately acquire replacement energy and capacity would subject IPL's customers to significant risk of price increases due to a) the unavoidable and significant dependence on the wholesale market that would result from such a decision and b) the higher incremental cost of the resources that would be needed to meet IPL's customers' need for energy and capacity. We decline to expose IPL and its customers to such price risk based on JI's concerns.

JI also claims that another unreasonable bias is IPL's modeling of Petersburg off-system sales, which JI argues is also "inaccurate." JIPO at 29. We find this contention lacks merit. IPL's PVRR modeling of off-system sales from Petersburg was not shown to be "inaccurate". The proper modeling of off-system sales in the PVRR analysis is not evidence of bias. The PVRR analysis establishes a new revenue requirement for each year of the analysis period. Similarly, in a retail rate case the Commission looks to establish a reasonable level of OSS margins to embed in retail rates. Because a rate case is not conducted annually, the Commission has established a sharing mechanism which recognizes changes in OSS margin levels. This difference between the PVRR modeling and the timing of a retail rate case does not demonstrate bias or otherwise support a conclusion that IPL's analysis is unreasonable. IPL's modeling is consistent with PVRR modeling the Commission has accepted in other proceedings. Mr. Schlissel's analysis considered information that included the Eagle Valley CCGT which is currently under construction. This investment is not the subject of this proceeding. Soller Rebuttal at 27-28. We recently reviewed and approved IPL's retail rates and will do so again upon completion of the Eagle Valley CCGT which is currently under construction. The issue of symmetry in the treatment of off-system sales may be addressed in the IPL rate case where the CCGT is reflected in rate base. Soller Rebuttal, at 28; Order in Cause No 44576 at 80.

Substantial evidence establishes that ~~Mr. Schlissel~~JI's recommendation that we deny the CPCN request and instead require IPL to begin planning for the retirement of Petersburg is neither a practical nor economic option for IPL to comply with CCR regulatory requirements within the CCR compliance timeline. Schlissel Direct at 40-49. IPL has already considered the economics of retiring, refueling or retrofitting Petersburg Station. IPL has also reasonably considered the potential for renewable wind and solar PV resources and energy efficiency in its 2014 and 2016 IRP processes. Soller Rebuttal at 10, 17-21; Soller Settlement Rebuttal at 19. The evidence shows that these resources simply cannot feasibly replace the energy and capacity from Petersburg. Mr. Schlissel's contention otherwise lacks merit. Schlissel Direct at 2-3; Soller Rebuttal at 6, 21, 28-30. A CCGT represents the most cost-effective resource option as a proxy to replace Petersburg as described in Ms. Soller's rebuttal testimony. Soller Settlement Rebuttal at 21. Future resources may include alternatives such as DSM, solar, wind and/or energy storage. IPL's most recent IRP selected both Compliance Projects as reasonable. Soller Rebuttal at 38. The reserve margins resulting from the IRP analyses include Commission approved resource changes, including the Eagle Valley CCGT approved in Cause No. 44339. There, the

Commission found that IPL's utility-specific plan "is a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers." Soller Rebuttal at 28 (quoting 44339 Order, at 28, 39). Here, we conclude that the Compliance Projects proposed in the Settlement Agreement represent a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers.

The record shows that retiring Petersburg now based on the premise of continued low natural gas and market energy prices is a large gamble which could adversely affect customers. Soller Settlement Rebuttal at 9. As explained by Ms. Soller, the CCR Compliance Project is necessary to continue to operate any of the Petersburg units beyond the CCR compliance deadline. *Id.* The Petersburg capacity could not be replaced in an economic manner prior to the CCR compliance date under the current variance of April 2018, which would prompt significant capacity and energy market dependence. *Id.* Gas prices can increase significantly with little notice. This would result in high cost market purchases and negate the assumed benefits of a low natural gas price scenario. *Id.* at 9-10. We find this is not an acceptable position for IPL or its customers. Because the cost of the CCR Compliance Project does not change materially by the number of operating units, this compliance cost does not justify the retirement of any Petersburg unit.

As stated above and demonstrated in IPL's direct, rebuttal and settlement testimony, the NAAQS Compliance Project is also reasonable even if low natural gas prices prevail. *Id.* at 10. While the analysis shows the retrofit decision regarding Petersburg Unit 2 is not as clear under the 100% low gas price sensitivity, we agree with the Settling Parties that the Petersburg Unit 2 NAAQS SO₂ retrofit remains a reasonable least cost choice. As Ms. Soller explained, retrofitting Petersburg Unit 2 for NAAQS SO₂ compliance will enhance and improve the reliability and integrity of the FGD systems and thus unit reliability. Retrofitting the unit will also maintain operational optionality and flexibility to further enhance Petersburg Unit 2 such as refueling it in the future to benefit customers. The NAAQS SO₂ Compliance Project measures for Petersburg Unit 2 consist of installing redundant switchgear and a transformer. This equipment has a "long lead time", meaning that it can take six to nine months to obtain a replacement if the switchgear or transformer fails. The analyses and IPL's analysis of the EFOR risk supports the conclusion that this component should be pursued at this time. If the project were not pursued, customers will be exposed to energy market purchase costs for an extended period of time due to the long lead time nature of this equipment. See Soller Settlement Rebuttal at 16-17.

In sum, IPL's analysis focused on addressing how to meet the Compliance requirements for CCR and NAAQS SO₂. The IPL alternatives of retrofitting, refueling, or replacing Petersburg with a CCGT compared to market purchases are all feasible solutions. IPL reasonably relied upon consultants and industry experts to provide forecast information and probabilities of potential future outcomes as well as its industry knowledge in the analysis. IPL's analysis included consideration of alternative compliance options including refueling or replacement with a CCGT in this proceeding and utilizing DSM, solar and wind as part of the IRP process. IPL focused the analysis results on PVR to minimize customer costs. Tradeoffs include mitigating customer cost risks associated with potential EFOR impacts if NAAQS SO₂ Compliance measures were not installed and significant reliance on market energy and capacity purchases if the CCR Compliance Project was not completed. IPL used logically correct reasoning through robust modeling tools including production cost modeling and decision tree analysis on a unit by

unit basis for NAAQS SO₂ and station basis for CCR with off-ramps available to address potential changes in future environmental regulations. This is consistent with previous analyses by IPL and other Indiana utilities.

Accordingly, we find that IPL reasonably considered alternative plans for compliance with the federally mandated requirements. The evidence demonstrates that each Compliance Project is reasonable and necessary. Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfies Ind. Code § 8-1-8.4-6(b)(1)(D).

(5) Useful Life of the Facility. (Ind. Code §§ 8-1-8.4-6(b)(1)(E) and 8-1-8.4-7(b)(3)). The new NAAQS limits require all FGD systems to be in service whenever a Unit is in operation. This is a change from past operations at Petersburg. As stated above, past SO₂ limits allowed IPL to remove the FGD systems from service for periods of time when lower sulfur coal or other operational means allowed the Petersburg units to meet the existing emission limits. Essentially, under the new NAAQS limits, a FGD outage will result in a generating Unit outage with its attendant economic consequences. As noted above, the Units would likely be de-rated or taken offline absent the NAAQS Compliance Project. Therefore, the proposed NAAQS Compliance Project is undertaken to extend the usefulness of the Units and avoid the de-rating that would otherwise occur. Scott Direct at 22-23.

IPL is required to comply with the CCR Rule in order to continue to operate its coal fired generating assets at Petersburg. Therefore, by undertaking the proposed CCR Compliance Project, IPL will extend the period of usefulness of the Units. Scott Direct at 31. [This is true regardless of what future CCR Rule compliance actions may be required in the future. Accordingly, there is a sufficient evidentiary basis to reach a determination on this issue.](#)

Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfies Ind. Code § 8-1-8.4-6(b)(1)(E).

(6) Conclusion. Chapter 8.4 requires an analysis of alternative plans that demonstrate the proposed compliance project is reasonable and necessary. IPL has examined other alternatives. The record reflects that the Projects are aligned with IPL's 2014 and 2016 IRPs. The record also reflects substantial PVRR analysis of each project under differing scenarios. This analysis shows that the proposed projects as modified by the Settlement Agreement constitute a reasonable, least cost approach to compliance. The 'least-cost planning' approach is used to identify the lowest cost project but does not, [contrary to JI's assertion \(JI at 5\),](#) require the automatic selection of the absolute least cost alternative. Rather, we look for the least cost approach viewed as *reasonable* and consider factors such as service reliability, technical constraints, plan flexibility and optionality. See *Re Joint Petition of PSI Energy, Inc. and CINCAP VII, LLC*, Cause No. 42145 (IURC 12/29/2002), at 4 (quoting *Re Southern Indiana Gas & Electric Co.*, Cause No. 38738 (IURC 10/25/1989), at p. 5); *Re PSI Energy, Inc.*, Cause No. 39175 (IURC 5/13/1992), at p. 14 (emphasis added). Accordingly, we find and conclude that each Compliance Project (as modified by the Settlement Agreement) is reasonable and necessary to comply with the federally mandated requirements.

As a practical matter, a decision to retire the Petersburg units would be difficult to reverse and would likely expose IPL's customers to immediate rate spikes due to the need to replace this low cost, locally fueled capacity. The record shows IPL has already retired or repowered and replaced its older coal facilities in response to federal environmental mandates and the ongoing need for adequate and reliable service in IPL's service area. Scott Settlement at 8. IPL serves customers through an increasingly diverse portfolio that includes wind, solar, and demand-side management. IPL's remaining coal-fired units at Petersburg already have air pollution controls and are comparatively younger units. We find that as IPL continues to expand the diversity of its generation and DSM/EE mix, it is important that the Units at Petersburg Station are able to continue to operate on coal and protect customers from potential price volatility in the gas markets. The Petersburg Station's strategic physical location in southwest Indiana allows it to benefit from its close proximity to inexpensive coal. The Compliance Projects also allow IPL and its customers to realize the ongoing benefits of the recent investments in other pollution control equipment as well as the robust design of the original equipment which serves as a platform for these projects. [JI's opposition to the Settlement Agreement and the Compliance Projects ignores these very real customer benefits.](#)

In sum, we find continued investment in the Petersburg Generating Station as provided for in the Settlement Agreement is economically justified, reasonable and necessary. The record shows that the Settlement Agreement reflects a negotiated compromise and provides a reasonable and cost effective means to achieve timely and cost effective compliance while maintaining safe, reliable and economic service in compliance with the environmental policy established by our federal government. The record further shows that while the original proposed Compliance Projects remain cost-effective for customers, the Compliance Projects as revised to reflect the Settlement Agreement also remain economic for customers as shown by the revised PVRR values. Soller Settlement at 9. We therefore find approval of the Settlement Agreement serves the public interest. Accordingly, the Commission grants a CPCN for each Compliance Project under Chapter 8.4 in accordance with the Settlement Agreement.

B. Accounting and Ratemaking.

(1) Ratemaking Proposal. Ind. Code § 8-1-8.4-7(c) sets forth the accounting and ratemaking treatment for approved federally mandated costs associated with an approved compliance project. The statute provides the utility's authorized net operating income shall be adjusted to reflect any approved earnings for purposes of Ind. Code § 8-1-2-42(d)(3). The statute further provides that actual costs that exceed the projected federally mandated costs of the approved compliance project by more than 25% shall require specific justification by the utility and specific approval by the Commission before being authorized in the next general rate case filed by the utility. The Settlement Agreement presents a negotiated compromise that resolves the issues raised by the OUCC and Intervenor Industrial Group. The negotiated resolution is within the scope of this evidence and further supported by the settlement testimony of the Settling Parties. We find the accounting and ratemaking terms of the Settlement Agreement are reasonable and should be approved.

~~Mr. Schlissel~~JI recommended that if the Commission approved the Projects that the Commission attach conditions on IPL's cost recovery should actual prices vary from IPL's

forecasted prices. We find this proposal to be undefined and inconsistent with the regulatory framework. These flaws were detailed by IPL Witnesses Soller and Cutshaw. Soller Rebuttal at 31, Settlement Rebuttal at 22-23; Cutshaw Rebuttal at 11-12; Cutshaw Settlement Rebuttal at 1-4. The analysis supporting the Settlement Agreement reasonably accounts for a range of potential future scenarios. As explained in Ms. Soller's rebuttal testimony (at 31), projections are established to inform stakeholders of possible risks and opportunities given a range of uncertain futures. The pre-approval process provides for prudence determinations to be made upfront. JI's position contravenes the regulatory framework and would subject the Projects to the prospect of unreasonable hindsight review. IPL's economic analysis comports with good decision making and planning and shows that the projects as agreed to in the Settlement Agreement reflect the reasonable least cost compliance path, and this serves the interest of IPL's customers.

Other policy considerations also support rejection of ~~Mr. Schlissel~~JI's recommendation. As we recently stated in *Indianapolis Power & Light Company*, Cause No. 44540 (IURC 7/29/2015), p. 31, "the Commission's Order in Cause No. 44242 was an approval and modification of a settlement agreement presented by the parties, and therefore, pursuant to the terms of the settlement, has no precedential effect on the parties." We find that decision does not justify the conditions Mr. Schlissel recommends here. See Cutshaw Rebuttal at 11-12. Accordingly, we reject Mr. Schlissel. Nor are we persuaded that JI's criticisms of IPL's economic modeling warrant the conditions JI recommends. As discussed above, IPL's analysis reasonably and conservatively accounted for a variety of future plausible scenarios. Such forecasts are not intended to be a "crystal ball" representation of the future, and we decline to impose conditions on IPL that could penalize it for circumstances beyond its control. Accordingly, we reject JI's recommendations.

Therefore, we further find and conclude that accounting and ratemaking as set forth in the Settlement Agreement should be approved. As provided in the Settlement Agreement: 1) the construction costs (exclusive of AFUDC) approved for cost recovery in this proceeding are \$29,213,000 for the NAAQS-SO₂ Compliance Project and \$46,900,000 for the CCR Compliance Project; 2) AFUDC will be accrued on each Project and included in the project costs; and 3) cost recovery shall be limited to the cap on Total Deferrals of the Compliance Projects as provided in Section A.2. of the Settlement Agreement.

C. Ongoing Review. So as to allow the Commission to keep itself informed, IPL proposed to submit progress reports and any revisions in the cost estimates as part of its ongoing ECCRA proceedings. The ECCRA docket is currently used for ongoing review of other previously approved projects. None of the other party witnesses opposed this proposal. As discussed above, the Settlement Agreement incorporates an ongoing review process which was not opposed by the Non-Settling Parties. The Commission finds the proposed ongoing review process is reasonable and should be approved.

D. Chapter 8.7. This proceeding does not involve a request for the initial installation of FGD systems. Rather, the NAAQS SO₂ Compliance Project is proposed to enhance and improve the reliability and integrity of the existing FGD systems. Scott Direct at 5. The recent Indiana Court of Appeals decision in *Citizens Action Coalition of Indiana, Inc. v. Southern Ind. Gas & Electric Co.*, 45 N.E.3d 483 (Ind. Ct. App. 2015), addressed the need for the Commission to issue a CPCN under Ind. Code ch. 8-1-8.7 in

order for a utility to use CCT to reduce sulfur emissions from a coal-fired generating unit. In light of this decision, IPL requested the Commission, to the extent necessary, modify IPL's CPCN under Chapter 8.7 or issue a new CPCN authorizing the installation and use of the proposed NAAQS Compliance Project should the Commission determine the proposed control measures constitute CCT.

IPL Witness Scott discussed the components of the NAAQS Compliance Project in his direct testimony. He explained that while this equipment constitutes air pollution control property, when each control measure is viewed in isolation, one could reasonably conclude that the control measures are not "clean coal technology." Scott Direct, 24. He recognized that the Commission previously found the advanced FGD design at Units 3 and 4 constituted "clean coal technology" and stated that the control measures in the NAAQS Compliance Project collectively are necessary to allow the advanced FGD systems to operate successfully and reliably at the lower emission limits. On January 17, 2017 and in response to a docket entry dated January 12, 2017, IPL provided additional information on the development and commercial implementation timeline of DiBasic Acid systems such as those proposed for Petersburg. Pet. Ex. 8. The response explained that IPL began using Dibasic Acid in 1985 after a successful testing program that began in 1984. The response also included a 1983 article discussing the testing and commercialization of BDA systems.

Section A1d of the Settlement Agreement provides that to the extent approval of the NAAQS Compliance Project is required under Ind. Code ch. 8-1-8.7, such approval shall also be granted by the Commission. The Settlement Agreement further provides that this agreement is limited to the circumstances associated with the NAAQS Compliance Project and the Settling Parties preserve all rights and all positions they may have regarding the application of Ind. Code ch. 8-1-8.7 to any future IPL compliance project. We find this provision is reasonable.

The record reflects substantial evidence showing that the components of the NAAQS Compliance Project in isolation do not constitute CCT. This evidence supports the conclusion that issuance of CPCN under Chapter 8.7 is unnecessary under the circumstances here. Even if that were not so, we find that to the extent authority under Chapter 8.7 were required, it should be granted. The record reflects substantial evidence showing that if such a CPCN were required, the statutory criteria have been satisfied. See Soller Rebuttal at 36-37.

7. **Confidentiality.** IPL filed a motion for Protection and Nondisclosure of Confidential and Proprietary Information on May 31, 2016 which was supported by affidavits showing documents to be submitted to the Commission were trade secret information within the scope of Ind. Code §§ 5-14-3-4(a)(4), (9), and 24-2-3-2. The Presiding Officers issued a Docket Entry on June 15, 2016 finding such information to be preliminarily confidential, after which such information was submitted under seal. No party objected to the confidential and proprietary nature of the information submitted under seal in this proceeding. We find all the information is confidential pursuant to Ind. Code § 5-14-3-4 and Ind. Code § 24-2-3-2, is exempt from public access and disclosure by Indiana law and shall continue to be held confidential and protected from public access and disclosure by the Commission.

IT IS THEREFORE ORDERED BY THE INDIANA UTILITY REGULATORY

COMMISSION that:

Ordering Paragraphs

1. The Settlement Agreement is approved in its entirety.
2. IPL shall be and hereby is issued CPCNs under Chapter 8.4 for the Compliance Projects This Order constitutes the Certificates.
3. For purposes of Ind. Code § 8-1-8.4-7(c), IPL's estimated total cost of the NAAQS SO₂ Compliance Project in the total amount of \$29.213 million (excluding AFUDC) is approved as provided in the Settlement Agreement.
4. For purposes of Ind. Code § 8-1-8.4-7(c), IPL's estimated total cost of the CCR Compliance Project in the total amount of \$46.900 million (excluding AFUDC) is approved as provided in the Settlement Agreement.
5. IPL's cost recovery in accordance with Ind. Code § 8-1-8.4-7(c) and IPL's request for accounting authority to implement this cost recovery are approved in accordance with the Settlement Agreement.
6. The Confidential Information filed under seal in this Cause shall continue to be treated by the Commission as confidential and not subject to public disclosure.
7. This Order shall be effective on and after the date of its approval.

HUSTON, ATTERHOLT, FREEMAN, HUSTON, WEBER, AND ZIEGNER CONCUR:

APPROVED:

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

**Mary Becerra
Secretary of the Commission**

DMS ~~4621501~~4724644v1

Document comparison by Workshare Compare on Friday, February 24, 2017
2:54:51 PM

Input:	
Document 1 ID	file:///C:/Users/jxn/Desktop/FINAL Proposed Order (44794).DOC
Description	FINAL Proposed Order (44794)
Document 2 ID	file:///C:/Users/jxn/Desktop/CLEAN Reply Brief Revised FINAL Proposed Order (44794).DOC
Description	CLEAN Reply Brief Revised FINAL Proposed Order (44794)
Rendering set	Standard

Legend:	
<u>Insertion</u>	
Deletion	
Moved from	
<u>Moved to</u>	
Style change	
Format change	
Moved deletion	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	81
Deletions	101
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	182

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS)
POWER & LIGHT COMPANY (“IPL”), AN)
INDIANA CORPORATION, FOR (1))
CERTIFICATES THAT PUBLIC CONVENIENCE)
AND NECESSITY (“CPCN”) WILL BE SERVED)
BY COMPLIANCE PROJECTS TO ALLOW IPL)
TO COMPLY WITH FEDERALLY MANDATED)
REQUIREMENTS AT PETERSBURG)
GENERATING STATION; (2) APPROVAL OF)
ASSOCIATED ACCOUNTING AND) CAUSE NO. 44794
RATEMAKING TREATMENT, INCLUDING)
COST RECOVERY IN ACCORDANCE WITH)
IND. CODE § 8-1-8.4-7 AND AUTHORITY TO)
DEFER COSTS UNTIL SUCH COSTS ARE)
REFLECTED IN RATES; AND 3) TO THE)
EXTENT NECESSARY OR APPROPRIATE)
ISSUANCE OR MODIFICATION OF CPCN FOR)
THE USE OF CLEAN COAL TECHNOLOGY)
PURSUANT TO IND. CODE CH. § 8-1-8.7)

REVISED PROPOSED ORDER

Table of Contents

	Page
1. Notice and Jurisdiction.	2
2. Petitioner’s Characteristics.	2
3. Requested Relief.	3
4. Summary of Evidence of the Parties.	3
A. IPL’s Case-in-Chief.	3
(1) Compliance Project Overview and Costs.	3
(2) Environmental Mandates.	4
(3) Economic Analysis.	4
(4) Estimated Federally Mandated Costs.	5
(5) Accounting and Ratemaking.	5
B. OUCC’s Case-in-Chief.	6
C. Industrial Group Case-in-Chief.	7
D. HEC Case-in-Chief.	7
E. Joint Intervenor Case-in-Chief.	8
F. IPL’s Rebuttal.	8
(1) OUCC Concerns.	8
(2) Industrial Group.	12
(3) HEC Concerns -- CCR Project.	12
(4) JI Concerns.	13
5. Overview of Settlement Agreement and Supporting Testimony.	17
A. Settling Parties.	17
(1) Section A of the Settlement Agreement.	17
(2) Section A2 of the Settlement Agreement.	19
(3) Section A3 of the Settlement Agreement.	20
(4) Other Provisions of the Settlement Agreement.	21
(5) Economic Analysis.	21
(6) Rate and Financial Impact.	21
(7) Public Interest.	21
B. Non-Settling Parties.	22
C. Settling Parties’ Rebuttal.	23
6. Commission Discussion and Findings.	29
A. Ind. Code ch. 8-1-8.4 (“Chapter 8.4”).	29
(1) Federally Mandated Requirements.	29
(2) Projected Federally Mandated Costs.	30
(a) Estimated Cost.	30
(3) Compliance with Federally Mandated Requirements.	31
(4) Alternative Plans for Compliance.	32
(a) HEC Criticism.	32
(b) Joint Intervenor Opposition.	33
(5) Useful Life of the Facility.	41
(6) Conclusion.	41
B. Accounting and Ratemaking.	42
(1) Ratemaking Proposal.	42

C.	Ongoing Review.	43
D.	Chapter 8.7.....	43
7.	Confidentiality.	44

STATE OF INDIANA
INDIANA UTILITY REGULATORY COMMISSION

**VERIFIED PETITION OF INDIANAPOLIS)
POWER & LIGHT COMPANY (“IPL”), AN)
INDIANA CORPORATION, FOR (1))
CERTIFICATES THAT PUBLIC CONVENIENCE)
AND NECESSITY (“CPCN”) WILL BE SERVED)
BY COMPLIANCE PROJECTS TO ALLOW IPL)
TO COMPLY WITH FEDERALLY MANDATED)
REQUIREMENTS AT PETERSBURG)
GENERATING STATION; (2) APPROVAL OF)
ASSOCIATED ACCOUNTING AND) **CAUSE NO. 44794**
RATEMAKING TREATMENT, INCLUDING)
COST RECOVERY IN ACCORDANCE WITH)
IND. CODE § 8-1-8.4-7 AND AUTHORITY TO) **APPROVED:**
DEFER COSTS UNTIL SUCH COSTS ARE)
REFLECTED IN RATES; AND 3) TO THE)
EXTENT NECESSARY OR APPROPRIATE)
ISSUANCE OR MODIFICATION OF CPCN FOR)
THE USE OF CLEAN COAL TECHNOLOGY)
PURSUANT TO IND. CODE CH. § 8-1-8.7)**

ORDER OF THE COMMISSION

Presiding Officers:

Angela Rapp Weber, Commissioner
Loraine L. Seyfried, Chief Administrative Law Judge

On May 31, 2016, Indianapolis Power & Light Company (“Petitioner”, “IPL” or “Company”) filed its Verified Petition initiating this Cause and its prefiled direct testimony and attachments. IPL submitted its workpapers on June 1, 2016.

Petitions to intervene were filed on June 1, 2016 by Citizens Action Coalition of Indiana, Inc. (“CAC”), on July 1, 2016 by Sierra Club (collectively with CAC, “Joint Intervenors” or “JI”), on July 14, 2016 by Hoosier Environmental Council (“HEC”) and on August 8, 2016 by an ad hoc group of industrial customers (“IPL Industrial Group” or “IG”). The Presiding Officers granted the petitions to intervene.

By docket entry dated July 27, 2016, the Commission established a procedural schedule, which schedule was subsequently modified in accordance with the decisions of the Presiding Officers.

On September 26, 2016, the Commission conducted a public field hearing.

On October 4, 2016, the Indiana Office of Utility Consumer Counselor (“OUCC”), the IPL Industrial Group, HEC and Joint Intervenors prefiled their respective direct testimony and attachments. On October 4, 2016, the OUCC also filed its motion for administrative notice, which request was granted by Docket Entry dated October 19, 2016. On October 5 and 6, 2016, the OUCC, Joint Intervenors and HEC submitted their respective workpapers.

On November 1, 2016, IPL prefiled its rebuttal testimony, attachments and workpapers.

By docket entry dated November 17, 2016, the Presiding Officers entered a request for information, to which IPL responded on November 28, 2016.

On November 30, 2016, IPL, OUCC and IG (“Settling Parties”) filed a joint motion for leave to submit a settlement agreement and for modification of procedural schedule, which motion was subsequently granted. IPL and the OUCC filed testimony and attachments supporting the settlement agreement and workpapers on December 1, 2 and 5, 2016. The settlement procedural schedule was established on December 12, 2016.

On December 20, 2016, Joint Intervenors filed a motion to compel and suspend the procedural schedule, which motion was denied on December 22, 2016.

On December 22, 2016, Joint Intervenors filed its testimony regarding the settlement agreement. IPL filed its settlement rebuttal testimony and attachments on January 6, 2017.

By docket entry dated January 12, 2017, the Presiding Officers entered a request for information, to which IPL responded on January 17, 2017.

Pursuant to notice of hearing given and published as required by law, proof of which was incorporated into the Commission’s official file, a public evidentiary hearing in this Cause was convened on December 12, 2016, and continued to January 18 and 26, 2017, at which time the parties presented their respective evidence and offered witnesses for cross-examination. Following the hearing, post-hearing proposed orders and briefs were filed in accordance with the established schedule for such filings.

The Commission, based upon the applicable law, the evidence herein, and being duly advised, now finds as follows:

1. Notice and Jurisdiction. Due legal and timely notice of the hearing in this Cause was given and published as required by law. Petitioner is a “public utility” as defined in Ind. Code § 8-1-2-1(a) and an “energy utility” as defined in Ind. Code § 8-1-8.4-3. Petitioner is subject to the jurisdiction of this Commission in the manner and to the extent provided by Indiana law. Accordingly, the Commission has jurisdiction over Petitioner and the subject matter of this proceeding in the manner and to the extent provided by Indiana law.

2. Petitioner’s Characteristics. IPL is a public utility corporation organized and existing under the laws of the State of Indiana with its principal office and place of business at One Monument Circle, Indianapolis, Indiana. Petitioner is engaged in rendering electric utility service in the State of Indiana. IPL renders retail electric utility service to approximately 480,000 retail customers located principally in and near the City of Indianapolis, Indiana, and in portions

of the following Indiana counties: Boone, Hamilton, Hancock, Hendricks, Johnson, Marion, Morgan, Owen, Putnam and Shelby Counties. IPL owns and operates electric generating, transmission and distribution plant, property and equipment and related facilities, which are used and useful for the convenience of the public in the production, transmission, delivery and furnishing of electric energy, heat, light and power.

3. Requested Relief. In its Petition, IPL requested Commission approval of two Compliance Projects and issuance of certificates that public convenience and necessity (“CPCN”) will be served by the projects to comply with Federally Mandated Requirements at IPL’s Petersburg Generating Station, namely the federal National Ambient Air Quality Standards (“NAAQS”) for sulfur dioxide (“SO₂”) adopted by the Environmental Protection Agency (“EPA”) pursuant to section 109 of the federal Clean Air Act (“CAA”), 42 U.S.C. § 7409, and the Disposal of Coal Combustion Residuals (“CCR”) adopted by EPA under Subtitle D of the Resource Conservation and Recovery Act (“RCRA”), 42 U.S.C. §§ 6941 through 6949a. IPL’s Petersburg Station will comply with the EPA’s Effluent Limitation Guidelines (“ELG”) for Steam Electric Generation Stations as a result of the CCR Compliance Project for which approval is sought in this proceeding. The new Steam Electric Generating ELGs were adopted pursuant to sections 301 and 304, among others, of the federal Clean Water Act (“CWA”). 33 U.S.C. §§ 1311 and 1314. IPL also requested Commission approval of the Federally Mandated Costs and associated ratemaking and accounting treatment, including cost recovery in accordance with Ind. Code § 8-1-8.4-7 and authority to defer costs until such costs are reflected in rates. So as to allow the Commission to keep itself informed of the progress of the proposed Compliance Projects, if the Projects are approved, IPL proposed to submit progress reports and any revisions in the cost estimates as part of its ongoing Environmental Compliance Cost Recovery Adjustment (“ECCRA”) proceedings. In light of the Indiana Court of Appeals decision in *Citizens Action Coalition of Indiana, Inc. v. Southern Ind. Gas & Electric Co.*, 45 N.E.3d 483 (Ind. Ct. App. 2015), should the Commission determine the proposed NAAQS SO₂ control measures constitute clean coal technology (“CCT”), IPL requested the Commission to modify IPL’s CPCN under Ind. Code Ch. 8-1-8.7 or issue a new CPCN authorizing the installation and use of the proposed NAAQS Compliance Project.

4. Summary of Evidence of the Parties. Prior to the submission of the Settlement Agreement, IPL, the OUCC and Intervenor each submitted evidence in this Cause, which is summarized below.

A. IPL’s Case-in-Chief.

(1) Compliance Project Overview and Costs. Mr. Bradley D. Scott, IPL Senior Vice President, Power Supply, provided an overview of the Company and the environmental controls at Petersburg Station and described the projects that IPL proposes to undertake to meet the lower emission limits for SO₂ NAAQS and minimum criteria for CCR surface impoundments (“Compliance Projects”). Scott Direct at 2-11, 25-27. Mr. Scott explained how the control measures in the NAAQS Compliance Project were selected. Scott Direct at 13-16. Mr. Scott described the analysis of alternative options to stabilize the ponds at Petersburg. Scott Direct at 26-28. He explained why the Compliance Projects are reasonable.

He discussed the projected federally mandated costs associated with the proposed

Compliance Projects, the steps taken by IPL to verify the costs and described how the proposed Compliance Projects allow IPL to economically comply with the SO₂ NAAQS and CCR rules. Scott Direct at 3, 12-13, 17-24, 29-31. Mr. Scott clarified that the CCR Compliance Project in this filing is limited to the incremental requirements being created by the CCR Rule, which are described by IPL Witness Collier and are causing IPL to install the proposed bottom ash dewatering system. *Id.* at 3. He stated that IPL's compliance with other aspects of the CCR Rule will be addressed in other proceedings to the extent necessary or appropriate. Mr. Scott provided information as to whether the proposed Compliance Projects will extend the useful life of the Petersburg units, impact dispatch, the likelihood of success of the projects and whether the control measures constitute CCT. *Id.* at 3, 21-25, 31-32.

Mr. Scott also discussed the implementation schedule, explained how IPL will manage the Compliance Projects and discussed IPL's proposal to keep the Commission informed of the Projects' status during implementation. Scott Direct at 34-35. Finally, Mr. Scott explained how the public convenience and necessity will be served by the Compliance Projects. He explained continued investment in the Petersburg Station is economically justified. *Id.* at 33. He said the analysis presented by Ms. Soller shows the proposed Compliance Projects are the most reasonable least cost path forward for the Petersburg Station to comply with the NAAQS SO₂ emission limits and handle ash under the CCR Rule. *Id.* at 33. Mr. Scott added that as IPL continues to expand the diversity of its generation and demand-side management ("DSM")/energy efficiency ("EE") mix, it is important that the Petersburg units are able to continue to operate on coal and protect IPL's customers from potential price volatility in the gas markets. *Id.* at 34.

(2) Environmental Mandates. Ms. Angelique Collier, Director of Environmental Policy AES US Services, LLC, described the federally mandated environmental regulations associated with the proposed Compliance Projects at Petersburg Generating Station. She also described anticipated future environmental regulations and requirements.

(3) Economic Analysis. IPL Witness Joan M. Soller, PE, IPL Director of Resource Planning, presented the results of the economic analysis and modeling undertaken to evaluate IPL's options to comply at Petersburg plant with NAAQS-SO₂ and the CCR Rule requirement to cease sluicing to ash ponds. Ms. Soller discussed the methodology and available compliance options. Soller Direct at 4-6, 18-29. She explained that the ABB strategic planning production cost model was used to evaluate both Compliance Projects. Soller Direct at 6. She discussed how the software model was used to assess risk scenarios by using a probabilistic decision-tree analysis. She explained the "real option overlay" constructed in the decision tree structure to reflect potential avenues IPL may choose as means to adapt to how the scenario risks actually unfold. She said this flexibility can mitigate the risk of an adverse future scenario or take further advantage of opportunities for positive scenarios. Soller Direct at 6-9. Ms. Soller discussed three categories of future risks for scenario modeling: 1) unit specific environmental risks; 2) plant wide risks; and 3) horizon risks. Soller Direct at 9-13. Ms. Soller also presented the scenario assumptions. Soller Direct at 13-17. Ms. Soller concluded that the modeling results indicate the overall reasonable least cost NAAQS-SO₂ compliance option for IPL's Petersburg plant is to retrofit the flue gas desulfurization ("FGD") control systems to improve operational integrity and reliability to avoid negative unit Equivalent Forced Outage Rate ("EFOR") impact. Soller Direct at 29. She added that the unit specific NAAQS-SO₂ costs are relatively low on a per

megawatt (“MW”) basis. *Id.* She testified that the results of the probabilistic scenario analysis identified the Petersburg NAAQS-SO₂ retrofit, inclusive of all four Petersburg units, to have the lowest Present Value Revenue Requirements (“PVR”). She stated that the modeling results indicate the overall reasonable least cost option to comply with CCR requirements is to complete the Bottom Ash Compliance Project. *Id.*

Ms. Diane Crockett, ABB Principal Consultant, Advisors Consulting, described the ABB model and ABB Power Reference Case and explained the modeling she performed for IPL.

(4) Estimated Federally Mandated Costs. Mr. Scott testified that IPL expects the cost of the NAAQS Compliance Project to total approximately \$48 million (excluding AFUDC). Scott Direct at 12, 17-21; Petitioner’s Attachment BDS-3. He stated that IPL estimates approximately \$2 million/year of additional ongoing operations and maintenance (“O&M”) expense will be incurred. Scott Direct at 20-21. Mr. Scott testified that the estimated total cost of the CCR Compliance Project is \$46.9 million. Scott Direct at 29-31. He stated that it is not anticipated that there will be incrementally more O&M or a savings of O&M required to handle bottom ash using the Bottom Ash System compared to handling bottom ash through the current pond system. Scott Direct at 31. Mr. Scott discussed how both cost estimates were developed and testified that the estimated cost for each project is reasonable. Scott Direct at 21, 31.

Ms. Paula M. Guletsky, Sargent & Lundy, LLC (“S&L”) Vice President and S&L’s Senior Project Director for IPL, discussed: 1) S&L’s NAAQS Study for IPL’s Petersburg Station Units 1 through 4 for compliance with the State Implementation Plan (“SIP”) SO₂ Limits imposed on IPL’s Petersburg coal fired units, 2) the cost estimate for the capital control measures included in the NAAQS Compliance Project, and 3) the Petersburg CCR-Bottom Ash Compliance Project, including S&L’s cost estimate.

(5) Accounting and Ratemaking. Mr. James L. Cutshaw, IPL Revenue Requirements Manager, addressed the Company’s proposed accounting and ratemaking. He explained IPL’s request for authority to timely recover eighty percent (80%) of the capital, operating, maintenance, depreciation, tax and financing costs (revenue requirement) incurred as a result of the Compliance Project in accordance with Ind. Code § 8-1-8.4-7(c)(1) through the Company’s ECCRA. Cutshaw Direct at 5, 9-15. He testified that the Company seeks authority to create a regulatory asset for the remaining twenty percent (20%) of the capital, operating, maintenance, depreciation, tax and financing costs (revenue requirement) for the Compliance Project not timely recovered through the ECCRA, with carrying costs pursuant to Ind. Code § 8-1-8.4-7(c)(2), until such costs are reflected in the Company’s retail electric rates; and authority to create regulatory assets to record post-in-service AFUDC, both debt and equity, and deferred depreciation associated with the Compliance Project until such costs are reflected in the Company’s retail electric rates or the ECCRA. Cutshaw Direct at 6-7, 9-16. Mr. Cutshaw detailed the Company’s proposed continuation of AFUDC and the deferral of O&M and depreciation expense and discussed the Company’s accounting procedures. *Id.* at 6-9, 11-14. Mr. Cutshaw explained how the Compliance Project will be incorporated into the ECCRA. *Id.* at 14. He testified that IPL will not reflect demolition costs in the construction costs upon which it will earn a return in the ECCRA and explained the methodology for determining the return component. Cutshaw Direct at 14-16. He testified that IPL will reflect the authorized return on

property from the most recent ECCRA orders in determining the total authorized net operating income level to be utilized in the Ind. Code § 8-1-2-42(d)(3) test. Cutshaw Direct at 16-17. Mr. Cutshaw also discussed the calculation of the ECCRA factors. Cutshaw Direct at 16-17. Finally, Mr. Cutshaw presented the estimated rate and financial impact and concluded that the estimates show that while the requested treatment is significant for IPL from a financial perspective, the cost to the typical residential customer is not. Cutshaw Direct at 17-23.

B. OUC's Case-in-Chief. Edward T. Rutter, Chief Technical Advisor in the OUC Resource Planning and Communications ("RPC") Division, reviewed and analyzed the modeling results provided by IPL witness Soller, presented an estimated cost comparison and discussed business risks. Mr. Rutter asserted (pp. 5-6) that IPL's modeling results did not definitively support the proposed NAAQS and CCR Compliance Projects because not all model runs for the individual Petersburg units support the retrofit option as the least cost option and because the numerical differences in the least cost results were "not significant enough". Mr. Rutter recommended (at 6-7, 12) that IPL submit additional modeling runs that encompass the risk resulting from a lack of fuel diversity and the risk and probability of changing environmental regulations. Mr. Rutter also presented the OUC's recommendations that the Commission defer a recommendation on IPL's proposal until ninety days after IPL files its 2016 Integrated Resource Plan ("IRP") and require additional analysis. *Id.* at 8. Finally, Mr. Rutter (pp. 9-12) described a comparative cost analysis he performed which he asserted supports his recommendations.

Anthony A. Alvarez, Utility Analyst for the OUC's RPC division, discussed his analysis of the NAAQS "Emergency" projects, and the CCR dry bottom ash handling system as well as the technical and cost support of these projects. Mr. Alvarez testified (p. 3) that he reviewed IPL's NAAQS Compliance Project and identified which systems and equipment were "essential" and which were "non-essential" to meet IPL's compliance requirement. He recommended the Commission deny the Electrical Switchgear for the Units 1 and 2; the Emergency Limestone Conveyance; and the Emergency Ball Mill components as "non-essential" projects. Alvarez Direct at 12-18, 23. For the "essential" projects, he recommended (p. 4) the Commission cap the cost of each project at its current cost estimate and, if IPL exceeds its estimated cost for any of the projects, the additional cost be deferred without pre-approval or carrying costs until IPL's next rate case, where the prudence of the excess costs can be determined.

Mr. Alvarez (pp. 21-23) discussed the geological conditions at Petersburg and stated that IPL does not reasonably anticipate that it will be able to successfully demonstrate compliance with the structural stability requirements at Petersburg. Mr. Alvarez recommended the Commission cap the cost of the Dry Bottom Ash Handling project at its current cost estimate and not allow IPL to recover any additional O&M cost associated with the operation of the equipment once installed and in-service. Alvarez Direct at 24. He recommended that should IPL exceed its estimated cost for any of the above projects, that the additional cost be deferred, without pre-approval or carrying costs, until IPL's next rate case, when the issue of the prudence of the excess costs can be determined. Alvarez Direct at 24.

Cynthia M. Armstrong, Senior Utility Analyst in the OUC's Electric Division, presented the OUC's review of IPL's proposed environmental compliance plans and

specifically discussed the 2010 primary SO₂ NAAQS revision and the CCR Rule driving IPL's stated need for the NAAQS and CCR Compliance Projects at Petersburg. She discussed the need for the Compliance Projects. Armstrong Direct at 5-6, 19. More specifically, Ms. Armstrong discussed the historical performance of the FGD systems at Petersburg and stated that it is difficult to understand why IPL would be unable to meet the new emission limits even in the absence of the requested projects. *Id.* at 5-7. Additionally, Ms. Armstrong explained other environmental regulations and concerns that may impact IPL's generating facilities in the future. She expressed a concern as to whether IPL had fully accounted for future revisions to ozone NAAQS and strengthened NO_x emission standards and added that future SO₂ and particulate matter emission restrictions could require additional emission reductions for the facility. Armstrong Direct at 25-26. Based on her review of the CCR Rule's structural stability requirements and the ELG Rule, she testified that the CCR Compliance Project is necessary. Armstrong Direct at 11-19. Ms. Armstrong joined OUCC Witness Rutter's recommendation that the Commission withhold approval of the projects until IPL provides its updated IRP and the OUCC and other interested parties can review and comment on the updated IRP. She echoed Mr. Alvarez's recommendation that only the NAAQS projects specified by Mr. Alvarez and the CCR Compliance Projects be approved. Armstrong Direct at 28.

Mr. Wes R. Blakley, Senior Utility Analyst in the OUCC's Electric Division, rendered an opinion on IPL's request for ratemaking and accounting treatment for the proposed Compliance Projects and recovery through its ECCRA. Mr. Blakley (pp. 2-3) agreed with IPL's proposed ratemaking and accounting treatment for the NAAQS and CCR Compliance Projects and stated that it is reasonable to allow these investments to be recovered in the ECCRA because they are federally mandated costs that will run in conjunction with the CCT equipment. Mr. Blakley recommended that: 1) IPL's regulatory assets should be grossed up for income taxes at the time of its next base rate case and not during the deferral periods; and 2) the Commission not determine the type and manner of the rate recovery for the regulatory assets in this Cause, but make that determination in Petitioner's next base rate case proceeding. Blakley Direct at 6.

C. Industrial Group Case-in-Chief. Nicholas Phillips, Jr., Managing Principal of Brubaker & Associates, Inc., testified on the Industrial Group's behalf. Mr. Phillips reviewed IPL's proposal and recommended the establishment of distinct ECCRA tracker charges for each rate rather than broad rate class groupings. Mr. Phillips stated that IPL should use the cost allocation and the development of resulting tracker charges based upon the approved cost of service study in Cause No. 44576, IPL's most recent rate case. Phillips Direct at 4. He testified that IPL's use of aggregated rate class groupings is based upon a stale and outdated methodology and is not cost based. *Id.* at 5. He also addressed the appropriateness of using the ECCRA mechanism as currently configured to recover costs as requested by IPL. Mr. Phillips also proposed the establishment of certain ratepayer protections including a three-year limitation on carrying charges eligible for recovery. Phillips at 8-9.

D. HEC Case-in-Chief. Dr. Indra N. Frank, a self-employed environmental health consultant and HEC Director of Environmental Health and Water Policy, evaluated IPL's CCR project and looked at the proposal here as well as its consideration against a timeline of past and likely future environmental requirements and implications. Frank Direct at 3. She recommended that the Commission take into account all of the costs associated with the more than one million tons of coal combustion residuals generated at the Petersburg Generating

Station each year. She recommended denying the proposal and investing in cleaner forms of energy. She also claimed that IPL did not meet the requirement in Ind. Code § 8-1-8.4-6(b)(1)(D). Frank Direct at 3.

E. Joint Intervenor Case-in-Chief. David A. Schlissel, President of Schlissel Technical Consulting, Inc., assessed the economic viability of IPL's proposed environmental upgrades at Petersburg Units 1-4. He stated that the results of IPL's analysis are driven by the extremely optimistic, unreasonable assumption that the future will be very different (and much more favorable to the economics of coal-fired generation) than the recent past. He stated that IPL's analysis of the proposed NAAQS and CCR environmental upgrades is biased by its failure to consider the potential for renewable wind and solar photovoltaic ("PV") resources and energy efficiency to be significant contributors as part of a portfolio of alternatives for replacing Petersburg's energy and capacity. Schlissel Direct at 2-3. Mr. Schlissel questioned the natural gas, energy and capacity prices in IPL's economic analysis. Schlissel Direct at 4-24, 33-40. He also discussed Petersburg's capacity factors and operating performance. *Id.* at 24-33. Mr. Schlissel testified that the Commission should not give any weight to the economic analysis presented by IPL Witness Soller. Schlissel Direct at 40-41. Mr. Schlissel presented his own economic analysis and testified that the Commission should reject the Company's request for the CPCN and instead require IPL to begin planning for the retirement of Petersburg Units 1-4 through its current IRP process. *Id.* at 40-49. Mr. Schlissel added that the Commission should require the Company to evaluate the economics of alternatives to Petersburg's continued operation in the context of its ongoing IRP analysis. *Id.* at 3. He testified that because IPL is basing its economic analyses on such a drastic change in future circumstances from what we have seen in recent years, that if the Company is allowed to undertake the proposed NAAQS and CCR environmental upgrades, it should be required to bear some of the risks that the revenues it receives from selling Petersburg's energy and capacity into the Midcontinent Independent System Operator ("MISO") markets do not fully recover its future costs of producing power at the plant. *Id.* at 49. He testified that the Commission should adopt a mechanism so that IPL (and its owner) would bear the risks that its projections in this proceeding are not accurate. *Id.* at 49. More specifically, he stated that in any year in which the total revenues from selling Petersburg's energy, capacity and auxiliary services into the MISO markets do not fully cover the total costs of producing power at Petersburg (including fuel, non-fuel O&M (both variable and fixed), capital expenditures and emissions costs, including the costs of CO₂ emissions when prices are set), the Company, not the ratepayers, would bear the net shortfall. *Id.* In addition, Mr. Schlissel proposed the Commission should adopt the condition on granting the CPCN that it adopted in Cause 44242. He stated specifically, the Commission found in the Order in that Cause (at page 36) that, "in the event that [Harding Street Station Unit 7] is taken out of service . . . IPL should not continue to collect depreciation expense for the [Harding Street Station Unit 7] clean energy projects that are . . . approved in this Order." *Id.* at 50.

F. IPL's Rebuttal

(1) OUCC Concerns. Mr. Scott responded to Mr. Alvarez's concerns that some of the components in the NAAQS Compliance Project are "non-essential" (Scott Rebuttal at 2-3); addressed IPL's confidence in the cost estimate and the calculation of the contingency (Scott Rebuttal at 2-4); and explained why a cap on the individual project components would inhibit flexibility and why the statutory process reasonably addresses the

potential for increases in the project cost estimate. Scott Rebuttal at 4-6. Mr. Scott clarified the costs included in the Backup Dewatering Filter component (Scott Rebuttal at 6). He explained the relationship between the Limestone Conveyor Fire suppression system and the “belt bearing” and testified that given the relatively modest investment associated with this project, its benefits to customers and its co-benefit of improving IPL’s safety system, it should be approved. Scott Rebuttal at 7-8.

Mr. Scott clarified the Electric Switchgear project in light of the concerns raised by Mr. Alvarez and explained that the Electric Switchgear is not intended to serve other loads than those required by the Petersburg Unit 1 and Unit 2 FGD systems. Scott Rebuttal at 8-10. Among other things, he added that if the existing transformer fails, both Petersburg Units 1 and 2 would need to be removed from service until a new transformer could be procured and installed (estimated to be 180 days). Scott Rebuttal at 10. He explained that the new backup switchgear will avoid the unit outage and market purchases that would otherwise occur if the existing switchgear failed. He concluded that given the longer lead-time associated with replacing the switchgear in the event of a failure, this project provides important reliability benefits and should be approved. Scott Rebuttal at 10-11.

Mr. Scott also responded to Mr. Alvarez’s assertions regarding the Emergency Limestone Conveyance component of the NAAQS Project. He explained that there is no new building proposed for this component and testified that this is a cost-effective solution that should be approved. Scott Rebuttal at 11.

Mr. Scott also addressed the OUCC’s concerns regarding the Emergency Ball Mill Component of the project. Among other things, he clarified the scope of work, explained that a new building adjacent to the existing limestone preparation building is necessary because the design of the ball mill is for indoor operation and discussed why he disagreed with Mr. Alvarez’s contention that this project component is non-essential. Scott Rebuttal at 12-17.

In response to Ms. Armstrong’s discussion of the need for the NAAQS Compliance Project, Mr. Scott pointed out that while IPL is aware that the Company can meet the new limits with the existing equipment at times, the concern (and the core of IPL’s case) is that IPL needs to meet the new limits continuously because when IPL cannot, it would be required to remove the generating unit from service. He added that with the exception of the DBA Project, the requested projects are all aimed at improving the reliability of the scrubber and minimizing their impact to EFOR. Scott Rebuttal at 19-20.

In response to Ms. Armstrong’s testimony regarding ozone NAAQS, strengthened NO_x emission standards and future SO₂ and particulate matter emission restrictions, Ms. Collier testified that the simple payback period for the NAAQS Compliance Project is less than two years and IPL does not anticipate being required to install additional controls for NAAQS or New Source Review (“NSR”) beyond those included in the economic analysis related to this proceeding, and certainly does not expect such requirements during the two year payback period. Collier Rebuttal at 4. She explained that IPL has made reasonable, conservative assumptions for future environmental costs based on the information currently available and testified that the magnitude of each of these costs, and whether they will actually materialize in the future, remains unknown. Collier Rebuttal at 4-5.

Mr. Scott testified that a special cap on the CCR Compliance costs is not warranted because the governing statute already addresses what happens in the event project costs exceed the projected costs approved by the Commission. He said the Company agrees that it is reasonable to require the Company to justify increases in the project estimate as provided in the governing statute. Scott Rebuttal at 17. He explained that IPL has been utilizing an Engineering Procurement and Construction (“EPC”) methodology for most of the environmental compliance projects approved by the Commission over the past five years. He stated that the structure of an EPC contract does not provide line by line detail for the entire scope of work but rather categories of spend for the various aspects of the project (labor, materials, mobilization, engineering, administrative costs, etc.). Scott Rebuttal at 17-18. He clarified that IPL does not anticipate that there will be incrementally more O&M or a savings of O&M to handle bottom ash using the Bottom Ash System compared to handling bottom ash through the current pond system. *Id.* at 18. Mr. Cutshaw added that he did not see the necessity of an upfront blanket limitation regarding carrying costs should actual costs exceed the Commission approved projected costs. Cutshaw Rebuttal at 7-8.

Ms. Collier testified that the preliminary structural stability analysis Ms. Armstrong reviewed is the same as the final analysis published after the OUCC filed its case-in-chief. Collier Rebuttal at 2. She added that this analysis confirms the need for the CCR Compliance Project. Collier Rebuttal at 2.

Ms. Soller, Mr. Scott and Ms. Collier explained why a delay to wait on the filing of the new IRP is unwarranted, creates uncertainty, increases risk and would adversely affect the Company’s ability to cost effectively comply with the CCR requirements addressed by the proposed Compliance Project. Soller Rebuttal at 3, 10; Scott Rebuttal at 18-19; Collier Rebuttal at 2-3.

Ms. Soller explained that Mr. Rutter’s review of IPL’s modeling does not recognize the robustness of IPL’s probabilistic analysis in this case. Soller Rebuttal at 3. She added that his analysis of options to replace Petersburg generation does not warrant rejection of IPL’s proposal. *Id.* She explained that where, as here, the analysis presented by IPL includes a wide range of sensitivities and scenarios, one would not expect all model runs to identify the same option as least cost. She testified that IPL’s analysis evaluates a broad range of plausible risks with varying magnitudes and probabilities and assesses the potential ramifications of those risks and is the same type of economic analysis used in IPL’s NPDES compliance case. *Id.* She said it is not surprising that in a handful of scenarios the retrofit option is not the least cost option and added that this underscores the robustness of the analysis performed by IPL. *Id.* at 3-4. Ms. Soller stated that the important takeaway, which is missed by focusing on specific scenarios, is that the economic analyses indicate that the Compliance Projects are the reasonable least cost option based upon the aggregate expected value of all scenarios. *Id.* at 4. Ms. Soller also disagreed that the numerical differences in the PVRR results are not significant enough, explaining that Attachment JMS-2 includes overlapping costs to reflect the true value of individual measures on unit viability and simply summing these PVRR values overstates the impact of the proposed work and understates the true difference in costs between the alternatives modeled. Soller Rebuttal at 4. She also explained that comparing percentage variances does not recognize the significant differences in actual costs (*i.e.* PVRR dollars). *Id.* at 4-5.

Ms. Soller explained that the high gas cost inputs in IPL's modeling serve as a proxy for supply and demand changes. She said there is no need to assess the risk associated with fuel source diversity or fuel source availability in this proceeding because such risk would only serve to make IPL's Compliance Projects even more attractive. *Id.* at 6. Ms. Soller stated that in discovery, Mr. Rutter acknowledged that his discussion of these issues does not suggest they would negatively impact the cost-effectiveness of IPL's NAAQS and CCR Compliance Projects but could impact the PVRP for the two gas options. She stated that IPL agrees the issues with natural gas delivery could increase costs, which would make the Compliance Projects more attractive. *Id.*

With respect to the probability analysis, Ms. Soller explained that IPL addressed potential environmental rule changes by explicitly assigning probabilities to the costs of future environmental regulations. Ms. Soller further addressed Mr. Rutter's analysis (Soller Rebuttal at 7-8) and explained that the Company's proposed projects are consistent with IPL's most recent IRP. Soller Rebuttal at 8-10.

She added that the 2016 IRP modeling results supporting the continued economic operation of Petersburg are available on IPL's public website, and had been discussed in public meetings in April, June, August and September 2016. *Id.* She said the estimated Petersburg unit retirement dates based on the end of each unit's useful life have not changed between the 2014 and 2016 IRP, which are the salient data points for the Compliance Projects. She stated that IPL was not asked to consider varying inputs for natural gas prices or changes in future environmental costs during the IRP stakeholder process. *Id.* at 9-10. Ms. Soller also explained why additional model runs or a delay in this proceeding are not needed (*Id.* at 10) and addressed the comparative cost spreadsheet analysis Mr. Rutter presented. *Id.* at 11-15. She explained that in discovery, the OUCC stated that Mr. Rutter's analysis was developed as an exercise to assess the reasonability of various options in light of IPL's request in this Cause and was not developed to consider any one course of action by IPL. Soller Rebuttal at 12.

Ms. Soller also addressed resources in the MISO footprint and explained that there are insufficient resources within Zone 6 (where IPL is located) to replace Petersburg. Soller Rebuttal at 15-16. She stated that resource imports from other zones are allowable but subject to price risk and added that price risk would occur due to the lack of IPL owned "steel in the ground" with associated fixed costs embedded in retail rates as well as market price variances from zone to zone. *Id.* She added that imported capacity resources do not have the physical reliability hedge that resources within the zone possess. *Id.* at 16.

Mr. Soller concluded that the delay suggested by Mr. Rutter is not necessary and that, as the OUCC concedes, Mr. Rutter's comparative cost analysis was not developed to consider any one course of action by IPL. She also concluded that IPL agrees with Mr. Rutter's qualitative assessment that potential natural gas supply and demand changes and fuel diversity benefits may improve the cost effectiveness of the Compliance Projects. *Id.* at 16.

In response to Mr. Blakley's summary of IPL's proposal regarding its ECCRA and federally mandated costs, Mr. Cutshaw clarified that the proposal comes from the governing statute and the implementation IPL seeks is the same accounting as approved for the NPDES Compliance Project in Cause No. 44540. Cutshaw Rebuttal at 2-4. Mr. Cutshaw disagreed with

Mr. Blakley's concern regarding the recovery of federal income taxes and explained that IPL does not recover income taxes on the same earnings twice. Cutshaw Rebuttal at 4-5. Mr. Cutshaw also explained why he disagreed with Mr. Blakley's other accounting and ratemaking concerns and stated that the proposal approved in Cause No. 44540 is the same as IPL is making in this proceeding. Cutshaw Rebuttal at 6.

Mr. Cutshaw responded favorably to Mr. Blakley's suggestion that the parties try to reach an agreement to include the NAAQS and CCR Compliance Projects in IPL's next rate case because such an agreement would minimize costs. Cutshaw Rebuttal at 6-7. Mr. Cutshaw noted the challenges in achieving such an agreement. *Id.* Mr. Cutshaw testified that while the costs of O&M for the ball mill are embedded in IPL's base rates, beginning with ECR-27, IPL is reflecting a credit for the reduction in O&M costs at Harding Street, including O&M costs of the ball mill, due to the conversion to natural gas. Thus, he said there is no double counting of O&M costs associated with the ball mill and therefore no need for the Commission to act on Mr. Alvarez's recommendation. Cutshaw Rebuttal at 7.

(2) Industrial Group. Mr. Cutshaw disagreed with Mr. Phillips' recommendation regarding the allocation of ECCRA costs and explained that the methodology proposed here is the same as reflected in IPL's tariff approved in IPL's last rate case. Cutshaw Rebuttal at 8-9. He added that IPL expects to soon file another general rate case and that is the most appropriate venue for the Commission to consider Mr. Phillips' proposed change. *Id.* Mr. Cutshaw also explained that IPL's ECCRA filing already provides project by project cost information and includes detailed information. He testified that IPL believes that the current presentation of costs provides complete transparency which would allow an interested party to breakdown the ECCRA factors by individual project if so desired. Cutshaw Rebuttal at 9-10. Mr. Cutshaw explained that Mr. Phillips' proposed limitation on carrying costs would penalize IPL by requiring the cessation of carrying costs on the Compliance Projects before the anticipated date they would be included in basic rates and added that he was not aware of any such requirement being imposed in the statute or by the Commission in prior cases. Cutshaw Rebuttal at 10-11.

(3) HEC Concerns -- CCR Project. Mr. Scott and Ms. Soller disagreed with Dr. Frank's statement that IPL did not consider alternative plans. They discussed the evaluation of alternatives and pointed out where the information was provided in IPL's case-in-chief. Scott Rebuttal at 20-21; Soller Rebuttal at 32-37.

Ms. Collier stated Dr. Frank does not address the NAAQS Compliance Project and does not specifically challenge IPL's Cost estimate for the CCR Compliance Project. Collier Rebuttal at 5. Ms. Collier testified that much of Dr. Frank's testimony speculates about future potential environmental costs. She said Dr. Frank does not quantify these potential costs, and her speculation is not grounds to reject IPL's proposal. Ms. Collier added that, as OUCC witness Armstrong acknowledged, IPL has already accounted for future environmental costs in its economic analysis. Collier Rebuttal at 5-6. She added that many of the potential costs mentioned by Dr. Frank may not even be applicable to IPL, or would be incurred by IPL regardless of the decision made in this proceeding. *Id.* at 6. With respect to the potential for groundwater impacts at Petersburg, Ms. Collier testified that these concerns are premature at this time and do not affect the necessity and reasonableness of the Compliance Projects. *Id.* at 6. Ms. Collier stated

that IPL will address these costs when appropriate or necessary, and IPL will comply with all applicable environmental regulations. *Id.* Ms. Collier further responded to Dr. Frank's concerns and showed that taken together, Dr. Frank's concerns are not a reason for the Commission to be concerned in this proceeding. *Id.* at 6-11.

In response to Dr. Frank (and Mr. Rutter) Ms. Soller stated that waiting to decide the future of Petersburg is not a good option in light of the pending compliance date, which requires Petersburg operations to effectively cease if the bottom ash dewatering system is not placed in service prior to April 2018. Soller Rebuttal at 10-11, 37-38. She added that other CCR requirements, including those related to impoundment closure and the associated cost of compliance, will be incurred regardless of the outcome of this case and explained that the economic benefits of the project to IPL's customers support moving forward with the projects in a timely manner. *Id.* at 10-11.

Ms. Soller testified that IPL's analysis did not assume that a compliance decision made today is a commitment for the remaining planning life of the unit. Soller Rebuttal at 32. She stated the Compliance Projects are the overall reasonable least cost option to comply with NAAQS-SO₂ and near-term CCR requirements even if a subsequent decision is made to retire or cease operating the Petersburg units as coal-fired units. She explained that IPL provided a wealth of detail regarding the costs associated with the CCR Project, both in testimony and in supporting workpapers.

Finally, Ms. Soller summarized how the Compliance Projects align with IPL's IRP and concluded that IPL's Compliance Projects are the economic options to provide reasonable least cost service to customers. Soller Rebuttal at 38-39.

(4) II Concerns. Mr. Scott disagreed with Mr. Schlissel's concerns about the impact of aging on the performance of the Petersburg units. Scott Rebuttal at 20. He explained that Mr. Schlissel's source is outdated and asset management strategies have since been employed to continue to improve plant performance. He added that IPL's asset life cycle planning proactively includes continuous improvements and explained that following an uptick in EFOR at the Petersburg units between 2009 and 2011, IPL worked to identify the sources of the issues affecting operating performance. Mr. Scott testified that over the past five years, IPL has addressed these issues through the major overhaul outages on each of the Petersburg units beginning in 2011 with Petersburg Unit 1 and ending with Petersburg Unit 3 in 2015. He said that in 2016, IPL is forecasting the Petersburg EFOR to be less than 4% which will be one of the lowest annual EFOR rates in its history. Scott Rebuttal at 20.

Ms. Soller showed there are a number of analytical errors that pervade Mr. Schlissel's testimony and undermine his conclusions. Soller Rebuttal at 17. By way of example, she stated that throughout his testimony Mr. Schlissel presents an analysis of IPL's model results based on the output of a single endpoint for a single unit and tries to extrapolate to the other units. She said this produces inaccurate findings because each unit is only optimized in that respective unit's model runs. She added that the proper approach would be to look at the weighted probabilistic average value across all the endpoints, as IPL did. She explained that when viewed correctly, IPL's modeling results do not support the conclusions drawn by Mr. Schlissel. Soller Rebuttal at 17.

Ms. Soller reiterated that there are differences between a portfolio analysis conducted in an IRP and the project analysis performed in this proceeding. She said wind and solar assets are included in the IRP modeling as resource replacement options with declining cost curves. She stated thus the potential for these resources to be significant contributors to IPL's portfolio has already been considered and that energy efficiency has also already been considered in IPL's analysis through the IRP. Soller Rebuttal at 18. She stated that these efforts depict the consideration of "cleaner forms of energy" to comply with the CCR Rule and added that IPL also considered natural gas refueling or replacement as a "cleaner" resource than coal fired generation. Soller Rebuttal at 18.

Ms. Soller explained that, while the natural gas prices used in IPL's analysis are higher than recent actual prices, they reflect a long-term view of a range of potential outcomes to reflect possible risk, are based on upon a fundamental model of the Eastern Interconnect and are reasonable. Soller Rebuttal at 18-20. She explained that using actual recent costs and forward curves as described by Mr. Schlissel would result in a much less robust assessment of potential fuel cost risk. She said forward curves are excellent tools for short-term decision making such as market offer behavior; however they are not intended to be used for long-term planning purposes. She added that forward curves rely upon bids and offers which may reflect minimal activity, where fundamental forecasts include projected market impacts and robust correlation modeling. She explained that in other words, forward curves represent a "snapshot" in time that is not suitable for the long-term analysis relevant here. *Id.* at 19.

With respect to Mr. Schlissel's statements regarding renewable energy, Ms. Soller explained that Mr. Schlissel's numbers reflect various levels of generation proposed throughout the United States, not solely in the MISO footprint and also ignore the limited capacity credits offered by these types of resources. Soller Rebuttal at 20-21. She stated that the ABB fundamental forecasts account for proposed resource additions including wind and solar and that IPL's IRP analysis considered the potential role for wind and solar and concluded that a combined cycle gas turbine ("CCGT") was the most cost-effective resource addition to replace Petersburg. *Id.* at 21.

Ms. Soller explained that much like relying on forward curves in lieu of a more fundamental analysis, Mr. Schlissel's presentation of partial year data for 2016 does not reasonably depict long-term projections of Petersburg's expected operating performance. She stated that IPL does not dispute the point raised by Mr. Schlissel that coal generation was displaced by gas-fired generation during the recent low gas price phenomenon, which lowered costs for customers. Soller Rebuttal at 21-22. She said the weighted probabilistic modeling results indicate the Compliance Projects are economic based on projected dispatch of the units over the study period. *Id.* at 22.

Ms. Soller explained why Mr. Schlissel's comparison of IPL's projected Petersburg unit-specific operating performance to actual historical performance is not accurate. She stated that Mr. Schlissel selected one sole endpoint out of 32 options for one Petersburg unit and then inaccurately summed unit capacity factors. She testified that the capacity factors for each unit are only optimized in that respective unit's model results. *Id.* at 22-23. She showed that IPL is not projecting dramatically different projected Petersburg plant performance after the NAAQS and CCR Compliance Projects are completed and Mr. Schlissel's claim otherwise should be rejected.

Id. at 23.

Ms. Soller also showed that Mr. Schlissel's comparison of net revenues from the Petersburg Plant with and without capacity revenues is not accurate and that Petersburg remains an economic resource with the Compliance Project costs. *Id.* at 23-24. She showed that the projected capacity prices used in IPL's analysis are not too high as asserted by Mr. Schlissel. Soller Rebuttal at 23-26.

Ms. Soller disagreed with Mr. Schlissel's recommendation that IPL's economic analyses be given no weight in this proceeding and explained that IPL's analyses are based upon risks and uncertainties with "off-ramps" to reflect actual business operating decisions options between now and whenever the Petersburg units are retired. She stated that Mr. Schlissel's criticisms of IPL's analyses are flawed and should be rejected. Soller Rebuttal at 26-27.

Ms. Soller testified that Mr. Schlissel prepared a simplified analysis of costs and assumptions cherry-picked from the data presented in this case with unsupported escalation factors and estimated fuel and energy market prices based solely on forward curves without the dynamic nature of economic dispatch or future carbon impacts. Soller Rebuttal at 27-28.

She explained that Mr. Schlissel's use of forward curves is not as robust as long-term planning requires before making irretrievable decisions to retire valuable assets. Soller Rebuttal at 27. She said he inferred escalated O&M costs based on historic changes on an annual percentage basis. She said neither utility operations nor ratemaking are based upon these principles. She stated that the historical changes in O&M are due to control equipment required by environmental regulations such as the Mercury and Air Toxics Standards ("MATS") and National Pollutant Discharge Elimination System ("NPDES") and future estimated impacts are included in IPL's model as shown in her workpaper JMS-1. Soller Rebuttal at 27. She said Mr. Schlissel's analysis ignores this and assumes hypothetical annual increases. In addition, she explained that his overstated fuel costs were escalated annually instead of being based on a natural gas forecast or coal forecast provided by IPL based on executed contracts. She stated that his hypothetical production cost increases of +5% or +10% are not explained and do not reflect future worlds based on specific potential changes. She said, therefore, the resultant net present value numbers presented on page 43 of Mr. Schlissel's testimony are not substantiated. She concluded that these substantial flaws in Mr. Schlissel's analysis warrant its rejection. Soller Rebuttal at 27-28.

Ms. Soller testified that Mr. Schlissel's assertion regarding excess capacity ignores the fact that plant investment is often "lumpy" in order to achieve economies of scale that would otherwise not be captured. Soller Rebuttal at 28. She said the reserve margins resulting from IRP analyses include Commission-approved resource changes, including the Eagle Valley CCGT approved in Cause No. 44339. She stated that the Commission found that IPL's utility-specific plan, including the Eagle Valley CCGT and the Harding Street Refueling "is a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers." 44339 Order, at 28, 39. She said the Eagle Valley CCGT project is not the subject of this proceeding and the treatment of off-system sales of capacity and energy from the Eagle Valley CCGT will be addressed in IPL's subsequent rate case where the CCGT is reflected in rate base. *Id.* at 28.

She showed that the cost of replacing any or all of the Petersburg units with market purchases of energy or capacity could be exorbitant. *Id.* She refuted Mr. Schlissel's assertions that Petersburg could be replaced in the near future with wind and energy efficiency and showed that the level of energy and wind underlying his contention is inconsistent with IPL's 2014 and 2016 IRP analysis. *Id.* at 29-30.

Ms. Soller found it odd that while Mr. Schlissel did not include carbon costs in his own analysis, he opined about the need to reduce carbon emissions. She testified that as a leader among Indiana utilities, IPL has dramatically changed its resource portfolio over the last 10 years by reducing coal capacity reliance from 79% to 44% from 2007 to 2017. Soller Rebuttal at 30. She said IPL presented multiple comparative carbon metrics for each scenario in the 2016 IRP public meetings and added that IPL welcomes continued stakeholder discussion related to this topic, but this is not a reason to reject the proposal in this proceeding. Soller Rebuttal at 30.

Finally, Ms. Soller explained why the Commission should not adopt Mr. Schlissel's recommendation regarding a special ratemaking mechanism so that IPL bears risk if its projections are not accurate. Soller Rebuttal at 32. She testified that projections are established to inform stakeholders of possible risks and opportunities given a range of uncertain futures. She said, as such, they are seldom 100% correct. She stated that a utility's decisions must be judged based upon what was known or knowable at the time those decisions were made by the utility. Soller Rebuttal at 31. She said Mr. Schlissel's recommendation seeks the Commission to use hindsight and assess the outcome, not the decisions or actions. She stated that this approach is not consistent with the pre-approval process established by our General Assembly. She said the pre-approval process is reasonable and consistent with the regulatory policy that one cannot judge the prudence of a course of action based on how it turned out, as opposed to its reasonableness under the circumstances when the course of action was adopted. She said Mr. Schlissel's recommendation amounts to a "wait and see" approach to determining prudence and cost recovery, which is contrary to sound regulatory policy and the cost recovery framework provided in the Federally Mandated Cost statute. *Id.* at 30-31. She concluded that Mr. Schlissel's criticisms of IPL's analysis are unfounded and are contradicted by IPL's modeling results. She further concluded that his own analysis is simplistic and flawed and should be rejected. *Id.* at 31.

Mr. Cutshaw added that the Order in Cause No. 44242 was addressed to the circumstances in that proceeding. Cutshaw Rebuttal at 11. He said that decision does not justify the extraordinary conditions Mr. Schlissel recommends here. He explained that the Commission's Order in Cause No. 44242 is addressed to the ECCRA and speaks of a cessation of the collection of depreciation expense through the ECCRA in the event HSS 7 is removed from service prior to the full depreciation of the MATS retrofit project (which was subsequently replaced with the unit refueling authorized by the Commission in Cause No. 44540). *Id.* He stated that the 44242 Order does not direct that no form of recovery of prudently-incurred costs should be permitted in the event of a unit retirement. Mr. Cutshaw explained that Mr. Schlissel's broad recommendation fails to recognize that there is a significant difference between ceasing the incremental recovery of the MATS project depreciation expense through the ECCRA mechanism and the rejection of the usual treatment of undepreciated capital investment in the ratemaking process upon the retirement of a unit of property. He said the accounting and ratemaking proposal in this proceeding is addressed in the 80% timely / 20% deferral cost recovery authorized in the statute. Cutshaw Rebuttal at 12. He said if the Compliance Project is

retired, IPL will no longer record ongoing depreciation expense on the retired property. He said if there is no recorded depreciation expense, there would be no depreciation expense to timely recover through the ECCRA and no ongoing depreciation expense to defer. Mr. Cutshaw testified that to the extent Mr. Schlissel seeks a Commission order that goes beyond the 80% timely / 20% deferral cost recovery, that proposal should be denied as it seeks to prejudice the future. He said it is well established that the remaining book value of a retired unit of used and useful utility property is recognizable in the traditional ratemaking process through the setting of depreciation rates. He added that the recovery of prudently-incurred costs, either through rate base (which involves depreciation and return) or through project cost amortization (which involves expensing the project costs and carrying costs) represents a fundamental element of sound regulatory policy. Thus, Mr. Cutshaw concluded that the Commission should not adopt Mr. Schlissel's recommendation. Cutshaw Rebuttal at 12.

5. Overview of Settlement Agreement and Supporting Testimony. The Settlement Agreement entered into by and among IPL, Industrial Group and the OUCC ("Settling Parties") is attached hereto and incorporated herein by reference. The Settlement Agreement is not unanimous, as the Joint Intervenors and HEC have not joined. We summarize the testimony supporting and opposing the Settlement Agreement below.

A. Settling Parties. OUCC witness Ron Keen, Director of the OUCC RPC Division, described the facts and circumstances that led to the Settlement. Mr. Cutshaw and Mr. Scott also provided overview and background discussion as to how the settlement terms related to the parties' litigation positions.

(1) **Section A of the Settlement Agreement.** Mr. Keen and Mr. Cutshaw explained that in Section A1 of the Settlement Agreement the Settling Parties agreed to issuance by the Commission of a CPCN under Ind. Code § 8-1-8.4-7 for each Compliance Project subject to the conditions set forth in the Settlement Agreement, which we further discuss below. Mr. Cutshaw added that this section also addresses the cost estimates for these projects. Cutshaw Settlement at 2-5.

Mr. Scott and Mr. Cutshaw explained that the NAAQS Compliance Project included a proposal to move a ball mill from Harding Street Station to Petersburg Generating Station. Scott Settlement at 2-3; Cutshaw Settlement at 4-5. They explained that the OUCC challenged whether this component was essential to NAAQS SO₂ Compliance. Mr. Keen, Mr. Scott and Mr. Cutshaw stated that Sections A1a through d of the Settlement Agreement concern the Settling Parties' agreement to withdraw the Emergency Ball Mill component from the NAAQS Compliance Project. They stated that the withdrawal does not foreclose IPL from making future requests involving this ball mill, nor does it limit the Settling Parties' position regarding any such future requests. *Id.*; Keen Settlement at 3.

Mr. Keen explained that Section A1b provides that purchased power costs related to a Petersburg generating unit derate and outage that is demonstrated to be due solely to the failure of an existing ball mill will be subject to a rebuttable presumption that such costs are reasonable and recoverable in IPL's fuel adjustment clause proceedings. Keen Settlement at 4. Mr. Scott testified that under the new NAAQS SO₂ limits IPL will not be able to operate a Petersburg unit without the FGD in service. He said Section A1b recognizes that the Emergency Ball Mill

component of the NAAQS Compliance Project was proposed to avoid a unit derate or outage that would result from a FGD system failure due to insufficient quantities of processed limestone. He said that if there is a unit derate or outage due to the failure of an existing ball mill, IPL may need to purchase power from the market. Scott Settlement at 2-3. IPL Witness Cutshaw explained that Section A1b recognizes the potential for a ball mill failure to cause a Petersburg unit derate or outage and addresses the recovery of associated costs through IPL's fuel adjustment clause proceedings. Cutshaw Settlement at 5-6. Mr. Keen added that notwithstanding this Settlement, purchased power costs will still be subject to calculation under the benchmark process and stated further that no party is foreclosed from seeking detailed information regarding the derate or outage referenced herein. Keen Settlement at 4.

Mr. Scott and Mr. Keen explained that Section A1c revises the NAAQS Compliance Project to reflect the removal of the Emergency Ball Mill component as well as a reduction of the Owner's Project Costs and contingency. They said the Settlement Agreement reduces the estimated cost of this Project from approximately \$47.9 million to approximately \$29.2 million, exclusive of AFUDC. Scott Settlement at 3, Attachment BDS-1S; Keen Settlement at 6. Mr. Keen stated that AFUDC will be accrued on the Project and included in the Project costs. Mr. Keen and Mr. Scott said the revised estimate is detailed in Mr. Scott's attachment. Among other things, Mr. Scott and Mr. Keen said the revised cost estimate recalculates and reduces the project contingency to reflect the removal of the Emergency Ball Mill Component and a negotiated reduction of the project contingency. *Id.* Mr. Scott added that while he continues to believe that contingency is an important aspect of project planning, given the removal of the Emergency Ball Mill component from the overall Project, IPL agreed to the reduced project contingency as part of the overall settlement compromise and will work to manage the Project within this constraint. Scott Settlement at 3-4.

Mr. Scott also presented the EFOR Benefit Cost Analysis for the NAAQS Compliance Project updated to reflect the Settlement Agreement. Scott Settlement at 4-5; Petitioner's Attachment BDS-2S. He said this analysis showed that none of the remaining measures' benefit cost ratios were reduced to below 1.0 compared to what was presented in Table 4 in his direct testimony. *Id.* at 4.

Mr. Scott provided background related to the Chapter 8.7 issue resolved in Section A1d of the Settlement Agreement. Scott Settlement at 5. He said Section A1d sets forth the Settling Parties' agreement to the issuance of approval of the NAAQS Compliance Project under Chapter 8.7 to the extent required. Mr. Keen said more specifically that, in this section, the Settling Parties stipulate and agree that to the extent approval of the NAAQS Compliance Project is required under Ind. Code ch. 8-1-8.7, they request the Commission approve those Projects. Keen Settlement at 4. Both Mr. Scott and Mr. Keen testified that this agreement is limited to the circumstances of this Project and is not precedential with regard to any future IPL compliance project. Scott Settlement at 5; Keen Settlement at 4-5.

Mr. Keen explained that Section A1e provides that the Settling Parties agree to Commission approval of the estimated Federally Mandated Costs as reasonable for the CCR Bottom Ash Project in the amount of \$46,900,000 exclusive of AFUDC as shown on Petitioner's Attachment BDS-6. Mr. Keen said AFUDC will be accrued on the Project and included in the Project Costs. Keen Settlement at 5. Mr. Scott explained that the CCR Compliance cost estimate

was not challenged and Section A1e memorializes the Settling Parties' agreement that this cost estimate should be approved. Scott Settlement at 5-6.

(2) Section A2 of the Settlement Agreement. Mr. Keen and Mr. Cutshaw explained that Section A2 addresses accounting and ratemaking issues. They testified that in this Section, the Settling Parties agree to Commission approval of IPL's proposed accounting and ratemaking, including cost recovery and authority to defer costs until such costs are reflected in rates subject to the terms and conditions set forth in this section. Keen Settlement at 5; Cutshaw Settlement at 6. Mr. Cutshaw testified that this allows cost recovery on an 80/20 basis as discussed in his direct testimony. He said the cost recovery will be implemented in IPL's ECR proceedings, docketed as Cause No. 42170 ECR-[X]. He said the mechanics of this implementation are consistent with those currently in place and are also subject to Section 3 of the Settlement Agreement. Cutshaw Settlement at 6.

Mr. Cutshaw stated that in response to concerns about costs, IPL agreed to cap the total deferrals of the Compliance Projects (Monthly Deferrals and Carrying Charges) at \$14,500,000 or cease to add to the deferrals five years following the last in-service date of the Compliance Projects, whichever is less. Mr. Keen echoed this point. Keen Settlement at 5. Mr. Scott testified that the last in-service date of the Compliance Projects is expected to be the in-service date for the switchgear/transformer component of the NAAQS Compliance Project. He said this component involves longer lead time equipment and is estimated to be completed by January 1, 2018, assuming an order approving the project in the end of April 2017 timeframe. Scott Settlement at 6. Mr. Keen and Mr. Cutshaw stated that the Settlement Agreement provides that in IPL's next rate case subsequent to the rate case expected to be filed before January 1, 2017, the deferrals will be included in rate base and amortized over a four year period. Mr. Cutshaw testified that this ratemaking treatment is reasonable and consistent with the treatment of similar costs. Cutshaw Settlement at 6. Mr. Cutshaw added that while this provision does not reflect IPL's position, the Company agreed to this and other terms of the overall Agreement in the spirit of compromise as part of the give and take of settlement negotiations. *Id.* at 7.

Mr. Keen explained that Section A2b provides that to the extent actual project costs exceed the total project cost estimate approved by the Commission by more than 25% on a total project basis, IPL shall provide specific justification and obtain specific approval from the Commission before any such costs are authorized for recovery in IPL's next general rate case (after the rate case to be filed by January 2017). Keen Settlement at 5. Mr. Keen added that the agreement provides however that IPL shall not seek recovery of any deferred amounts in excess of that allowed in Paragraph 2a. Mr. Keen stated that the Settling Parties preserve all rights and positions they may have in any such proceeding other than the prohibition against recovery of deferred amounts in excess of that allowed in Paragraph 2a. *Id.* at 5-6. Mr. Cutshaw explained that this section of the Settlement Agreement resolves the application of Ind. Code § 8-1-8.4-7(c)(3). Cutshaw Settlement at 7. He said the Settlement Agreement provides that the cost will be addressed on a per project basis, not per component basis. *Id.* He testified that this "project" approach is consistent with IPL's other compliance projects. *Id.* Mr. Scott testified that the total project approach reflected in Section A2b is reasonable. Scott Settlement at 6. He said the cost estimate was prepared as a project estimate and should be approved, managed and reviewed on a total project basis. He added that this approach is consistent with that taken in IPL's other Commission-approved compliance projects and is necessary to provide flexibility in project

management and implementation, including the negotiations with the EPC contractor. Scott Settlement at 6.

(3) Section A3 of the Settlement Agreement. Mr. Keen and Mr. Cutshaw testified that Section A3a provides the agreement to allocate costs in the ECCRA on an individual rate code basis to Rates HL and PL, based on the allocation factors from the Company's cost of service study as approved in the Company's most recent base rate case (Cause No. 44576/44602). Cutshaw Settlement at 7; Keen Settlement at 6. Mr. Cutshaw said Rate HL is already calculated separately in the ECCRA. He said this agreement recognizes the difference between rate codes and rate classes. He stated that while IPL has grouped rate codes, as explained in his rebuttal, IPL has not grouped rate classes. He said grouping certain rate codes together provides a larger base for the allocation of cost to similarly situated customers. He explained that if a rate code has very few customers, allocating costs to the small group could be problematic in the event a customer leaves the small group. He said the change agreed to in the Settlement Agreement is reasonable for the Large commercial and industrial ("C&I") rate class and does not impact the Residential or Small C&I rate classes. Cutshaw Settlement at 7-8.

Mr. Cutshaw explained that Section A3a also recognizes that IPL provided notice of its intention to file a general rate case before the end of 2016. Cutshaw Settlement at 8. He said given this, the Settling Parties agreed that any further issues regarding cost allocation should be raised in the general rate case and not in individual tracker proceedings that may be filed while the rate case is pending. Mr. Keen echoed this point and explained that the Settling Parties agreed that between the date of this Settlement and the date of a final order in IPL's next general rate case, expected to be filed before January 1, 2017, no Settling Party will propose modification to the cost allocation in IPL's tracker mechanisms in a tracker proceeding. Keen Settlement at 6. Both Mr. Keen and Mr. Cutshaw testified that this provision does not otherwise limit the Settling Parties' rights to raise issues regarding cost allocation. *Id.*; Cutshaw Settlement at 8. Mr. Keen added that this Settlement term does not in any manner limit or otherwise restrict any Settling Party's rights to otherwise challenge proposed recovery in such tracker proceedings; challenge any new tracker or other proposed rate recovery mechanism (including cost allocation) whether or not presented in a separate proceeding or in a general rate case; propose modifications to IPL's current, or proposed, trackers and other rate recovery mechanisms in the next general rate case; or present cost of service, cost allocation, or rate design testimony in the next general rate case. He added that this Settlement term does not in any manner limit or otherwise restrict any Settling Party's right to propose modifications in adjustment proceedings after the date of the final order in IPL's next general rate case. Mr. Keen added that if IPL does not file the rate case before March 1, 2017, any Settling Party may propose revisions to IPL's tracker or other rate recovery mechanisms in any adjustment proceeding. Keen Settlement at 6-7.

Mr. Cutshaw testified that Section A3b accepts his rebuttal testimony regarding the provision of project by project cost information in the ECCRA filings. Cutshaw Settlement at 8. Mr. Keen explained that under this settlement term, IPL shall provide project by project cost information in its public exhibits in its ECCRA filings for the NAAQS and CCR Compliance Projects, including a level of detail comparable to that shown on Petitioner's Attachment JLC-2R, as well as any future projects approved by the Commission for inclusion in the ECCRA filings. Keen Settlement at 7.

Mr. Scott noted that his direct testimony discussed IPL's willingness to keep the Commission informed by providing status reports and any revisions to cost estimates as part of the Company's ongoing ECR cost recovery filings. He said Section A3c accepts the ongoing review of the Compliance Projects. Scott Settlement at 6. Mr. Cutshaw and Mr. Keen explained that Section A3c provides that IPL will keep the Commission and the Settling Parties informed of the status of the Compliance Projects by including progress reports and any revisions to the cost estimate for the Compliance Projects in the ECR proceedings. Mr. Keen noted that the progress reports will continue until the project is complete. Keen Settlement at 7. Mr. Scott and Mr. Keen added that the Settlement Agreement provides for transparency by specifying that IPL will make the EPC contract available for review in the ECR proceedings (subject to the protection of confidential information) and that IPL will report on use of the 5% project contingency. Scott Settlement at 6-7; Keen Settlement at 7. Mr. Scott stated that this is consistent with the approach taken by IPL with other construction projects. Scott Settlement at 7.

(4) Other Provisions of the Settlement Agreement. Mr. Scott explained that Section A4 of the Settlement Agreement recognizes the importance of a timely Commission decision and discussed the related compliance deadlines and associated factors. Scott Settlement at 7. Mr. Cutshaw added that the other provisions of the Settlement Agreement address the presentation of the Agreement to the Commission and its effect and use. Cutshaw Settlement at 8-9.

(5) Economic Analysis. Ms. Soller explained that the withdrawal of the Emergency Ball Mill component from the project and revision of the NAAQS Compliance Project cost estimate do not materially affect the economic analyses. She presented her updated economic analysis and her conclusion that with this component withdrawn, the economic analyses continue to indicate that the IPL Compliance Projects are the reasonable least cost options based upon the aggregate expected value of all scenarios. Soller Settlement at 7-8. She testified that while the original proposed Compliance Projects remain cost-effective for customers, the Compliance Projects as revised to reflect the Settlement Agreement remain economic for customers as shown by revised PVRR values. *Id.* at 9.

(6) Rate and Financial Impact. Mr. Cutshaw updated the rate impact and financial impact analysis for the Compliance Projects included with his direct testimony to reflect the terms of the Settlement Agreement. Cutshaw Settlement at 9-10.

(7) Public Interest. In his direct testimony, Mr. Scott presented his opinion that the Compliance Projects serve the public convenience and necessity. He explained that the Settlement Agreement reflects a negotiated compromise and provides a reasonable and cost effective means to achieve timely and cost effective compliance while maintaining safe, reliable and economic service in compliance with the environmental policy established by our federal government. Scott Settlement at 8-9. He added that the Settlement Agreement provides a balanced and comprehensive resolution of the issues in this Cause and approval serves the public interest.

Mr. Cutshaw and Mr. Keen also explained why in their respective view the Settlement Agreement is in the public interest and supported by substantial evidence. Cutshaw Settlement at 11; Keen Settlement at 7-8. Mr. Cutshaw testified that, taken as a whole, the Settlement

Agreement represents the result of good faith, arms-length negotiations of the conceptual framework and details of the Settlement Agreement. He noted that experts were involved with legal counsel and many hours were devoted to the settlement discussions. He concluded the Settlement Agreement is in the public interest. Cutshaw Settlement at 11. Mr. Keen explained that public policy supports the Settlement Agreement, and that the Settlement Agreement also serves the public interest by avoiding contentious and costly litigation. Keen Settlement at 8. He said given the agreement reached on the ratepayer benefits as outlined in the Settlement Agreement, the OUCC believes the Settling Parties struck a fair resolution of the divergent positions initially taken by the Settling Parties. He concluded the Settlement Agreement is supported by substantial evidence, is in the public interest and should be approved. Keen Settlement at 8.

B. Non-Settling Parties. JI was the only Non-Settling Party to submit testimony regarding the Settlement Agreement. That testimony, presented by JI Witness Schlissel, did not specifically address the terms of the Settlement Agreement. Rather, Mr. Schlissel presented his finding that the results of Ms. Soller's new modeling analyses use the same very high assumptions for future natural gas prices, energy market prices and capacity prices that distorted the results of her original modeling analyses to bias them in favor of completing the proposed environmental upgrades and continuing to operate Petersburg Units 1-4. Mr. Schlissel also stated that although IPL has refused to provide the more recent ABB natural gas, energy market and capacity market forecasts that have been released in 2016, public information shows that ABB has projected lower natural gas prices in its Spring 2016 Forecast than it had in the Fall 2015 Forecast used by Ms. Soller in her new modeling. He said it is likely that ABB's Spring 2016 forecasts of peak and off peak energy market prices are similarly lower than the prices Ms. Soller has used. Mr. Schlissel stated that IPL has never attempted to verify the accuracy of the ABB Forecasts of natural gas and energy market prices that it relies on by comparing prior years' ABB Forecasts to subsequent actual market prices. He said as with IPL's original analysis, ABB's Low Gas Price forecast is the most reasonable one to use as a base case to evaluate the proposed Settlement. He repeated his contention that IPL should also run high and low gas sensitivity studies around a revised base case, with the new base case derived from the ABB Fall 2015 Low Gas Price forecast. Schlissel Settlement at 1-2, 4-13.

Mr. Schlissel stated that the continued operation of all four Petersburg units is uneconomic as the Company's projected costs of operating the plant are higher than the forecasted energy market revenues. Mr. Schlissel was critical of IPL's reliance on capacity market forecasts that he said assume significant increases throughout the analysis period that are not consistent with experience in actual capacity markets at MISO and PJM. Schlissel Settlement at 14-21. Mr. Schlissel stated that IPL's capacity price assumptions skew IPL's analysis in favor of its proposed projects. *Id.* at 16-21. Mr. Schlissel illustrated his point in his testimony by presenting Figures S9 through S12 showing the net revenues generated by the Petersburg units in low gas price scenarios from the Company's modeling, with and without capacity revenues included. *Id.* Mr. Schlissel found that substituting IPL's capacity price forecast with a more plausible capacity price forecast shows that the proposed NAAQS and CCR upgrades will not provide net benefits. *Id.* Mr. Schlissel also completed his own economic analysis using IPL's low gas price scenario as his base case and a capacity price forecast capped at \$100/MW-day and argued that IPL's proposed NAAQS and CCR projects in this proceeding were not economic. *Id.* at 22-27.

Mr. Schlissel testified that the proposed Settlement and IPL's requested CPCN should be rejected. He said instead, IPL should be directed to develop a plan that would (1) evaluate retirement of each of the Petersburg units within the next few years, and (2) develop the most cost-effective alternative portfolio of demand-side measures and supply-side options including market purchases, new wind and solar resources, and new natural gas-fired capacity. Schlissel Settlement at 3.

He added that if the Commission does approve the proposed Settlement, it should attach the conditions set forth in his direct testimony that IPL bear the risk of net revenue shortfalls or stranded costs in the event that actual natural gas, energy market, and/or capacity prices are lower than forecasted by IPL. Schlissel Settlement at 3-4.

C. Settling Parties' Rebuttal. Ms. Soller explained that the JI testimony does not dispute any specific issues from the Settlement Agreement; rather, the testimony repeats criticisms of the IPL analysis and assumptions from Mr. Schlissel's direct testimony. She said the JI testimony acknowledges IPL's use of multiple endpoints to reflect a range of future scenarios. However, she explained Mr. Schlissel focuses solely on those endpoints with low natural gas and low market energy price forecasts. She stated that focusing solely on low price forecasts does not result in a robust analysis and does not appropriately consider a range of future risks. She added that even if low natural gas and low energy prices prevail, the Compliance Projects remain a reasonable least cost approach to compliance. Soller Settlement Rebuttal at 2.

Ms. Soller disagreed with Mr. Schlissel's characterization of the forecasted assumptions as "very high". She stated that as explained in her direct and rebuttal testimony, IPL's economic analysis reflects base assumptions as well as low and high pricing assumptions. She said IPL used the most recent natural gas and market price information available during the preparation time period in its analyses in this proceeding. She said this is the same approach and the same source IPL used in previous Commission proceedings. Soller Settlement Rebuttal at 2-3.

Ms. Soller testified that there was no intention to bias any results in any of these proceedings. She explained that as stated on page 6 of IPL's response to the JI's motion to compel in this proceeding, "[d]ue to the passage of time, it is generally the case that new data will become available while a docket is pending, but the Company and the Commission must make decisions based on the information available at the time of a filing." Soller Settlement Rebuttal at 3. She said a utility must make decisions and implement project planning based upon information at a specific point in time in order to meet compliance timelines, as IPL did in this proceeding. She explained that IPL used a sensitivity analysis and decision tree to assess the impact of potential changes in the modeling assumptions. She explained that this approach is consistent with decision analysis best practices. Soller Settlement Rebuttal at 3.

In response to Mr. Schlissel's contentions about low natural gas prices, Ms. Soller stated that while she had not reviewed the ABB Spring 2016 and ABB Fall 2016 forecasts, she recognized that the ABB 2015 Fall Reference Case forecasts are higher than the more recent ABB Spring 2016 forecast as shown in Mr. Schlissel's Figure S2. Soller Settlement Rebuttal at 3-4. That said, Ms. Soller stated that she does not see a "sharp increase" in ABB's 2015 Fall Reference case natural gas prices as shown in Mr. Schlissel's Figure S2. She added, in fact, in Mr. Schlissel's Figure S2, the ABB Spring 2016 Reference case natural gas prices appear to

follow the same shape as the 2015 Fall Reference case data. Soller Settlement Rebuttal at 5-6. Ms. Soller clarified that without a scale on the y-axis in Mr. Schlissel's Figure S2, it is impossible to determine if costs are significantly lower. She added that his figure also indicates the Annual Energy Outlook ("AEO") 2016 dataset aligns with the ABB Fall 2015 forecast through approximately 2026. She stated thereafter, the AEO 2016 forecasted prices are lower than the ABB Spring 2016 forecast; however, the legend notes the AEO data does not include the Clean Power Plan.

She said IPL's modeling is reasonable notwithstanding this concern. She stated that the base, high and low forecasts used in IPL's economic analysis reasonably reflect a diverse range of future worlds. She added that while the JI testimony cited concerns about natural gas price forecasts not being low enough, the OUCC testimony cited concerns that decreased supply of natural gas may drive prices to be even higher. Soller Settlement Rebuttal at 4 (citing Rutter Direct at 7).

Ms. Soller stated that updating forecasts is not simply a matter of purchasing new information. She said if the updated ABB forecast data were utilized, IPL would also need to update all model runs, review output data, and revise exhibits to fully reflect modeled outcomes due to dispatch reprioritization. Soller Settlement Rebuttal at 4. She said that once the new economic analysis was available, the other parties would need time to assess it and file testimony, and then IPL would need an opportunity to present rebuttal testimony. She stated that all the while, time would continue to pass, compliance deadlines would draw nearer and new information, both actual and forecast, would continue to become available. She explained that continuing to delay a decision to assess more information does not constitute good decision-making. She said IPL's analysis reasonably bounds the potential future outcomes and provides a reasonable foundation for a decision to move forward with the proposed Compliance Projects as provided in the Settlement Agreement. Soller Settlement Rebuttal at 4-5.

Ms. Soller also disagreed with Mr. Schlissel's contention regarding whether IPL had evaluated the accuracy of ABB's forecast. She explained that ABB is an industry leader in forecast development for the energy industry with clients including over 100 electric utilities and consulting firms such as the Electric Power Research Institute. She said that in discovery the JI asked for a copy of all assessments prepared by or for IPL and IPL responded that IPL did not have any such work products. She explained that while IPL does not have a formal written comparative document, the Company is aware of other sources of forecasted data including the AEO, inputs to MISO MTEP studies, and the State Utility Forecasting Group which are reviewed for general trend analyses. She said ABB's forecasts generally align with these other sources.

She responded that the Commission addressed the provision of the new ABB forecasts in its December 22, 2016 docket entry and reiterated that IPL does not have these forecasts and does not need them. She stated that IPL did not purchase ABB's 2016 Spring Reference case data because it was not fully available until May 2016, the same month that IPL's case-in-chief was filed in this proceeding. In addition, she said IPL's 2016 IRP analysis was well underway by that time using the 2015 Fall Reference case data. She said the ABB 2016 Fall Reference case is not fully available until January 2017. She testified that if Joint Intervenors wanted this information they could have purchased it from ABB.

Ms. Soller pointed out that her rebuttal testimony (p. 19) explained why it is reasonable to rely on forecasts. She stated that differences between actual prices and forecasted prices do not render use of a forecast unreasonable. Soller Settlement Rebuttal at 7. She clarified that Mr. Schlissel's discussion of the "significant" difference compares the actual prices to the ABB Base and High gas scenarios. She said this comment is not addressed to the ABB 2015 Fall Reference Case low gas scenarios. She added that the data from Figure S1 indicates prices in the first half of 2016 were close to the low ABB forecast and prices in the second half of 2016 were close to the base ABB forecast. She also presented an analysis showing that recent natural gas prices are more supportive of the base ABB forecast used in IPL's analysis than ABB's low natural gas forecast. Soller Settlement Rebuttal at 7.

Ms. Soller testified that focusing on a short-term market view based on recent history does not properly account for future risks which may include significantly different and higher energy costs. She added that this issue is not sufficient grounds to discount IPL's analysis.

Ms. Soller also stated that Mr. Schlissel is recommending a permanent and irreversible decision to retire the entire Petersburg plant based on a premise that low natural gas prices will prevail based on forward curves in 2016, giving very little consideration for future uncertainty in market prices. She said IPL, on the other hand, recognizes that forecasts are seldom 100% correct and utilizes a robust, probabilistic approach to derive the economic value of the environmental projects agreed upon by the settling parties. Soller Settlement Rebuttal at 8. She added that Mr. Schlissel also fails to account for the option value of retrofitting the Petersburg units. She said that through the real option overlay, IPL is able to truly reflect the value of retrofitting the units now given future uncertainty.

Ms. Soller explained that the CCR and NAAQS Compliance Projects are reasonable even if low natural gas prevails. She stated that under this scenario, customers will benefit from low natural gas prices through MISO market purchases during hours when they are more cost effective than dispatching IPL units. She added that the Petersburg generating facility is "steel in the ground" and serves as a hedge against market volatility if natural gas prices increase significantly. She said IPL's ability to purchase and store coal minimizes customer exposure to fluctuating natural gas prices. She said this fleet fuel diversity mitigates risks, which is especially pertinent given IPL's recent fleet changes at Harding Street, which also relies on natural gas. Soller Settlement Rebuttal at 8.

Ms. Soller said she recognizes that the possibility of low natural gas prices or interest in reducing CO₂ means the Petersburg units may not be dispatched as much as forecasted in IPL's analysis. She disagreed that these potential future outcomes support a decision to retire these Petersburg units now rather than invest in the proposed CCR and NAAQS Compliance Projects. She said Mr. Schlissel's focus primarily on energy prices overlooks the capacity value of the Petersburg units. She said furthermore, retiring the units now reduces future optionality and flexibility. She explained that in its 2016 IRP, IPL described a hybrid resource portfolio which may be a combination of multiple scenarios it modeled as a possible future outcome whereby the Petersburg units serve as intermediate or peaking units respectively. Thus, Petersburg Station would still provide significant capacity value for customers. She stated prematurely retiring the Petersburg units would close the door on this possibility.

She explained that retiring Petersburg based on the premise of continued low natural gas and market energy prices is a large gamble to take on behalf of customers. Soller Settlement Rebuttal at 9. She stated that the CCR Compliance Project is necessary to continue to operate any of the Petersburg units beyond the CCR compliance deadline. She said the Petersburg capacity could not be replaced in an economic manner prior to the CCR compliance date under the current variance of September 2018, which would prompt significant capacity and energy market dependence. She stated that gas prices can increase significantly with little notice. She said this would result in high cost market purchases and negate the assumed benefits of a low natural gas price scenario. She stated that with IPL 2018 peak loads forecasted near 2,900 MW and generation assets of approximately 1,652 MW if Petersburg was retired and following the commercial operation of Eagle Valley CCGT, retail customers could rely on the energy market for up to 1,310 MW per hour. *Id.* at 9-10; Attachment JMS-2SR. She said the net result would be an annual capacity shortfall of 43% of needed resources and an energy shortfall of up to 47% during peak hours. She stated that this is not an acceptable position for IPL or its customers. She testified that because the cost of the CCR Compliance Project does not change materially by the number of operating units, this compliance cost does not justify the retirement of any Petersburg unit. She added that the NAAQS Compliance Project is also reasonable even if low natural gas prices prevail. *Id.* at 10, 14-16.

Ms. Soller disagreed with Mr. Schlissel's contention that the forecasted capacity prices in IPL's modeling are extremely high and pointed out that his analysis is based on PJM, while IPL is a member of MISO, which does not have a transparent forward capacity market like PJM and other Regional Transmission Organizations ("RTOs"). She stated that IPL used a capacity forecast with prices approaching Cost of New Entry ("CONE") fairly quickly. As also explained in her rebuttal (p. 25), she said the clearing price in the 2016-2017 MISO Capacity Auction would have been within \$0.84 of the MISO established \$260 MW-day value of CONE had capacity equivalent to the value of Petersburg not been available. *Id.* at 10. Ms. Soller stated that the PJM historic capacity market is not necessarily indicative of MISO capacity auction future results. She said the fact that PJM capacity prices have not reached CONE is irrelevant. She added that in light of recently announced generating unit retirements in Indiana, higher capacity prices are more likely in MISO. *Id.* at 10-12.

Ms. Soller also disagreed with Mr. Schlissel's assessment of Petersburg gross margins with and without capacity revenues to describe the Petersburg unit economics. Soller Settlement Rebuttal at 12. She stated that Mr. Schlissel focused solely on the low gas scenario endpoints, which only tell a part of the story. She stated that it is proper to model energy and capacity contributions separately to reflect electricity market interactions and that ignoring the results of the base and high natural gas and market price forecast scenario endpoints is not wise. She said the PVRR analysis is a more holistic way to evaluate the Compliance Projects and alternatives.

She stated that it is not necessary for capacity values to reach CONE for Petersburg to add significant value for customers. She presented a simple payback analysis based on capacity alone, which showed a simple payback period of just over a year for the CCR Compliance Project if one assumes the most recent MISO Auction Clearing Price ("ACP") in Zone 6 of \$72/MW-day.¹ She showed that even if one cuts the MISO ACP value in half, the payback

¹ During cross-examination, Ms. Soller noted that this was the same near-term capacity price Mr. Schlissel used in

period based on capacity value only is still just over two years. Soller Settlement Rebuttal at 12-13; Figure 2. She explained that the payback period analysis shows that the cost of the CCR Compliance Project is lower than the cost of providing a capacity purchase alternative to the Petersburg units.

Ms. Soller added that energy contributions and natural gas prices do not impact the capacity value payback analysis. She added that although IPL fully expects the Petersburg units to be dispatched to provide energy value in the MISO market during the short term payback period, the analysis demonstrates the reasonableness of the CCR Project based on capacity value alone. She said this capacity value analysis was presented because it diffuses the arguments about market energy prices and natural gas forecasts raised in the JI testimony. *Id.* at 13.

Ms. Soller testified that the modified NAAQS Compliance Project remains reasonable even under low natural gas and low market energy pricing scenarios. She discussed this in her rebuttal testimony and in her settlement testimony. To further illustrate this point, she said IPL performed a sensitivity of IPL's analysis presented in her rebuttal testimony by evaluating the originally proposed NAAQS Compliance Project economics in a scenario with 60% probability of low gas and energy prices. In response to the JI settlement testimony, IPL performed an additional sensitivity of the NAAQS Compliance Project as modified in the Settlement Agreement with 100% low natural gas and energy prices. She believes the analysis presented in her settlement testimony is reasonable, but said IPL performed this sensitivity to evaluate the economics in a future in which low gas prices prevail. Soller Settlement Rebuttal at 14-15. Her analysis of the modified NAAQS Compliance Project showed that retrofitting Petersburg Units 1, 3 and 4 with the modified NAAQS Compliance Project remains the reasonable least cost option. She said that while the analysis shows the retrofit decision regarding Petersburg Unit 2 is not as clear under this 100% low gas price sensitivity, she discussed other reasons why the Petersburg Unit 2 retrofit remains a reasonable least cost choice. She first noted that the analysis presented only one view of the future. She added that while low natural gas and market energy prices may prevail, there is also real potential that they may not. She said that is why a reasonable compliance plan should be based on a robust range of gas and market energy price forecasts. She said it is unreasonable to consider only one of the forecast extremes and a portion of IPL's probabilistic modeling approach to draw conclusions and make irreversible decisions. She said IPL's analysis reasonably considers the investment in light of the potential for high as well as low gas and market energy prices. *Id.* at 16.

She said retrofitting Petersburg Unit 2 for NAAQS SO₂ compliance will enhance and improve the reliability and integrity of the FGD systems and thus unit reliability as stated in IPL's direct testimony. Also, she said retrofitting the unit will also maintain operational optionality and flexibility to further enhance Petersburg Unit 2 such as refueling it in the future to benefit customers. She added that the NAAQS SO₂ Compliance Project measures for Petersburg Unit 2 consist of installing redundant switchgear and a transformer. She said this equipment has a "long lead time", meaning that it can take six to nine months to obtain a replacement if the switchgear or transformer fails. She said IPL used a conservative value of 180 days in its cost/benefit analyses and that IPL's analysis of the EFOR risk supports the conclusion that this component should be pursued at this time. She stated that if the project is not pursued,

his analysis. Tr. at B-65.

customers will be exposed to energy market purchase costs for an extended period of time due to the long lead time nature of this equipment. Soller Settlement Rebuttal at 16-17.

Ms. Soller refuted Mr. Schlissel's contention that IPL's economic analysis should not be given any weight by showing that IPL's analysis mirrors best practices for planning with uncertainty and making quality decisions. She explained why Mr. Schlissel's analysis is not consistent with the elements of a quality decision.

Ms. Soller also discussed her concerns with Mr. Schlissel's alternative economic analysis, stating that even as revised, the analysis continues to be simplistic and focused solely on low natural gas and market energy price forecasts. Soller Settlement Rebuttal at 21.

Ms. Soller pointed out that she responded to Mr. Schlissel's proposed cost recovery conditions in her rebuttal testimony and stated that the regulatory framework does not provide for after the fact prudence determinations as suggested by Mr. Schlissel's proposed cost disallowance. She stated that in addition, he does not propose the method in which to accomplish this review. *Id.* at 22. She said if such a review was proposed, the methodology should be established now, not after projects are completed.

Ms. Soller testified that the price for retail electric service is reasonably and necessarily based on the cost of providing that service. She said Indiana's regulatory framework allows for certain costs of providing service, including the cost of complying with federal mandates, to be pre-approved. Soller Settlement Rebuttal at 22. She said the pre-approval process necessarily requires decisions to be made based on what is known or knowable at the time the decision must be made. She stated that while this necessarily requires use of forecasted information, forecasted prices are not intended to reflect a crystal ball image of the future. Rather, as used in this proceeding, the forecasts used in IPL's analysis reasonably account for a range of potential future scenarios. She noted that as explained in her rebuttal testimony, projections are established to inform stakeholders of possible risks and opportunities given a range of uncertain futures. She said the pre-approval process provides for prudence determinations to be made upfront. She added that IPL's economic analysis comports with good decision and planning and shows that the projects as agreed to in the Settlement Agreement reflect the reasonable least cost compliance path and this serves the interest of IPL's customers. *Id.*

Mr. Cutshaw refuted the notion that 1) the total revenues IPL receives from selling into the MISO markets are intended to provide cost recovery for the total costs of producing power at Petersburg; and 2) failure to have such a level of MISO revenue is somehow unreasonable and warrants the Commission imposing a penalty on the Company. Cutshaw Settlement Rebuttal at 1-3. He explained that Mr. Schlissel provided no details to support his recommendation. Mr. Cutshaw added that it would be unreasonable for the Commission to accept a recommendation without any understanding of the mechanics, complexity and cost of implementing it. *Id.* at 3-4.

Ms. Soller said she realizes that the Commission has at times modified settlement agreements to comport with the Commission's view of the public interest. Soller Settlement Rebuttal at 23. She added however, that Mr. Schlissel's proposed cost recovery condition is not a reasonable modification because it contravenes the regulatory framework provided by our General Assembly. She said the Settlement Agreement already reflects a negotiated compromise

that reasonably addresses and constrains cost recovery for the Compliance Projects. She said the additional after-the-fact constraints proposed by Mr. Schlissel are unreasonable and should be rejected. Soller Settlement Rebuttal at 23.

After further discussing the risks of JI's recommendation compared to the Settlement Agreement, and summarizing her conclusions regarding the JI's testimony, Ms. Soller concluded that the Commission should approve the CCR and revised NAAQS SO₂ Compliance Projects as proposed in the Settlement Agreement. *Id.*

6. Commission Discussion and Findings. The Settling Parties request the Commission to approve the Settlement Agreement. Commission policy favors settlement. Settlements help advance matters with far greater speed and certainty and far less drain on public and private resources than litigation or other adversarial proceedings. That said, settlements presented to the Commission are not ordinary contracts between private parties. *U.S. Gypsum, Inc. v. Ind. Gas Co.*, 735 N.E.2d 790, 803 (Ind. 2000). When the Commission approves a settlement, that settlement "loses its status as a strictly private contract and takes on a public interest gloss." *Id.* (quoting *Citizens Action Coalition v. PSI Energy*, 664 N.E.2d 401, 406 (Ind. Ct. App. 1996)). Thus, the Commission "may not accept a settlement merely because the private parties are satisfied; rather, [the Commission] must consider whether the public interest will be served by accepting the settlement." *Citizens Action Coalition*, 664 N.E.2d at 406.

Any Commission decision, ruling, or order - including the approval of a settlement - must be supported by specific findings of fact and sufficient evidence. *U.S. Gypsum*, 735 N.E.2d at 795 (citing *Citizens Action Coalition v. Pub. Serv. Co.*, 582 N.E.2d 330, 333 (Ind. 1991)). The Commission's own procedural rules require that settlements be supported by probative evidence. 170 I.A.C. 1-1.1-17(d). Therefore, before the Commission can approve the Settlement Agreement, we must determine whether the evidence in this Cause sufficiently supports the relief requested and the conclusions that the Settlement Agreement is reasonable and just and that such agreement serves the public interest. While our decision is based on the record as whole, the foregoing summary of the evidence facilitates our consideration of the Settlement Agreement. Furthermore, we will carefully consider a settlement that has been entered by representatives of all customer classes, including OUCC (that represents all ratepayers), even though there may be intervenors in opposition. *American Suburban Utils.*, Cause No. 41254, at 4-5 (IURC 4/14/1999).

A. Ind. Code ch. 8-1-8.4 ("Chapter 8.4").

(1) Federally Mandated Requirements. (Ind. Code §§ 8-1-8.4-5, 8-1-8.4-6(b)(1)(A) and 8-1-8.4-7(b)(3)). The NAAQS SO₂ Compliance Project is proposed to allow IPL to comply at Petersburg Station with the federal NAAQS for SO₂ adopted by the EPA pursuant to section 109 of the federal CAA. The CCR Compliance Project is proposed to comply at Petersburg with the incremental requirements created by the CCR Rule which are causing IPL to install and commission a bottom ash dewatering system. Scott Direct, at 3. The CCR Rule was adopted by EPA under Subtitle D of the RCRA. The CCR Compliance Project will also allow IPL's Petersburg Station to comply with the EPA's Effluent Limitation Guidelines ("ELG") for Steam Electric Generating Stations. The new Steam Electric Generating ELGs were adopted pursuant to sections 301 and 304, among others, of the federal CWA.

Jl argued that IPL's proposed CCR Compliance Project is "piecemeal" because it concerns only a portion of CCR compliance. JIPO at 26. Notably, "compliance project" as defined in Chapter 8.4 allows a project related to "one (1) or more federally mandated requirements". The CCR Project addresses the structural stability requirements of the CCR Rule, *i.e.* the requirement that owners or operators of ash ponds that do not demonstrate compliance with certain structural stability requirement must cease operation of the ponds by April 17, 2017. Collier Direct at 7; Collier Rebuttal at 2. The record here shows that IPL was not able to demonstrate such compliance. Collier Rebuttal at 2. Per the terms of a variance obtained to allow time for the installation of the proposed CCR Compliance Project, IPL must cease operation of the ponds by April 11, 2018. Collier Direct at 7; Collier Rebuttal at 2. The installation of the closed-loop bottom ash handling system proposed in the CCR Project will eliminate all CCR wastewater discharges from the ash ponds at Petersburg. Collier Direct at 9. The proposed CCR Compliance Project is not piecemeal with respect to the structural stability requirements of the CCR Rule. While the CCR Rule imposes other requirements, the statute does not require all of these requirements to be addressed in one project. Rather, a compliance project can be addressed to one or more federal mandates. The record shows that the CCR Compliance Project logically addresses the near term bottom ash CCR requirements. Compliance with other aspects of the CCR Rule are not currently ripe for consideration.

Accordingly, we find that the NAAQS SO₂, CCR and ELG requirements each represent federally mandated requirements as that term is defined in Ind. Code § 8-1-8.4-5. We further find that the NAAQS Compliance Project and the CCR Project bottom ash system at IPL's Petersburg Station each constitute a "compliance project" as defined in Ind. Code § 8-1-8.4-2. Finally, pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfied Ind. Code §8-1-8.4-6(b)(1)(A).

(2) Projected Federally Mandated Costs. (Ind. Code §§ 8-1-8.4-4, 8-1-8.4-6(b)(1)(B), 8-1-8.4-7(b)(2), and 8-1-8.4-7(b)(3)). Chapter 8.4 directs the Commission to examine a list of factors enumerated in the statute, including "[a] description of the projected federally mandated costs associated with the proposed compliance project." As discussed below, we conclude IPL has satisfied this requirement.

(a) Estimated Cost. As used in Chapter 8.4 "federally mandated costs" means "costs that an energy utility incurs in connection with a compliance project, including capital, operating, maintenance, depreciation, tax, or financing costs." The estimated cost of the NAAQS Compliance Project and the CCR Compliance Project was presented in detail and supported by IPL Witnesses Scott and Guletsky. This included capital investment and O&M. IPL estimated approximately \$2 million per year of additional ongoing operations and maintenance ("O&M") expense will be incurred for the NAAQS Compliance Project. Scott Direct at 20-21. Mr. Scott clarified that IPL does not anticipate that there will be incrementally more O&M or a savings of O&M to handle bottom ash using the Bottom Ash System compared to handling bottom ash through the current pond system. Scott Direct at 31; Scott Rebuttal at 18. The estimates were reviewed by the OUCC and Intervenors. The OUCC raised an issue regarding the contingency which was rebutted by IPL Witness Scott. This issue was resolved by a negotiated reduction of the NAAQS SO₂ project contingency. This negotiated resolution is reflected in the estimated cost of the NAAQS SO₂ Compliance Project as modified by the Settlement Agreement, which is \$29.2 million. Settling Parties Ex. 1 (Settlement

Agreement, Section A1c); Scott Settlement Testimony at 3. The estimated cost of the CCR Compliance Project is \$46,900,000. Scott Direct at 12, 29; Settlement Agreement Sections A1c and A1e. While each project total is exclusive of AFUDC, AFUDC will be accrued on the respective Project and included in the respective project costs. While the demolition costs are necessarily incurred, IPL does not propose to reflect demolition costs in the construction costs upon which it will earn a return in the ECCRA. Cutshaw Direct at 15. Finally, as noted by IPL Witness Scott O&M expense will also be incurred.

Mr. Schlissel and Dr. Frank, the Non-Settling Parties' respective witnesses, did not challenge the cost estimates of the NAAQS SO₂ and CCR Compliance Projects in either direct or settlement testimony. Dr. Frank discussed the CCR Compliance Propose against a timeline of other future environmental requirements and the associated cost of compliance. OUCC Witness Armstrong acknowledged (p. 25), that IPL had accounted for future environmental costs in its economic analysis. In her rebuttal, Ms. Collier explained that many of the potential costs mentioned by Dr. Frank may not even be applicable to IPL, or would be incurred by IPL regardless of the decision made in this proceeding. Collier Rebuttal at 5-6.

With regard to these potential future environmental requirements, JI contends (JIPO at 26) that IPL "should have presented the Commission an analysis of the risk that corrective actions will be required and an estimate of the associated costs." JI further contends that a "full accounting of the risks and costs associated with [all aspects of the] CCR rule" "would make it possible for the Commission to determine whether IPL should have considered alternative approaches to CCR rule compliance". *Id.* JI contends that because such a "full accounting" has not been provided, the Commission is "unable to evaluate the proposed project nor evaluate alternatives under Chapter 8.4." *Id.* We disagree. Ind. Code § 8.4-6(b)(1)(B) requires the utility to present a "description of the projected federally mandated costs associated with the proposed compliance project". The statute does not require a "full accounting" of all possible future costs associated with other possible compliance projects, including costs which may never be incurred and costs that cannot now be determined. JI's argument exceeds the scope of what is required under Ind. Code § 8.4-6(b)(1)(B). We discuss the potential for future environmental compliance requirements and costs below in our consideration of Ind. Code § 8.4-6(b)(1)(D).

We find the estimated cost of each project as set forth in the Settlement Agreement and supported by IPL Witness Scott is reasonable and should be approved. Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we further find that IPL has satisfied Ind. Code § 8-1-8.4-6(b)(1)(B).

(3) Compliance with Federally Mandated Requirements. (Ind. Code §§ 8-1-8.4-6(b)(1)(C)) and 8-1-8.4-7(b)(3)). As described by IPL Witnesses Scott and Collier, IPL will be required to comply with the new emission limits established in the Indiana SIP to address NAAQS for SO₂ emissions beginning on January 1, 2017. Scott Direct at 11. Specifically, the 30-day rolling average emission limits will be significantly decreased. Prior to these new limits, if an FGD system was experiencing an outage or was not operating at full capacity, IPL could continue to run the generating unit for a short time to make the necessary repairs and still be under the 30-day rolling average limit. Beginning January 1, 2017, this is no longer the case because the limits are so low that the generating unit will need to be shut down almost immediately in the event of a FGD malfunction or outage in order to stay within the new limits. Essentially, a FGD outage will result in a generating unit outage with its attendant economic

consequences. IPL Witnesses Scott and Guletsky established that the NAAQS Compliance Project is undertaken to enhance and improve the reliability and integrity of existing FGD systems. This Project is related to compliance; the Project reduces the emissions of SO₂ that are created and released through the combustion of coal at Petersburg Station in order that the Petersburg units will consistently and continuously meet the new limits established in the Indiana SIP to address the SO₂ NAAQS as required by the CAA. Scott Direct at 21-22.

IPL Witnesses Scott and Guletsky explained that the CCR Compliance Project will install a bottom ash dewatering system at Petersburg. The CCR Compliance Project is driven by the CCR Rule. Scott Direct at 25. In addition, the ELG Rule will require that this Project be completed. *Id.* These rules impact the ash settling ponds which are used to treat the ash that is generated during the coal combustion process and then transported to the ponds via a wet sluicing process. The record shows that, as a result of environmental mandates, ultimately the IPL ash ponds will be required to cease receiving waste streams and must be closed. Because the ponds will be taken out of service, IPL will need to modify the existing design of its bottom ash handling systems at the Petersburg facility. This will be required because the existing ash ponds can no longer be utilized cost effectively for the retention and settling of ash from the wet bottom ash handling systems on each Unit. Scott Direct at 25.

Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfies Ind. Code § 8-1-8.4-6(b)(1)(C).

(4) Alternative Plans for Compliance. (Ind. Code §§ 8-1-8.4-6(b)(1)(D) and 8-1-8.4-7(b)(3)). Chapter 8.4 directs the Commission to examine a list of factors enumerated in the statute, including "Alternative plans that demonstrate that the proposed compliance project is reasonable and necessary." Ind. Code § 8-1-8.4-6(b)(1)(D). The statute provides that the foregoing must be set forth in the utility's filing in accordance with Ind. Code § 8-1-8.4-7(a) ("Section 7(a)"). Section 7(a) states the utility must provide the information, supported with technical information in as much detail as the Commission requires. As noted above, IPL presented extensive technical evidence and supporting workpapers and timely responded to the Commission's questions regarding IPL's analysis.

(a) HEC Criticism. While HEC did not file a post-hearing brief, HEC Witness Frank (pp. 4 and 28) asserted summarily that IPL's plan does not meet this requirement. Dr. Frank did not explain why she believes this is so and we find this criticism is meritless. The record reflects substantial evidence addressed to this requirement. Mr. Scott and Ms. Soller presented analyses assessing alternatives and showing that each Compliance Project is a reasonable and cost-effective means to comply with the NAAQS-SO₂ compliance requirements and the CCR Rule. This testimony was supported by Witnesses Guletsky and Crockett. With respect to the NAAQS Compliance Project, Mr. Scott and Ms. Guletsky explained how the control measures were selected and presented the supporting cost-benefit analyses. With respect to the CCR Compliance Project, Mr. Scott explained that IPL evaluated alternative means for stabilizing the ponds but quickly realized that the cost associated with such a solution would not be prudent as such a solution would only be temporary and at a much higher level than what IPL is proposing. Scott Direct at 26-29; Scott Rebuttal at 20-21. Ms. Guletsky explained that the new ELG Rule will require dry or closed loop bottom ash handling by a date to be specified by the NPDES permitting authority that is between November 1, 2018 and December

31, 2023. Guletsky Direct at 17. Thus the record shows if an alternative to the proposed CCR Compliance Project were pursued, it would be short-lived, as it would need to be retired and replaced with a system nearly identical to what is being proposed in this proceeding, sometime in the next six years. Scott Rebuttal at 21.

In its proposed order and post-hearing brief, JI took up the HEC criticism and urged the Commission to enlarge the scope of this proceeding to address other CCR Rule requirements and potential alternatives for compliance with those requirements. JIPO at 26; JI Brief at 20. We decline to do so. The purpose of this proceeding as it relates to CCR Rule compliance is to review IPL's proposal to install and commission a bottom ash dewatering system to allow IPL to stop discharging wastewater to the ash ponds by April 11, 2018. Collier Rebuttal at 10. As discussed above, the record shows IPL considered the relevant alternative options for compliance with the structural stability requirements of the CCR Rule.

IPL's economic analysis reasonably captured potential future environmental costs in its consideration of alternatives to continuing to operate the Petersburg Units. As Ms. Collier explained, many of the potential costs mentioned by Dr. Frank may not even be applicable to IPL, or would be incurred by IPL regardless of the decision made in this proceeding. Collier Rebuttal at 5-6. We find IPL's economic analysis is consistent with what we have accepted in other filings under Chapter 8.4 and, as further discussed below, IPL's economic analysis of alternatives demonstrates that the proposed Compliance Projects are reasonable and necessary. Therefore, we find that IPL adequately addressed alternative plans for compliance.

(b) Joint Intervenor Opposition. In its post hearing filing JI claimed repeatedly that IPL's analysis is "biased". JIPO at 28-30. Put another way, JI argues the utility unfairly caused the analysis to favor a particular result. As discussed below, JI's filing ignores or mischaracterizes substantial record evidence and does not otherwise withstand scrutiny. IPL's analysis reasonably relied on independent expert analysis, such as that provided by ABB and its fundamentals-based forecast, and ICF. See Crockett Direct at 8; Soller Direct at 11. The fact that reasonable assumptions and robust modeling lead to the conclusion that the Compliance Projects should be implemented may not be to JI's liking, but this alone does not indicate bias. A party's claims must necessarily be reconciled with the record as a whole. For example, JI proposes the Commission sweep aside IPL's analysis by finding that "IPL vests too much faith in the forecasts it purchased from ABB without taking any steps to test their accuracy." JIPO at 28. This proposed finding ignores Ms. Soller's rebuttal testimony showing that ABB is an industry leader in the forecast development, that IPL has taken steps to evaluate ABB's forecast accuracy, and that reliance on the ABB forecast used in IPL's analysis is reasonable. Soller Rebuttal at 18; Soller Settlement Rebuttal at 3-6; Tr. at B-52 to B-54. While the continued operation of Petersburg Station may not be in keeping with JI's objectives regarding the use of coal as a fuel for electricity generation, the goal in this proceeding is to identify the reasonable least cost means of complying with the above referenced federal mandates.

IPL's economic analysis includes production cost modeling, risk scenario development as well as the presentation of probabilistic decision trees and a real option overlay. Soller Direct at 8, 20. The additional decision tree evaluation formalizes and supplements the individual scenario evaluation. Soller Direct at 21. This stands in stark contrast to the simplistic spreadsheet analysis

performed by Mr. Schlissel. Soller Settlement Rebuttal at 20. Substantial record evidence compels the conclusion that we reject both Mr. Schlissel's recommendation that Ms. Soller's economic analyses be given no weight and JI's assertion that IPL's analysis is somehow biased or unreasonable. Schlissel Direct at 40; Schlissel Settlement at 21; JIPO at 28.

Ms. Soller presented the economic modeling results and other analysis undertaken to evaluate whether to retrofit, retire or refuel IPL's Petersburg units in light of the cost of complying with the NAAQS, CCR and other environmental rules. Soller Direct at 4-29; Soller Rebuttal at 19-20; Settlement at 2-9. She explained that to evaluate the economic merits of each Compliance Project (NAAQS-SO₂ and CCR-Bottom Ash), IPL estimated the full life cycle cost profile of the Petersburg units, and compared those costs to replacement of the coal units with alternative resource options over the estimated remaining life of the units. In order to assess various risks and uncertainties, this analysis included stress testing resource options by considering future unknown but plausible risks by way of scenario analysis. This was accomplished through a PVRR evaluation to identify an overall reasonable least cost plan. This helps to determine the future performance and robustness of the retrofit option and alternative solutions. See Soller Direct at 8-9; Soller Rebuttal at 34-36; Soller Settlement at 2-9; Soller Settlement Rebuttal at 14-17, 19-20, 23-25.

IPL's probabilistic and simple payback analysis is consistent with the methodology accepted in Cause No. 44540 regarding IPL's NPDES Compliance Plan. See Soller Settlement Rebuttal at 24. IPL's analysis is robust and properly focused on assessing compliance options, including alternatives to the proposed Compliance Projects. The production cost modeling performed by IPL comports with decision analysis best practices and provides a solid evidentiary foundation upon which the Commission can assess the reasonableness of IPL's proposed Compliance Projects and the Settlement Agreement. In contrast, the JI analysis seems to "frame" the problem statement to focus on retiring Petersburg versus complying with CCR and NAAQS SO₂ regulations. The information Mr. Schlissel used as inputs is limited to low gas and low market prices. His analysis tends to focus on recent market prices and impacts based upon the assumption that low natural gas prices and energy market prices will continue in the "coming years". Schlissel Settlement at 7. Ms. Soller's and Mr. Scott's response to Mr. Schlissel's analysis persuades us that his spreadsheet analysis is flawed and represents an overly simplified approach to a complex matter. Soller Rebuttal at 17, 21-22, 27; Scott Rebuttal at 20; Soller Settlement Rebuttal at 21. See *Indianapolis Power & Light Co.*, Cause No. 44242 at 31 (IURC 8/14/2013) (noting that presentation of cost/benefit study solely through an overly simplistic spreadsheet analysis was disappointing and limiting weight to place on it).

Mr. Schlissel argued that the results of IPL's analysis are driven by the extremely optimistic, unreasonable assumption that the future will be very different (and much more favorable to the economics of coal-fired generation) than the recent past. Schlissel Direct at 2; Schlissel Settlement at 1. In particular, Mr. Schlissel criticized the natural gas, energy and capacity prices in IPL's economic analysis. Schlissel Direct at 4-40; Schlissel Settlement at 2. We find Mr. Schlissel's focus on short term prices does not properly account for future risks which may include significantly different and higher energy costs. See Soller Settlement Rebuttal at 7. IPL's economic analysis reflects base assumptions as well as low and high pricing assumptions. Soller Settlement Rebuttal at 2-3. IPL appropriately used a fundamental forecast to develop a more robust assessment of potential risks. Soller Rebuttal at 17. Consistent with past

practice in Commission proceedings, IPL reasonably used the most recent natural gas and market price information available during the preparation time period in its analyses in this proceeding. Soller Settlement Rebuttal at 3. As discussed below, we find and conclude that IPL's analysis reasonably bounds the potential future outcomes and provides a reasonable foundation for a decision to move forward with the proposed Compliance Projects as provided in the Settlement Agreement. While the natural gas prices used in IPL's analysis are higher than recent actual prices, they reflect a long-term view of a range of potential outcomes to reflect possible risk, are based on upon a fundamental model of the Eastern Interconnect and are consistent with other 2016 forecasts. Soller Settlement Rebuttal at 4, 7; Soller Rebuttal at 17, 19, 20.

JI argues that the additional low gas price sensitivity analysis Ms. Soller presented in her settlement rebuttal does "nothing to salvage" IPL's case as the analysis was addressed to the NAAQS Compliance Project and ignored the CCR Compliance Project. JIPO at 28. Ms. Soller's additional analysis was conducted to respond to Mr. Schlissel's testimony and was not a substitute for the extensive additional economic modeling IPL presented in this case. When she was asked why she did not reference the CCR Projects in her discussion of this additional sensitivity analysis, Ms. Soller explained why the CCR Projects were reasonable to do based on the capacity value alone. Tr. at C-8 to C-9.

JI also urged the Commission to sweep aside the ABB forecast by finding that "the Commission is dismayed at IPL's decision not to update its modeling with the most up to date forecasts available at the time of filing its case-in-chief in this proceeding." JIPO at 28. Notably, JI made no attempt to reconcile this proposed finding with the record evidence. IPL used the ABB forecast available at the time it performed the economic analysis. The 2016 Spring Reference case was not fully available until May 2016, the same month that IPL's case-in-chief was filed. Soller Settlement Rebuttal at 6. The 2016 Fall Reference case was not fully available until January 2017, the same month as the final evidentiary hearing in this Cause. *Id.* In its filing, JI fails to adequately consider the substantial evidence demonstrating that reliance on the 2015 Fall Reference Case remains reasonable notwithstanding the subsequent issuance by ABB of other forecasts. Soller Rebuttal at 18-27; Soller Settlement Rebuttal at 2-7; Tr. at B-52 to B-54. Further, the record shows updating forecasted data in the modeling is not simply a matter of purchasing new information. Soller Settlement Rebuttal at 4. JI suggests (JI Brief at 8-9; JIPO at 23, 28) that IPL could have simply waited another four to six weeks to rerun its analysis. This ignores the additional delay such an approach would create. Furthermore, if updated ABB forecast data were utilized, IPL would also need to update all model runs, review output data, and revise exhibits to fully reflect modeled outcomes due to dispatch reprioritization. *Id.* Once the new economic analysis was available, the other parties would need time to assess it and file testimony, and then IPL would need an opportunity to present rebuttal testimony. *Id.* All the while, time would continue to pass, compliance deadlines would draw nearer and new information, both actual and forecast, would continue to become available. Continuing to delay a decision to assess more information does not constitute good decision-making. Nor is it conducive to administrative efficiency. *See Southern Ind. Gas & Elec. Co.*, Cause No. 44446, Order on Remand at 2 (IURC 6/22/2016) (declining to reopen record in CPCN proceeding to admit evidence of changes in ELG Rule, natural gas prices and updated MISO capacity forecast). The record shows IPL must take action to ensure adequate and reliable utility service and compliance with approaching environmental compliance deadlines. The Settlement Agreement presents a reasonable path forward.

Further, while low natural gas and market energy prices may prevail, there is also real potential that they may not. While Mr. Schlissel raised concerns about IPL's natural gas price forecasts not being low enough, the OUCC testimony cited concerns that decreased supply of natural gas may drive prices even higher. Rutter Direct at 7. Moreover, the record shows that each Compliance Project remains reasonable even under low natural gas and low market energy pricing scenarios. Soller Settlement Rebuttal, 14-16. As explained by Ms. Soller, under this scenario, customers will benefit from low natural gas prices through MISO market purchases during hours when they are more cost effective than dispatching IPL units. *Id.* at 8-9. In addition, the Petersburg generating facility is "steel in the ground" and serves as a hedge against market volatility if natural gas prices increase significantly. *Id.* at 8. IPL's ability to purchase and store coal minimizes customer exposure to fluctuating natural gas prices. *Id.* This fleet fuel diversity mitigates risks, which is especially pertinent given IPL's recent fleet changes at Harding Street which also relies on natural gas. *Id.* Mr. Schlissel's analysis fails to recognize that retiring the units now reduces future optionality and flexibility. *Id.* at 9, 16.

Mr. Schlissel's focus primarily on energy prices overlooks the capacity value of the Petersburg units. Soller Settlement Rebuttal at 8-9. This is significant because the capacity value analysis demonstrates the reasonableness of the CCR Project regardless of the energy contribution and natural gas price issues raised by Joint Intervenors. In other words, even if we were to agree with Mr. Schlissel's concerns regarding the potential for low natural gas prices in the future and ignore the full range of potential future outcomes, the record shows Petersburg would continue to provide significant value from a capacity standpoint alone. Soller Settlement Rebuttal at 12-13. Although IPL fully expects the Petersburg units to be dispatched to provide energy value in the MISO market during the short term payback period, the capacity value analysis further demonstrates the reasonableness of the CCR Project. This capacity value payback analysis uses the same near-term capacity prices that Mr. Schlissel reflected in his own analysis. This refutes JI's suggestion that the economics of IPL's proposed projects rely on capacity market forecasts that are unreasonable. See JIPO at 29; cf. Soller Rebuttal at 24-26; Soller Settlement Rebuttal at 10-12. In its post-hearing filing, JI argued that IPL's "simple payback" analysis "is an inadequate defense because it does not factor in the effects of energy markets on the economics of the Petersburg units." JIPO at 29. This argument misses the point of the "capacity value" analysis, which recognizes that "capacity value" is not correlated to energy market values or natural gas prices, and demonstrates that regardless of future energy prices, the capacity value alone justifies the CCR Project. Tr. at C-5.

We further find JI's other criticisms of the capacity prices in IPL's economic analysis lacks merit. Among other things, Mr. Schlissel's testimony is based on an analysis of PJM which is not representative of conditions in MISO, the relevant RTO. Soller Rebuttal at 15-16, 24-26; Soller Settlement Rebuttal at 10-13. Further, the record shows higher capacity prices are more likely in MISO in light of recently announced generating unit retirements in Indiana. Soller Settlement Rebuttal at 10. Moreover, it is not necessary for capacity prices to reach CONE in order for Petersburg to continue to provide significant value, as shown in the capacity payback analysis presented by IPL. Soller Settlement Rebuttal at 12-13. JI's concerns regarding future capacity markets are not sufficient to overcome the substantial evidence demonstrating IPL's projected capacity prices are reasonable.

IPL's analysis included four carbon tax scenarios designed as a proxy for unknown future

carbon costs. Crockett Direct at 5; also Soller Direct at 11-13. Thus, Mr. Schlissel's contention in his settlement testimony (p. 27), that IPL did not include CO₂ costs for multiple endpoints is inaccurate. Soller Settlement Rebuttal at 21. JI's post-hearing filing focuses on two of the four carbon tax scenarios IPL analyzed. JIPO at 28-31. In these two scenarios, ABB developed correlated gas and market prices. *Id.*; also Tr. at B-28 to B-29. In the moderate carbon tax scenario the ABB correlated gas and market prices commenced in 2020. *Id.* In the high carbon tax scenario the ABB correlated gas and market prices commenced in 2025. *Id.*

In its post-hearing briefing, JI argued that IPL's analysis is "unreasonable" and "biased". JI Brief at 10-11. JI's argument raises and confuses three points. First, JI argues that the 45% probability assigned to two or the four carbon scenarios is unreasonable. Second, JI argues about IPL's assumption that the ABB correlated pricing was 100% likely in the two carbon scenarios that used the ABB pricing. Third, JI argues that IPL should have expanded these two particular carbon scenarios to include an analysis of higher and lower natural gas prices. Notably JI's post-hearing brief fails to reconcile these arguments with the record as a whole. Doing so refutes the claim of bias and demonstrates that IPL's analysis is reasonable.

IPL's analysis assumed a 100% probability that the ABB correlated prices would occur in the two carbon scenarios JI criticizes. Put another way, in these two carbon scenarios IPL assumed the market prices would be those produced from the ABB correlated fundamentals forecast. IPL did not assume that the natural gas prices in these two scenarios would be higher or lower than those forecasted by ABB. Tr. at A-82 to A-84. Ms. Crockett explained that the carbon tax is basically an adder on to the market price. *Id.* at A-83. Consideration of higher or lower natural gas prices in these two scenarios would have required the development of additional market prices. *Id.* Consideration of higher gas or lower gas prices was not necessary given the impact that the high carbon costs would impute based on those assumptions, and doing this analysis would complicate the modeling without significantly changing the results. Tr. at B-29 to B-30. Relying on an established expert, such as ABB, and using information produced through the fundamentals analysis, is reasonable. Such reliance is not evidence of bias. While JI may not like the fact that the ABB correlated prices are higher as a result of the carbon tax, that is not a sound basis to ignore the modeling results. IPL's decision not to perform additional scenarios—given the extensive analysis already conducted—is also supported by substantial evidence showing the proposed projects are reasonable.

JI's argument that IPL's analysis assumed a "45% probability within the model that Congress will enact legislation creating a carbon tax" is inaccurate. JIPO at 24, 28-31; also JI Brief at 10. Ms. Soller explained that this is not a *prediction* that IPL believes a carbon tax will prevail, nor is that the intention of modeling carbon costs as a tax. The carbon tax costs are intended to forecast potential impacts only. Tr. at B-21 to B-31. IPL's two carbon tax scenarios are a reasonable proxy for potential costs that would impact IPL's coal-fired units.

JI's reference to the pricing in these two scenarios as "extremely high" is also inaccurate and provides no frame of reference. JIPO at 23, 28-31. While these prices may be high as compared to what JI might prefer or as compared to 2016 actual market and natural gas prices, the record does not demonstrate that these correlated prices are higher than what one might reasonably expect in the carbon tax scenarios. These correlated prices are the result of ABB's fundamentals analysis. We also note that JI's use of the words "extremely high" is disingenuous.

Ms. Crockett's utterance of these words was in relationship to the prices being higher than the base case:

Q. Why is that?

A. Because when you introduce a carbon tax, especially as high as what we did in these scenarios, the market prices are extremely high, higher than – than the base.

Q. What do you mean by extremely high?

A. The impact on the carbon tax and the gas price makes the market price go up by quite a bit. It's basically an adder -- That carbon tax is basically an adder on to the market price.

Tr. at A-83.

With respect to the four CO₂ scenarios, this part of IPL's probabilistic decision-tree analysis assigned a 45% probability to the moderate ICF and high carbon cost cases – the two scenarios which used the ABB correlated market prices as discussed above. Soller Direct, at 13. JI argues that this weighting is somehow unreasonable because "IPL assumed a 100% probability that gas prices would be higher than its base case due to the carbon tax." JIPO at 29; JI Brief at 10. This argument confuses the purpose of these two distinct percentages. As discussed above, it was reasonable for IPL to assume that the correlated prices produced by ABB's fundamentals forecast would occur in these two carbon scenarios. This input is distinct from, and thus fails to invalidate, the 45% probability assigned in the decision-tree analysis. The 45% probability used in the decision-tree modeling merely reflects that the timing/costs associated with these two scenarios differs from the 55% probability assigned to the other two carbon scenarios, namely the low carbon case and the moderate EPA case.

While it is uncertain when or if Congress will enact legislation creating a carbon tax, we find it reasonable for IPL to take this potential cost into consideration. IPL's analysis included carbon costs in all scenarios. IPL modeled the EPA's proposed Clean Power Plan as starting in 2020, whereas the final Clean Power Plan is expected to start in 2022 or beyond. Tr. at C-26. Including the potential costs earlier provided modeling consistency and permitted more of a worst-case scenario view. *Id.* We find that IPL's analytical approach is reasonable. While JI argues (JIPO at 29) that the inclusion of carbon tax scenarios biases the modeling in favor of the Compliance Projects, we disagree as explained above. Additionally, we note that should such legislation fail to pass, such reduced carbon impacts would ostensibly offer greater value to coal-fired generating resources, such as Petersburg, versus any gas-fired or renewable replacement resource. In other words, the approach taken by IPL is a conservative and responsible way to model carbon. Tr. at C-25.

We also find it reasonable to consider optionality and flexibility in the face of future uncertainty about carbon or other costs. Soller Settlement Rebuttal, at 9-10. The Petersburg units offer reliable, locally sourced generation. Absent the CCR Compliance Project, IPL could be required to shut down the Petersburg units by April 11, 2018 under the variance and as early as

April 17, 2017 without the variance. Collier Rebuttal at 3. The need to immediately acquire replacement energy and capacity would subject IPL's customers to significant risk of price increases due to a) the unavoidable and significant dependence on the wholesale market that would result from such a decision and b) the higher incremental cost of the resources that would be needed to meet IPL's customers' need for energy and capacity. We decline to expose IPL and its customers to such price risk based on JI's concerns.

JI also claims that another unreasonable bias is IPL's modeling of Petersburg off-system sales, which JI argues is also "inaccurate." JIPO at 29. We find this contention lacks merit. IPL's PVRR modeling of off-system sales from Petersburg was not shown to be "inaccurate". The proper modeling of off-system sales in the PVRR analysis is not evidence of bias. The PVRR analysis establishes a new revenue requirement for each year of the analysis period. Similarly, in a retail rate case the Commission looks to establish a reasonable level of OSS margins to embed in retail rates. Because a rate case is not conducted annually, the Commission has established a sharing mechanism which recognizes changes in OSS margin levels. This difference between the PVRR modeling and the timing of a retail rate case does not demonstrate bias or otherwise support a conclusion that IPL's analysis is unreasonable. IPL's modeling is consistent with PVRR modeling the Commission has accepted in other proceedings. Mr. Schlissel's analysis considered information that included the Eagle Valley CCGT which is currently under construction. This investment is not the subject of this proceeding. Soller Rebuttal at 27-28. We recently reviewed and approved IPL's retail rates and will do so again upon completion of the Eagle Valley CCGT which is currently under construction. The issue of symmetry in the treatment of off-system sales may be addressed in the IPL rate case where the CCGT is reflected in rate base. Soller Rebuttal, at 28; Order in Cause No 44576 at 80.

Substantial evidence establishes that JI's recommendation that we deny the CPCN request and instead require IPL to begin planning for the retirement of Petersburg is neither a practical nor economic option for IPL to comply with CCR regulatory requirements within the CCR compliance timeline. Schlissel Direct at 40-49. IPL has already considered the economics of retiring, refueling or retrofitting Petersburg Station. IPL has also reasonably considered the potential for renewable wind and solar PV resources and energy efficiency in its 2014 and 2016 IRP processes. Soller Rebuttal at 10, 17-21; Soller Settlement Rebuttal at 19. The evidence shows that these resources simply cannot feasibly replace the energy and capacity from Petersburg. Mr. Schlissel's contention otherwise lacks merit. Schlissel Direct at 2-3; Soller Rebuttal at 6, 21, 28-30. A CCGT represents the most cost-effective resource option as a proxy to replace Petersburg as described in Ms. Soller's rebuttal testimony. Soller Settlement Rebuttal at 21. Future resources may include alternatives such as DSM, solar, wind and/or energy storage. IPL's most recent IRP selected both Compliance Projects as reasonable. Soller Rebuttal at 38. The reserve margins resulting from the IRP analyses include Commission approved resource changes, including the Eagle Valley CCGT approved in Cause No. 44339. There, the Commission found that IPL's utility-specific plan "is a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers." Soller Rebuttal at 28 (quoting 44339 Order, at 28, 39). Here, we conclude that the Compliance Projects proposed in the Settlement Agreement represent a prudent, reliable and cost effective means of meeting the future needs of IPL's retail customers.

The record shows that retiring Petersburg now based on the premise of continued low

natural gas and market energy prices is a large gamble which could adversely affect customers. Soller Settlement Rebuttal at 9. As explained by Ms. Soller, the CCR Compliance Project is necessary to continue to operate any of the Petersburg units beyond the CCR compliance deadline. *Id.* The Petersburg capacity could not be replaced in an economic manner prior to the CCR compliance date under the current variance of April 2018, which would prompt significant capacity and energy market dependence. *Id.* Gas prices can increase significantly with little notice. This would result in high cost market purchases and negate the assumed benefits of a low natural gas price scenario. *Id.* at 9-10. We find this is not an acceptable position for IPL or its customers. Because the cost of the CCR Compliance Project does not change materially by the number of operating units, this compliance cost does not justify the retirement of any Petersburg unit.

As stated above and demonstrated in IPL's direct, rebuttal and settlement testimony, the NAAQS Compliance Project is also reasonable even if low natural gas prices prevail. *Id.* at 10. While the analysis shows the retrofit decision regarding Petersburg Unit 2 is not as clear under the 100% low gas price sensitivity, we agree with the Settling Parties that the Petersburg Unit 2 NAAQS SO₂ retrofit remains a reasonable least cost choice. As Ms. Soller explained, retrofitting Petersburg Unit 2 for NAAQS SO₂ compliance will enhance and improve the reliability and integrity of the FGD systems and thus unit reliability. Retrofitting the unit will also maintain operational optionality and flexibility to further enhance Petersburg Unit 2 such as refueling it in the future to benefit customers. The NAAQS SO₂ Compliance Project measures for Petersburg Unit 2 consist of installing redundant switchgear and a transformer. This equipment has a "long lead time", meaning that it can take six to nine months to obtain a replacement if the switchgear or transformer fails. The analyses and IPL's analysis of the EFOR risk supports the conclusion that this component should be pursued at this time. If the project were not pursued, customers will be exposed to energy market purchase costs for an extended period of time due to the long lead time nature of this equipment. See Soller Settlement Rebuttal at 16-17.

In sum, IPL's analysis focused on addressing how to meet the Compliance requirements for CCR and NAAQS SO₂. The IPL alternatives of retrofitting, refueling, or replacing Petersburg with a CCGT compared to market purchases are all feasible solutions. IPL reasonably relied upon consultants and industry experts to provide forecast information and probabilities of potential future outcomes as well as its industry knowledge in the analysis. IPL's analysis included consideration of alternative compliance options including refueling or replacement with a CCGT in this proceeding and utilizing DSM, solar and wind as part of the IRP process. IPL focused the analysis results on PVRP to minimize customer costs. Tradeoffs include mitigating customer cost risks associated with potential EFOR impacts if NAAQS SO₂ Compliance measures were not installed and significant reliance on market energy and capacity purchases if the CCR Compliance Project was not completed. IPL used logically correct reasoning through robust modeling tools including production cost modeling and decision tree analysis on a unit by unit basis for NAAQS SO₂ and station basis for CCR with off-ramps available to address potential changes in future environmental regulations. This is consistent with previous analyses by IPL and other Indiana utilities.

Accordingly, we find that IPL reasonably considered alternative plans for compliance with the federally mandated requirements. The evidence demonstrates that each Compliance Project is reasonable and necessary. Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's

request satisfies Ind. Code § 8-1-8.4-6(b)(1)(D).

(5) Useful Life of the Facility. (Ind. Code §§ 8-1-8.4-6(b)(1)(E) and 8-1-8.4-7(b)(3)). The new NAAQS limits require all FGD systems to be in service whenever a Unit is in operation. This is a change from past operations at Petersburg. As stated above, past SO₂ limits allowed IPL to remove the FGD systems from service for periods of time when lower sulfur coal or other operational means allowed the Petersburg units to meet the existing emission limits. Essentially, under the new NAAQS limits, a FGD outage will result in a generating Unit outage with its attendant economic consequences. As noted above, the Units would likely be de-rated or taken offline absent the NAAQS Compliance Project. Therefore, the proposed NAAQS Compliance Project is undertaken to extend the usefulness of the Units and avoid the de-rating that would otherwise occur. Scott Direct at 22-23.

IPL is required to comply with the CCR Rule in order to continue to operate its coal fired generating assets at Petersburg. Therefore, by undertaking the proposed CCR Compliance Project, IPL will extend the period of usefulness of the Units. Scott Direct at 31. This is true regardless of what future CCR Rule compliance actions may be required in the future. Accordingly, there is a sufficient evidentiary basis to reach a determination on this issue.

Pursuant to Ind. Code § 8-1-8.4-7(b)(3), we find that IPL's request satisfies Ind. Code § 8-1-8.4-6(b)(1)(E).

(6) Conclusion. Chapter 8.4 requires an analysis of alternative plans that demonstrate the proposed compliance project is reasonable and necessary. IPL has examined other alternatives. The record reflects that the Projects are aligned with IPL's 2014 and 2016 IRPs. The record also reflects substantial PVRR analysis of each project under differing scenarios. This analysis shows that the proposed projects as modified by the Settlement Agreement constitute a reasonable, least cost approach to compliance. The 'least-cost planning' approach is used to identify the lowest cost project but does not, contrary to JI's assertion (JI at 5), require the automatic selection of the absolute least cost alternative. Rather, we look for the least cost approach viewed as *reasonable* and consider factors such as service reliability, technical constraints, plan flexibility and optionality. See *Re Joint Petition of PSI Energy, Inc. and CINCAP VII, LLC*, Cause No. 42145 (IURC 12/29/2002), at 4 (quoting *Re Southern Indiana Gas & Electric Co.*, Cause No. 38738 (IURC 10/25/1989), at p. 5); *Re PSI Energy, Inc.*, Cause No. 39175 (IURC 5/13/1992), at p. 14 (emphasis added). Accordingly, we find and conclude that each Compliance Project (as modified by the Settlement Agreement) is reasonable and necessary to comply with the federally mandated requirements.

As a practical matter, a decision to retire the Petersburg units would be difficult to reverse and would likely expose IPL's customers to immediate rate spikes due to the need to replace this low cost, locally fueled capacity. The record shows IPL has already retired or repowered and replaced its older coal facilities in response to federal environmental mandates and the ongoing need for adequate and reliable service in IPL's service area. Scott Settlement at 8. IPL serves customers through an increasingly diverse portfolio that includes wind, solar, and demand-side management. IPL's remaining coal-fired units at Petersburg already have air pollution controls and are comparatively younger units. We find that as IPL continues to expand the diversity of its generation and DSM/EE mix, it is important that the Units at Petersburg Station are able to

continue to operate on coal and protect customers from potential price volatility in the gas markets. The Petersburg Station's strategic physical location in southwest Indiana allows it to benefit from its close proximity to inexpensive coal. The Compliance Projects also allow IPL and its customers to realize the ongoing benefits of the recent investments in other pollution control equipment as well as the robust design of the original equipment which serves as a platform for these projects. JI's opposition to the Settlement Agreement and the Compliance Projects ignores these very real customer benefits.

In sum, we find continued investment in the Petersburg Generating Station as provided for in the Settlement Agreement is economically justified, reasonable and necessary. The record shows that the Settlement Agreement reflects a negotiated compromise and provides a reasonable and cost effective means to achieve timely and cost effective compliance while maintaining safe, reliable and economic service in compliance with the environmental policy established by our federal government. The record further shows that while the original proposed Compliance Projects remain cost-effective for customers, the Compliance Projects as revised to reflect the Settlement Agreement also remain economic for customers as shown by the revised PVRR values. Soller Settlement at 9. We therefore find approval of the Settlement Agreement serves the public interest. Accordingly, the Commission grants a CPCN for each Compliance Project under Chapter 8.4 in accordance with the Settlement Agreement.

B. Accounting and Ratemaking.

(1) Ratemaking Proposal. Ind. Code § 8-1-8.4-7(c) sets forth the accounting and ratemaking treatment for approved federally mandated costs associated with an approved compliance project. The statute provides the utility's authorized net operating income shall be adjusted to reflect any approved earnings for purposes of Ind. Code § 8-1-2-42(d)(3). The statute further provides that actual costs that exceed the projected federally mandated costs of the approved compliance project by more than 25% shall require specific justification by the utility and specific approval by the Commission before being authorized in the next general rate case filed by the utility. The Settlement Agreement presents a negotiated compromise that resolves the issues raised by the OUCC and Intervenor Industrial Group. The negotiated resolution is within the scope of this evidence and further supported by the settlement testimony of the Settling Parties. We find the accounting and ratemaking terms of the Settlement Agreement are reasonable and should be approved.

JI recommended that if the Commission approved the Projects that the Commission attach conditions on IPL's cost recovery should actual prices vary from IPL's forecasted prices. We find this proposal to be undefined and inconsistent with the regulatory framework. These flaws were detailed by IPL Witnesses Soller and Cutshaw. Soller Rebuttal at 31, Settlement Rebuttal at 22-23; Cutshaw Rebuttal at 11-12; Cutshaw Settlement Rebuttal at 1-4. The analysis supporting the Settlement Agreement reasonably accounts for a range of potential future scenarios. As explained in Ms. Soller's rebuttal testimony (at 31), projections are established to inform stakeholders of possible risks and opportunities given a range of uncertain futures. The pre-approval process provides for prudence determinations to be made upfront. JI's position contravenes the regulatory framework and would subject the Projects to the prospect of unreasonable hindsight review. IPL's economic analysis comports with good decision making and planning and shows that the projects as agreed to in the Settlement Agreement reflect the

reasonable least cost compliance path, and this serves the interest of IPL's customers.

Other policy considerations also support rejection of JI's recommendation. As we recently stated in *Indianapolis Power & Light Company*, Cause No. 44540 (IURC 7/29/2015), p. 31, "the Commission's Order in Cause No. 44242 was an approval and modification of a settlement agreement presented by the parties, and therefore, pursuant to the terms of the settlement, has no precedential effect on the parties." We find that decision does not justify the conditions Mr. Schlissel recommends here. See Cutshaw Rebuttal at 11-12. Nor are we persuaded that JI's criticisms of IPL's economic modeling warrant the conditions JI recommends. As discussed above, IPL's analysis reasonably and conservatively accounted for a variety of future plausible scenarios. Such forecasts are not intended to be a "crystal ball" representation of the future, and we decline to impose conditions on IPL that could penalize it for circumstances beyond its control. Accordingly, we reject JI's recommendations.

Therefore, we further find and conclude that accounting and ratemaking as set forth in the Settlement Agreement should be approved. As provided in the Settlement Agreement: 1) the construction costs (exclusive of AFUDC) approved for cost recovery in this proceeding are \$29,213,000 for the NAAQS-SO₂ Compliance Project and \$46,900,000 for the CCR Compliance Project; 2) AFUDC will be accrued on each Project and included in the project costs; and 3) cost recovery shall be limited to the cap on Total Deferrals of the Compliance Projects as provided in Section A.2. of the Settlement Agreement.

C. Ongoing Review. So as to allow the Commission to keep itself informed, IPL proposed to submit progress reports and any revisions in the cost estimates as part of its ongoing ECCRA proceedings. The ECCRA docket is currently used for ongoing review of other previously approved projects. None of the other party witnesses opposed this proposal. As discussed above, the Settlement Agreement incorporates an ongoing review process which was not opposed by the Non-Settling Parties. The Commission finds the proposed ongoing review process is reasonable and should be approved.

D. Chapter 8.7. This proceeding does not involve a request for the initial installation of FGD systems. Rather, the NAAQS SO₂ Compliance Project is proposed to enhance and improve the reliability and integrity of the existing FGD systems. Scott Direct at 5. The recent Indiana Court of Appeals decision in *Citizens Action Coalition of Indiana, Inc. v. Southern Ind. Gas & Electric Co.*, 45 N.E.3d 483 (Ind. Ct. App. 2015), addressed the need for the Commission to issue a CPCN under Ind. Code ch. 8-1-8.7 in order for a utility to use CCT to reduce sulfur emissions from a coal-fired generating unit. In light of this decision, IPL requested the Commission, to the extent necessary, modify IPL's CPCN under Chapter 8.7 or issue a new CPCN authorizing the installation and use of the proposed NAAQS Compliance Project should the Commission determine the proposed control measures constitute CCT.

IPL Witness Scott discussed the components of the NAAQS Compliance Project in his direct testimony. He explained that while this equipment constitutes air pollution control property, when each control measure is viewed in isolation, one could reasonably conclude that the control measures are not "clean coal technology." Scott Direct, 24. He recognized that the Commission previously found the advanced FGD design at Units 3 and 4 constituted "clean coal technology" and stated that the control measures in the NAAQS Compliance Project collectively

are necessary to allow the advanced FGD systems to operate successfully and reliably at the lower emission limits. On January 17, 2017 and in response to a docket entry dated January 12, 2017, IPL provided additional information on the development and commercial implementation timeline of DiBasic Acid systems such as those proposed for Petersburg. Pet. Ex. 8. The response explained that IPL began using Dibasic Acid in 1985 after a successful testing program that began in 1984. The response also included a 1983 article discussing the testing and commercialization of BDA systems.

Section A1d of the Settlement Agreement provides that to the extent approval of the NAAQS Compliance Project is required under Ind. Code ch. 8-1-8.7, such approval shall also be granted by the Commission. The Settlement Agreement further provides that this agreement is limited to the circumstances associated with the NAAQS Compliance Project and the Settling Parties preserve all rights and all positions they may have regarding the application of Ind. Code ch. 8-1-8.7 to any future IPL compliance project. We find this provision is reasonable.

The record reflects substantial evidence showing that the components of the NAAQS Compliance Project in isolation do not constitute CCT. This evidence supports the conclusion that issuance of CPCN under Chapter 8.7 is unnecessary under the circumstances here. Even if that were not so, we find that to the extent authority under Chapter 8.7 were required, it should be granted. The record reflects substantial evidence showing that if such a CPCN were required, the statutory criteria have been satisfied. See Soller Rebuttal at 36-37.

7. Confidentiality. IPL filed a motion for Protection and Nondisclosure of Confidential and Proprietary Information on May 31, 2016 which was supported by affidavits showing documents to be submitted to the Commission were trade secret information within the scope of Ind. Code §§ 5-14-3-4(a)(4), (9), and 24-2-3-2. The Presiding Officers issued a Docket Entry on June 15, 2016 finding such information to be preliminarily confidential, after which such information was submitted under seal. No party objected to the confidential and proprietary nature of the information submitted under seal in this proceeding. We find all the information is confidential pursuant to Ind. Code § 5-14-3-4 and Ind. Code § 24-2-3-2, is exempt from public access and disclosure by Indiana law and shall continue to 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. The Settlement Agreement is approved in its entirety.
2. IPL shall be and hereby is issued CPCNs under Chapter 8.4 for the Compliance Projects This Order constitutes the Certificates.
3. For purposes of Ind. Code § 8-1-8.4-7(c), IPL's estimated total cost of the NAAQS SO₂ Compliance Project in the total amount of \$29.213 million (excluding AFUDC) is approved as provided in the Settlement Agreement.

4. For purposes of Ind. Code § 8-1-8.4-7(c), IPL's estimated total cost of the CCR Compliance Project in the total amount of \$46.900 million (excluding AFUDC) is approved as provided in the Settlement Agreement.
5. IPL's cost recovery in accordance with Ind. Code § 8-1-8.4-7(c) and IPL's request for accounting authority to implement this cost recovery are approved in accordance with the Settlement Agreement.
6. The Confidential Information filed under seal in this Cause shall continue to be treated by the Commission as confidential and not subject to public disclosure.
7. This Order shall be effective on and after the date of its approval.

ATTERHOLT, FREEMAN, HUSTON, WEBER, AND ZIEGNER CONCUR:

APPROVED:

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

Mary Becerra
Secretary of the Commission