

**RESPONSE COMMENTS OF
NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC
TO STAKEHOLDER COMMENTS ON
NIPSCO'S 2018 INTEGRATED RESOURCE PLAN**

SUBMITTED: April 30, 2019

Introduction

On October 31, 2018, Northern Indiana Public Service Company LLC (“NIPSCO”) submitted its 2018 Integrated Resource Plan (“IRP”). Comments to NIPSCO’s 2018 IRP were submitted by: the Indiana Office of Utility Consumer Counselor (“OUCC”); Citizens Action Coalition of Indiana, Inc. (“CAC”), Earthjustice, Indiana Distributed Energy Alliance (“IndianaDG”), Sierra Club, and Valley Watch (collectively “CAC”); Peabody COALSALES, LLC (“Peabody”); Midwest Energy Efficiency Alliance (“MEEA”); the Indiana Coal Council (“ICC”); Indiana Coalition for Affordable and Reliable Electricity (“ICARE”); and Clean Grid Alliance and American Wind Energy Association (collectively “CGA/AWEA”). NIPSCO appreciates the constructive feedback and observations that its customers and stakeholders (hereinafter “stakeholders”) provided in their comments to the Commission’s staff. Recognizing that the IRP process is a point-in-time forecast of the next 20 years, which is always evolving, NIPSCO is continuously looking for ways to improve the writing, organization and transparency of its IRP. NIPSCO will take all of the stakeholders’ comments and suggestions into account when preparing the next IRP and refining the stakeholder process.

There are also items included in the stakeholders’ comments with which NIPSCO respectfully disagrees and/or would like to provide clarification. Specifically, NIPSCO would like to address comments or concerns raised regarding the all-source request for proposal (“RFP”) process, IRP modeling, modeling software, modeling assumptions, environmental assumptions, candidate resource options, reliability, time horizon, rate impacts, and compliance with the IRP rule.¹

¹ In these response comments, NIPSCO focuses on providing clarifying input to the Commission’s staff on the various stakeholder comments on NIPSCO’s 2018 IRP. NIPSCO requests that its silence on any comment submitted by a stakeholder not be interpreted as NIPSCO’s agreement with the stakeholder’s position.

RFP

MEEA, CGA/AWEA, the OUCC and the CAC comments all expressed appreciation for the RFP. MEEA noted that “[o]ne of the strong aspects of NIPSCO’s IRP was the ‘All-Source RFP’ which NIPSCO used to obtain market-based options for replacing retired supply. While this All-Source RFP focused on supply-side options only, we hope that the utility continues to use this approach for future IRPs and consider ways to adapt it to include market-based energy efficiency offerings as well. . .”² CAC remarked that “NIPSCO was also able to provide a great deal of transparency regarding its description of potential resources and their costs because NIPSCO used (and shared) summary responses to its all-source request for proposals (“RFP”) to characterize new resources.”³ The OUCC said the “all-source request for proposal (RFP) seeking proposals for its expected capacity need in 2023” was useful in that it produced a robust number of responses.”⁴ The comments of the ICC are in direct contrast to the other stakeholders noting that the RFP was part of a bias “against the continued operation of the coal plants.”⁵ ICARE and Peabody expressed similar concerns. In contrast, CGA/AWEA suggests that the all-source RFP should be conducted on an annual basis.⁶

NIPSCO is pleased that a majority of the stakeholders appreciated the use of an all- source RFP process and is currently focused on using the results of the RFP to provide competitive resource and capacity choices. NIPSCO plans to use RFPs for future IRPs as well as to meet the capacity needs determined in the 2018 IRP. NIPSCO has the following responses to stakeholder comments and suggestions:

- MEEA is not correct in stating that the RFP focused on supply-side options only. Demand-side options were eligible and NIPSCO did receive a demand response bid. This bid was evaluated and included in the portfolio analysis, but not part of the preferred portfolio.
- Using the process on an annual basis, as CGA/AWEA suggests, is not practical since the need for additional resources does not necessarily change annually. In addition, the RFP was successful because it was based on a specific capacity need with an expectation for bidders that a transaction of some kind was likely at the end of the process. As a result, participation was significant, and bids were competitive and grounded in

² MEEA comments, page 3.

³ CAC comments, page 16.

⁴ OUCC comments, page 3-4.

⁵ ICC comments, page 2.

⁶ CGA/AWEA comments, page 8.

real projects. If NIPSCO were to conduct an annual process more akin to a Request for Information (RFI), the participation might not be as robust and the price data not as reliable.

- Although the ICC commented that the RFP led to a bias against coal, in actuality, it provided NIPSCO a formal mechanism to measure how its coal fired generation measures up against other technologies in meeting capacity needs. In that way, it truly was an all-source RFP in that all types of resources were considered, including existing resources. Bids that provided cost and operational data for existing resources were evaluated on equal footing with new project proposals and NIPSCO's current fleet.

IRP Modeling

Based upon stakeholders' comments, there were a certain number of areas of misunderstanding regarding NIPSCO's modeling, although several stakeholders also noted an improvement over the previous IRP. Subject to vendor confidentiality agreements, NIPSCO commits to continue to increase clarity regarding its modeling efforts in future IRP submissions. To the extent that additional explanations around modeling are desired, NIPSCO is willing, as demonstrated during the 2018 IRP process, to provide modeling inputs and outputs to all stakeholders, with appropriate confidentiality agreements in place, as well as to have additional conversations to build understanding with its stakeholders. A lesson learned in 2016 was that NIPSCO needed to provide additional discussion in the narrative to help clarify certain aspects of the modeling. Based on the comments received regarding the 2018 IRP, it is clear that improvements have been made to the narrative. However, NIPSCO commits to continue increasing clarity regarding its modeling efforts in future IRP submissions.

Modeling Software

Generally, the stakeholders indicated an appreciation for NIPSCO's adoption of AURORA, however, the CAC noted concerns with the lack of ability to view the "help" feature without purchasing a license. As the CAC comments noted, [t]his is an issue that only the model's vendor can fully resolve[.]⁷ However, NIPSCO is willing to continue working with its stakeholders on potential ways to address this issue in future IRPs, including earlier discussions with software vendors to attempt to provide additional information regarding the models to stakeholders, including under confidentiality agreements. Ultimately, based on the stakeholder feedback, NIPSCO has substantially

⁷ CAC comments, page 9.

improved the modeling of IRP scenarios and has moved to a model better able to take into account notable changes in the business environment for the foreseeable future.

CGA/AWEA recommended that NIPSCO should study the various benefits and limitations of its current modeling software and purchase products that accurately evaluate both the capacity and energy services provided by renewable resources. They recommend pairing the AURORA software employed by Charles River Associates (“CRA”) on behalf of NIPSCO with Plexos. CGA/AWEA’s concern was with “methodologies that over-prioritize capacity resources, in reliance on unforced capacity (“UCAP”) calculations.”⁸ NIPSCO recognizes that technologies and markets are evolving and will evaluate improvements in models or modeling techniques for future IRPs that incorporate capacity value and other potential values of resources. NIPSCO responds to CGA/AWEA’s comments as follows:

- At the moment, the UCAP methodology is the backbone of the Midcontinent Independent System Operator, Inc. (“MISO”) capacity construct. NIPSCO is bound by the terms and conditions of the MISO tariff and therefore uses UCAP as a component of planning for resource adequacy in forward years. NIPSCO will remain actively engaged in the MISO stakeholder process including the forums related to resource adequacy. Should the tariff terms and conditions change to increase or decrease dependence upon UCAP, NIPSCO will modify its adequacy approach in conformance. Therefore, the modeling software is appropriate as is the reliance on UCAP.
- In the future, changing market constructs may require more granular analysis of capacity value, as well as an understanding of value associated with sub-hourly market operations, ancillary services, and distributed energy resources. NIPSCO will monitor these market trends and advance its modeling accordingly.

Modeling Approach

The OUCC commented that NIPSCO’s use of a two-step approach to its economic modeling—first a retirement analysis and then a replacement analysis—is theoretically suboptimal from the standpoint that retirement decisions should be made simultaneously with choices among options for replacing the retired assets. However, the OUCC does not believe that this limitation is necessarily fatal to NIPSCO’s IRP

⁸ CGA/AWEA comments, page 11.

analysis in this instance.⁹ Similarly, ICARE expressed concerns regarding the separate analysis of the retirement and resource selection, arguing that it obscures the cost increases between the portfolios and that the two-step retirement and replacement analyses was flawed.¹⁰

While NIPSCO appreciates that the OUCC did not find its economic modeling to be an incurable flaw in the Company's IRP, it is important to understand why the analysis was conducted in this way. NIPSCO's analysis evaluated a very broad range of retirement dates across a range of scenarios and stochastics. The primary point of evaluating eight different retirement date combinations for the coal fleet across all scenarios and stochastics was to provide a highly transparent analysis of different retirement strategies against different potential market outcomes.

As discussed in Section 9 of the 2018 IRP, "NIPSCO determined that it was most efficient and effective to evaluate retirement decisions on a stand-alone basis, while performing an additional replacement analysis to assess a number of replacement resource strategies."¹¹ While traditional resource planning processes historically focused on meeting incremental load growth and filling capacity gaps due to age-based retirements, changing market dynamics have introduced more complex questions around the timing of plant retirements and the range of tradeoffs that must be considered between existing and potential new resource options. As a result, standard industry practice has moved away from single round optimization analyses and towards approaches that evaluate the tradeoffs associated with different retirement options and replacement alternatives across a range of objectives.

A single-round optimization approach, on the other hand, would have resulted in early retirement of all coal units as soon as possible and a replacement with cost-optimized renewable resources. By not taking this approach, NIPSCO was able to evaluate the tradeoffs of different retirement timings and different replacements that incorporated different amounts of gas and renewable resources and incorporated different ownership and contracting opportunities (owned resources versus different PPA commitment durations). ICARE's efforts to compare portfolios from the two stages of NIPSCO's analysis ignores this fact as well as the point that NIPSCO found that early coal retirements were cost-effective whether replaced with MISO market purchases or renewable resources based on RFP bids.

⁹ OUCC comments, page 3

¹⁰ ICARE comments, pages 2-3

¹¹ NIPSCO 2018 IRP, page 145

Modeling Assumptions

The ICC claims that the scenario construction was biased and did not cover a reasonable range of outcomes for key drivers of planning decisions, such as fuel prices and carbon prices. The ICC also expressed concern that the IRP does not consider the impact of the change proposed to the Large Industrial tariff included in NIPSCO's currently-pending rate case (Cause No. 45159).

NIPSCO transparently shared the fundamental drivers of its scenarios in its initial public stakeholder meetings, introduced a robust stochastic analysis to broaden the range of uncertainties considered in the 2018 IRP, and analyzed customized scenario inputs offered by stakeholders, including the ICC. Interestingly, the ICC's comments are silent regarding the customized assumptions for coal prices, carbon prices, natural gas prices, and environmental capital expenditures that it requested NIPSCO evaluate, as the comments focus only on NIPSCO's core four scenarios. In ICC's customized scenarios, which all address its perceived issues with NIPSCO's four IRP scenarios, the preferred portfolio of retiring coal early was lower cost than retaining the units longer. ICC has not disputed the results of NIPSCO's analysis of these customized scenarios, nor has it pointed out any flaws or concerns with the calculations. Therefore, NIPSCO considers the claim of bias to be without merit, especially considering that all scenario assumptions were transparently shared early in the IRP process and that *all* requests for alternative analyses were completed in a timely fashion and included in the IRP submitted on October 31, 2018.

With regard to the proposed Large Industrial tariff change, NIPSCO included a scenario in the IRP that explicitly included loss of significant industrial load and found that retiring coal early was still attractive. Furthermore, NIPSCO currently relies on industrial interruptible capacity from large customers that would also go away if load were to leave the system, so the impacts of customer loss are not restricted only to the demand side. Finally, the economics of NIPSCO's preferred portfolio are driven more by the costs of alternative resource options and their position in the MISO market more than NIPSCO's native load situation. Across all scenarios considered, NIPSCO found that early coal retirement provided significant savings to customers.

CAC commented that "scenarios were constructed based on storylines that conflated ideas rather than explored explicit risks to NIPSCO."¹² NIPSCO will consider improvements to its scenario development process and acknowledges that CAC's concerns were mitigated by other factors, but disagrees with CAC's overall position.

¹² CAC comments, page 4.

NIPSCO's scenario development process was based on the identification of internally-consistent states-of-the-world that stress the key drivers and uncertainties of NIPSCO's future portfolio costs. While it is true that the development of these scenarios does involve some level of judgment and expert opinion, NIPSCO disagrees with CAC's characterization of the scenarios having "unrelated characteristics."¹³ In fact, NIPSCO's scenario analysis involved the deployment of fundamental fuel and power market models to ensure internal consistency and in order to produce an integrated set of forecasts for fuel, carbon, and power prices. While NIPSCO appreciates CAC's desire to see the impact of single assumption changes, generally a change in one assumption will have an impact on many other market drivers, which is why NIPSCO focused its analysis on integrated scenarios. However, NIPSCO will certainly consider evaluating one-off sensitivities requested by stakeholders in the future.

NIPSCO also disagrees with CAC's assertion that the scenarios did not explore explicit risks to NIPSCO. In Section 8 of the 2018 IRP, NIPSCO explicitly identified the "Risks Addressed" in each scenario as part of its description of the assumptions and modeling inputs, and these considerations were important to the development of the scenario assumptions. Risk analysis is a significant component in the development of an IRP and one of the main reasons NIPSCO updated its 2016 IRP before proceeding with new resources. The assumptions utilized included risks related to retirements, replacement capacity, changes in the business environment and risks explicit to customer impacts. This included consideration of market risks, which are managed through NIPSCO's replacement options that allow NIPSCO to change its strategy with the market as needed. Nevertheless, NIPSCO will aim to ensure broader coverage of potential risks in future IRP analyses, including additional risks that may develop as NIPSCO's and MISO's generation fleets evolve.

ICARE commented that the IRP "artificially inflates the costs of retiring Schahfer 14/15 because of the use of different price assumptions for the solar capacity that replaces the coal."¹⁴ It also noted that NIPSCO understated "the cost of the replacement renewable resources and overstate[d] the cost of continuing to operate the coal plants."¹⁵ Furthermore, regarding the use of wind resources as a replacement for coal generation, ICARE argues that the UCAP utilized is too high.¹⁶ ICARE also raised concerns regarding ancillary services, nodal congestion, and the costs of maintaining and operating the existing coal fleet. Peabody also commented that the "cost assumptions, as well as operation and maintenance ('O&M') cost assumptions, regarding the continued

¹³ CAC comments, page 35.

¹⁴ ICARE comments, page 8.

¹⁵ ICARE comments, page 4.

¹⁶ See ICARE comments, Section D, pages 10-12.

operation of the aforementioned power generation units are either not backed up by specifics or simply too high.”¹⁷

Overall, none of ICARE’s objections regarding modeling assumptions are grounded in fact. With regard to the concern about inconsistent solar costs, ICARE’s claim is false. As presented in Confidential Appendix D (Redacted) to NIPSCO’s 2018 IRP, solar costs are projected to fall from \$1,006/kW (real 2017\$) for projects coming online in 2023, the year in which RFP projects were to enter into service, to \$749/kW (real 2017\$) for projects coming online in 2037¹⁸. ICARE’s claim otherwise is based on a misunderstanding of the online dates of RFP solar bids in 2023 and confusion regarding the true differences in portfolios that retire Schahfer Units 14 and 15 in 2023 versus 2028. ICARE’s analysis on the topic included the following errors and omissions: (i) ICARE ignored the significant incremental maintenance capital expenditures for Schahfer that are required to keep Units 14 and 15 operating for an additional five years in Portfolio 4; (ii) ICARE ignored the accelerated tax depreciation benefit available to renewables coming online after retirement of Schahfer Units 14 and 15 and beyond the period in which RFP resources were selected; and (iii) ICARE ignored the difference in generic solar additions between Portfolio 4 and Portfolio 5 in 2035 upon the retirement of Michigan City.

ICARE’s claims regarding UCAP for wind are also not grounded in fact nor MISO rules. While NIPSCO acknowledges that future capacity credit for wind resources in MISO is an uncertainty, reliance on historical data from a limited set of older wind plants operating in Indiana is not a reasonable way of projecting future credit values for new assets, which will be determined by the system-wide capacity credit in the first year of operation and the actual performance of the new wind plants in the market thereafter.

ICARE’s concerns regarding ancillary services costs fail to recognize that NIPSCO procures ancillary services from the MISO market and that the preferred portfolio with existing gas and new storage resources can offer more ancillary services value than the existing coal fleet. The concern regarding nodal congestion is also unfounded, as the IRP produced planning-level estimates, and NIPSCO’s further study of nodal congestion for new wind projects confirmed that the wind projects are unlikely to face more congestion than the current coal fleet does today.

Both ICARE’s and Peabody’s concerns regarding cost assumptions for the ongoing operations of NIPSCO’s coal fleet are not valid and do not raise any legitimate questions with the projections developed by NIPSCO’s experts who have extensive experience

¹⁷ Peabody comments, page 2.

¹⁸ NIPSCO 2018 IRP, Confidential Appendix D (Redacted), page 520.

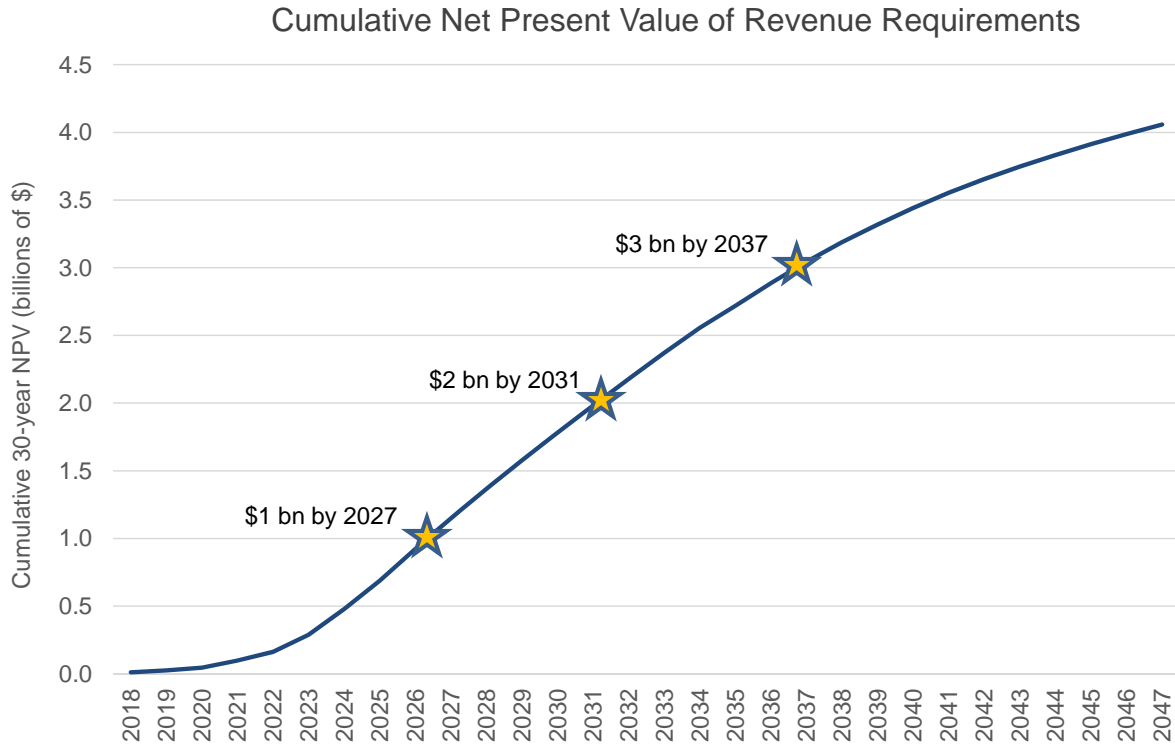
operating the plants and extensive knowledge of the current and future environmental rules. For example, ICARE claims that capital expenditures for the coal units should be the same regardless of plant retirement date. This claim is without merit and demonstrates a lack of knowledge regarding the operation of large generating plants. Retiring a plant early reduces the expected maintenance capital that is required, due to a reduced need to continue investing in the asset for long-term use. For example, if you are going to discard an old car in the near-term, you would not plan to invest heavily in things that might extend its life, such as new tires or a new transmission. However, if you had plans to keep the vehicle operating for many years, such maintenance expenditures would be required and would likely increase over time.

In summary, NIPSCO's approach to IRP scenario development, the use of an all-source RFP, and the Company's significant experience in the industry allowed for the development of a very reasonable set of modeling assumptions. This, in turn, allowed the Company to develop an IRP and Short Term Action Plan that minimizes risk to customers and allows NIPSCO to be flexible in how it addresses resource needs. Future planning work will continue to deploy these best practices and broaden the uncertainties that are evaluated in response to industry change. As the market continues to evolve, NIPSCO has the ability to pivot as necessary.

Rate Impacts

Throughout its comments, the ICC stated that rate impacts were not considered by NIPSCO. However, NIPSCO produced annual revenue requirement projections, which were included for all scenarios and portfolios within the IRP. In all of the scenarios, the preferred portfolio with early coal retirement has lower annual revenue requirements than portfolios that retain coal longer. The ICC's claim that coal retirements would introduce rate shocks is false, and NIPSCO's analysis has shown that retiring coal plants early provides savings in all years. This is demonstrated in the graphic below, which provides the cumulative net present value of revenue requirement savings between Retirement Portfolios 1 and 6 over time.¹⁹ The projected residential rate increases associated with customer class cost allocation considerations in NIPSCO's active rate case proceeding is separate from the resource planning decisions evaluated in the IRP. ICC's efforts to conflate the two is misleading and inaccurate.

¹⁹ The graphic is sourced from the annual revenue requirements summarized for Portfolios 1 and 6 in the "Rev Req Components-Retirements" tab in Confidential Appendix D to the 2018 IRP.



For overall summary presentation of results, the net present value of revenue requirements is a valid way to summarize the rate impacts over the planning period and is the metric used in NIPSCO’s scorecard. This is supported by the CAC comments, which state “[i]t is very likely to be very cumbersome to translate revenue requirements in an IRP into specific rate impacts by rate class because of the complexity of cost allocation. Therefore, the focus is normally on net present value of differing portfolios as a proxy for rate impacts.”²⁰ The CAC indicates that NIPSCO met the requirements of the IRP rule.

NIPSCO presented its scorecard showing the net present value revenue requirements (“NPVRR”) metric for rate impacts at the May 11, 2018 (preliminary scorecard) and September 19, 2018 and October 18, 2018 (results of the analysis) Public Advisory Meetings. Please see Appendix A for a thorough description of all processes to address the considerations including rate impacts as well as Confidential Appendix D which contains the revenue requirement projections. NIPSCO’s revenue requirement projections incorporate all costs associated with new resource options and annual spending associated with maintenance, capital, fuel, and other costs associated with the current fleet, as well as capital investment from new investment. It is worth noting that the ICC never raised an objection to NPVRR as a metric to measure the cost impact in any

²⁰ CAC comments, page 28.

of the public advisory meetings mentioned above or in comments provided to the Commission on the 2016 NIPSCO IRP where this metric was included in the scorecard.

Environmental Assumptions

Peabody contends that NIPSCO included inappropriate incremental environmental capital expenditures in NIPSCO's forecast of future environmental policies. It argues that "[i]n addition to unjustified expenditures assumed to be necessitated by the [Clean Coal Residual] ("CCR") Rule, the [Effluent Limitation Guidelines] ("ELG") Rule, and updates to the Cross State Air Pollution Rule ("CSAPR"), NIPSCO incorrectly assumes the continued burden of operations and maintenance ("O&M") expenses associated with the Mercury and Air Toxics Standards ("MATS") Rule[.]"²¹ The argument is that the IRP "included several ELG and CCR cost assumptions that will be incurred regardless of whether the units continue to operate,"²² and that "NIPSCO has inflated the cost savings assumptions . . . to support an early retirement scenario."²³ Peabody also commented that regulatory timelines are too short in the IRP and that "NIPSCO made assumptions about which scenarios to run and included in these scenarios regulatory timelines relating to both the [CCR] rule and the [ELG] that were too short given currently available extension options and EPA-announced plans to significantly reform both of those rules for the express purpose of mitigating their impacts on coal-fired power plants."²⁴ ICARE similarly contends that the IRP ignored uncertainties regarding environmental compliance and thus included compliance costs that were too high.

NIPSCO disagrees with Peabody's and ICARE's characterizations of the environmental assumptions that were used. A comprehensive review of key environmental planning drivers was provided in Section 7 of the 2018 IRP, and NIPSCO's environmental group surveyed the current regulatory landscape when developing assumptions for compliance with the United States Environmental Protection Agency's ("EPA's") Final Regulations for Cooling Water Intake Structures at Existing Facilities under Section 316(b) of the Clean Water Act and compliance with EPA current and future anticipated regulations pertaining to solid waste management, the Clean Water Act, the Clean Air Act, coal ash disposal, and ELG rules. NIPSCO performed substantial analysis to estimate the varying levels of capital that will be necessary to comply with environmental rules, including assessing that if Schahfer Units 17 and 18 continue to

²¹ Peabody comments, page 2

²² Peabody comments, page 3

²³ *Id.*

²⁴ Peabody comments, page 2.

operate beyond 2023, additional capital investment beyond ELG and CCR is likely to be required.

Contrary to ICARE's assertions, NIPSCO evaluated the uncertainty in compliance obligations in its portfolio development process. As part of this process, NIPSCO evaluated a retirement portfolio that extended the retirement date of Schahfer Units 14 and 15 to 2028 under the assumption that ELG compliance could be achieved through a retirement in that year as opposed to a specific control mechanism by an earlier date. NIPSCO also evaluated a portfolio with no new environmental capital at the coal plants and found that retiring coal early still provided significant savings to customers in this scenario.

The OUCC expressed concern that "NIPSCO used the Clean Power Plan ("CPP"), passed during the Obama Administration, as a map to what Carbon Emission regulation may look like in the future."²⁵ It said that, "[a]lthough it is reasonable for NIPSCO to consider potential carbon emission regulation, NIPSCO should also have evaluated stricter regulations regarding human health, air, land, water, and endangered species."²⁶ It also stated that, while there are environmental attributes for renewables, there are environmental impacts due to being land intensive. Meanwhile, the ICC expressed concern that NIPSCO included any carbon costs in its Base Case, since the Affordable Clean Energy ("ACE") Rule does not create a carbon market. And ICARE believes that NIPSCO's inclusion of carbon prices in three scenarios is inappropriate.

In the 2018 IRP, NIPSCO made an effort to bracket a reasonable range of outcomes for future carbon prices and regulations in the development of its scenarios. The Challenged Economy scenario had *no carbon price throughout the entire planning horizon*, and NIPSCO ran another scenario developed by the ICC with no carbon price and higher gas prices and lower coal prices than what was assumed in the Challenged Economy scenario. NIPSCO's base case was not based on the CPP, as suggested by OUCC, but guided by national emission reductions that were representative of those in the CPP. NIPSCO also developed an Aggressive Environmental Regulation scenario to evaluate stricter regulations, and this was based on a trajectory to achieve 80% carbon dioxide emission reductions from the electric power sector by 2050. NIPSCO's analysis of compliance with the ELG, CCR, CSAPR, and MATS rules shows significant attention to other regulations regarding human health, air, land, and water. NIPSCO does not have sufficient information on how other elements of environmental policy, such as endangered species protection, might impact the generation fleet to speculate on the potential of future requirements, but will continue to monitor developments.

²⁵ OUCC comments, page 8.

²⁶ *Id.*

Additionally, those impacts tend to be specific to the location and project type and are best considered at that level, not in a planning document such as the IRP.

NIPSCO respects that different stakeholders have different views of what the future may hold. NIPSCO used a combination of external and internal resources to develop and adapt environmental compliance plans to frame an informed point of view. Consultants and engineering firms were utilized to assist NIPSCO in developing cost estimates and performing modeling. Compliance plans are drafted to address proposed and final EPA and Indiana Department of Environmental Management (“IDEM”) rules. As rules change, compliance plans are modified to comply with new requirements. However, the IRP is developed around a specific snapshot in time and must be based on the information available at that point in time. Because of this, judgment calls must be made regarding what assumptions and inputs to utilize. This analysis considered a broad spectrum of environmental risks, accomplished through the inclusion of various scenarios and the use of valid stochastics.

Candidate Resource Options

Some stakeholders expressed concerns that NIPSCO did not include a complete set of candidate resource options in its analysis. The “OUCC was disappointed NIPSCO did not include gas conversion technology for coal-fired boilers as part of its all-source RFP,”²⁷ and the CAC expressed concern regarding the omission of distributed generation or other smart grid technologies.

As part of the evaluation of potential resources to meet future capacity needs, NIPSCO did evaluate the feasibility and cost considerations of converting coal units to operate on natural gas, and this analysis concluded that conversion of units to gas was more costly than NIPSCO’s preferred portfolio.²⁸ The all-source RFP did not restrict gas conversion options from consideration, but no bidders offered such a solution. Therefore, while re-fueling was considered as an option, it was eliminated because it was not found to be an effective choice, either by bidders or in NIPSCO’s modeling.

With regard to distributed energy resources, NIPSCO modeled its current feed-in tariff programs, and acknowledges that future analysis of distributed generation that is either customer-owned or utility-owned will require more attention in the future. NIPSCO will endeavor to evaluate such resource options in more detail as potential candidate resources in future IRPs.

²⁷ OUCC comments, page 5.

²⁸ See Section 4.10.5 of NIPSCO’s 2018 IRP.

Reliability

The OUCC expressed concern that a “high penetration of intermittent generating resources implies there will be a considerable amount of imported and exported power.”²⁹ It is also concerned that “[a]s renewables increase, transmission upgrades may also be required, costs which will likely ultimately be borne by ratepayers.”³⁰

Providing reliable services to its customers is NIPSCO’s highest priority. NIPSCO has performed its modeling in the current MISO market construct, which focuses on net market purchases and sales, without specific import or export limitations in to the service territory. NIPSCO acknowledges that a high penetration of intermittent generating resources will change the hourly balance of supply and demand of the portfolio, but has found that the preferred portfolio introduces no more market exposure on an average basis than currently exists with NIPSCO’s existing fleet of resources. NIPSCO also conducted scenario analysis and stochastic analysis to evaluate the risks associated with a different mix of generating resources balancing with the MISO market and found that the preferred portfolio was less risky than the alternatives because it reduced customer exposure to fluctuations in market volatility. NIPSCO has also run analysis to evaluate transmission upgrades that are needed from a reliability standpoint as well as to accommodate all resources included in the IRP studies. The costs associated with transmission upgrades to maintain system reliability required due to the retirement of the Schahfer facility were included in the analysis.

That said, in transitioning from coal to renewables, NIPSCO is approaching the shift with an appropriate level of caution and analysis and recognizes that technologies and market rules are evolving. NIPSCO’s 2018 IRP Short Term Action Plan does not immediately commit NIPSCO to a single resource or technology choice but rather pursues a phased approach that allows for flexibility in procurement of new resources, such as storage, over time in order to adapt to market developments and ensure reliable service. In addition, as part of scoring the RFP bids, NIPSCO considered the impact of transmission-related costs and the status of projects in the MISO interconnection process. Developers of projects are responsible for costs for mitigating systems impacts identified through the MISO Generator Interconnection Agreement process. Therefore, as the RFP included many purchase power options, NIPSCO was able to reasonably mitigate the risks associated with interconnection costs, as those were included in the price of those resources.

²⁹ OUCC comments, page 6.

³⁰ *Id.*

NIPSCO strongly considered reliability in the selection of its preferred retirement portfolio. The analysis in the IRP showed that retiring all of NIPSCO's coal fleet in 2023 was the most cost effective option for customers. However, NIPSCO determined that changing over 75% of its fleet at one time would introduce reliability risks that were unacceptable. Therefore, the preferred retirement plan will maintain Michigan City Unit 12 until 2028 allowing for an orderly transition.

The IRP is a tool for addressing future needs that provides a guide for plausible future scenarios. This resource is combined with NIPSCO's expertise and long history of providing reliable service to assure continuation of reliable service into the future. For future IRPs, NIPSCO will be mindful of providing greater detail relative to reliability considerations.

Time Horizon

ICARE expressed concerns regarding NIPSCO's extension of the IRP planning horizon to 30 years. As a means of clarification, the 20-year IRP horizon is consistent with the IRP Rule, and the use of a 30-year NPVRR is used to account for the life of assets that are depreciated over a long time horizon. As is standard practice in utility resource planning, "end-effects" extrapolations like this are often performed to extend the analysis time period in order to account for the value of long-lived assets and the relative difference in portfolio costs that have developed after 20 years of fundamental modeling.

ICC claims that "a significant share of the NPV [net present value] advantage for the preferred portfolio over the Portfolio 1 (coal units stay in operation through expected lives) derives from the 10-year term extension."³¹ This is false. As NIPSCO transparently documented in Confidential Appendix D to the 2018 IRP, 75% of the total 30-year NPV difference between Portfolio 1 and the Preferred Retirement Portfolio is from the first 20 years³². Furthermore, the 20-year NPVs all confirm the findings in NIPSCO's IRP, including in the scenarios developed by the ICC.

³¹ ICC comments, page 13.

³² See NIPSCO 2018 IRP "DetailedFinOutput" tab in Confidential Appendix D. Please note, this tab is redacted from the public version.

Other Comments

Compliance with the IRP Rule

The CAC's "comments were organized to address NIPSCO's compliance with the specific informational, procedural, and methodological requirements of the Commission's IRP."³³ The comments concluded that the IRP is "a vast improvement upon NIPSCO's 2016 IRP insofar as it does not rely upon commodity price forecasts that stakeholders cannot review; does not compare retirement portfolios merely to the proxy costs of a combined cycle gas turbine (CCGT); does not put arbitrary limits on renewable resource choices; and from the first stakeholder workshop, and throughout the remainder of the process, NIPSCO made good faith efforts to address criticisms of its 2016 IRP by the Director and by stakeholders, including developing and presenting an improvement plan with tangible action items."³⁴ NIPSCO appreciates the recognition of its efforts to address the concerns from the Director's Report and those expressed by its stakeholders. The Company takes the feedback it receives seriously and has a better IRP as a result.

While the CAC was generally complimentary of the progress NIPSCO had made in its IRP since the submission of its 2016 version, it did note some shortcomings. Specifically, the CAC found areas where it felt NIPSCO was not compliant with the IRP Rule: "scenario design; an incomplete update of the 2016 energy efficiency market potential assessment; and a failure to provide details of the IRP's reliability analysis on which the selection of the preferred portfolio relies."³⁵

NIPSCO appreciates the efforts undertaken by the CAC to review the Rule and provide feedback regarding NIPSCO's compliance, as that is the purpose of the Director's review. Although NIPSCO documented in the IRP its compliance with each section of the IRP Rule, improvement is always possible. Scenario design continues to be an area where NIPSCO will make refinements, especially in light of changing power market dynamics. In 2018, as in 2016, NIPSCO did run scenarios as requested by its stakeholders. However, it is understood that it is never too early in the process to share assumptions and inputs and to seek feedback on those in order to ensure the best product and process. While NIPSCO stands behind the process as well as the results of its 2018 IRP, the feedback from the CAC, and other stakeholders, is well received and will be taken into account during subsequent iterations.

³³ CAC comments, cover letter.

³⁴ CAC comments, page 3.

³⁵ *Id.*

Regarding the market potential study, as the CAC noted in its comments, NIPSCO has already committed to undertake a completely new market potential study, including the evaluation of the end-use surveys and will continue to work with its Energy Efficiency Oversight Board on that endeavor. Second, for the reliability analysis, please see NIPSCO's response above in the Reliability section.

Conclusion

NIPSCO hopes that the clarifications and response comments provided above help alleviate any concerns or confusion that the Commission's staff and the stakeholders may have had about NIPSCO's 2018 IRP. NIPSCO is always available to meet with the Commission staff and the Company's stakeholders for further discussions of its IRP. NIPSCO appreciates the participation of its stakeholders, including the Commission staff, in its ongoing IRP public advisory process.