



Northern Indiana Public Service Company LLC
2021 Integrated Resource Planning
Public Advisory Meeting #2
SUMMARY

May 20, 2021

Welcome and Introductions

Ms. Alison Becker, Manager, Regulatory Policy opened the virtual meeting by providing a safety moment on Stroke Awareness Month and discussing the Webex meeting protocols. She then introduced Erin Whitehead, Vice President, Regulatory and Major Accounts NIPSCO to kick off the meeting.

Overview of Public Advisory Process

Erin Whitehead, Vice President, Regulatory and Major Accounts, NIPSCO

Ms. Whitehead welcomed participants and then reviewed the agenda and the stakeholder advisory meeting roadmap.

Participants had the following questions and comments, with answers provided after:

- Is the environmental plan still on the agenda?
 - Yes, and Maureen Turman will be speaking to that.

Updates from Public Advisory Meeting One

Fred Gomos, Director Strategy and Risk Integration, NiSource

Pat Augustine, Vice President, Charles River Associates (“CRA”)

Mr. Fred Gomos, Director Strategy and Risk Integration, NiSource, began the section with an overview of NIPSCO’s planning process and introduced the stakeholder feedback received since Meeting #1, which was organized across five major themes. Mr. Gomos summarized stakeholder comments and NIPSCO’s responses related to Diversity, Equity, and Inclusion; Cost Accounting and Revenue Requirement Modeling; and Scorecard Metrics. He then introduced Mr. Patrick Augustine, Vice President at CRA, who summarized stakeholder comments and NIPSCO’s responses related to the Load Forecast and Uncertainty Analysis. Mr. Augustine provided specific detail associated with how NIPSCO is incorporating feedback regarding Electric Vehicle and Distributed Energy Resource treatment in the load forecast.

Participants had the following questions and comments, with answers provided after:

- I would like to see an additional goal to these five that your product (energy) is both environmentally friendly and healthy regardless of, and perhaps beyond the regulations.
 - The feedback is appreciated and will be taken into account.

- Is this presentation provided to stakeholders? Will it be available after the meeting?
 - Yes to both. The presentations are always posted a week ahead of time at NIPSCO.com/IRP. It is sent out to everyone who registered at least a week in advance of the meeting as well. Because of the influx of registrations after the announcement of the request for proposal (“RFP”) release, not everyone may have received it. However, all materials are always available on the website.
- Environmental concerns must be at the forefront of the decision-making process. This will have an impact on future generations of Hoosiers, as well as the health and well-being of people throughout the world. Is Environmental Sustainability weighted, therefore, more heavily? One could definitely argue that this will impact the Positive Social and Economic Impacts as well.
 - NIPSCO appreciates that comment. We do not develop specific weightings for each metric on the scorecard. Instead, the Company looks at all of the portfolios that will be developed and assesses the key tradeoffs as an organization. Certainly if you look at the scorecard, NIPSCO has metrics around emissions as a proxy for environmental sustainability. Later in the agenda, we will talk about NIPSCO’s trajectory from an emissions standpoint. The current plan will get us to 90% emissions reduction by 2030. It is pretty significant and the Company is driving towards that. And as noted earlier, the carbon dioxide (“CO2”) emissions metric will not focus on a single year of 2030. The Company has changed the scorecard metric to present cumulative CO2 emissions over the 20-year fundamental modeling period.
- It's critical that MISO continues to have reliability as a key component in your selection process. It is clearly known renewables need units which are scheduleable/callable to be effective.
 - NIPSCO appreciates that comment. Later in the presentation, we will spend time covering the evolution of MISO rules and how such developments will impact this IRP. Many of these rules specifically address how intermittent resources will be valued in the market vs. other types of resources. This will be a key consideration to the whole analysis framework here.
- The Volkswagen mitigation trust fund is making awards as we speak for DC fast charging installation. How will NIPSCO take those additional loads into account?
 - NIPSCO has not built out electric vehicle (EV) scenarios specifically based on any one set of policy outcomes or specific to the Volkswagen trust that may be subsidizing public/semi-public installations. The EV penetration scenarios were laid out during first meeting and they will be discussed in summary form with the load forecast later in the meeting. There is a pretty wide range of outcomes and scenarios based largely on MISO’s MTEP ranges, supplemented by specific customer information NIPSCO is aware of for light / medium duty vehicles. So although NIPSCO is not attempting to model the trust fund’s subsidization of new charging infrastructure, the Company has spent a lot of time building a broader range of potential load outcomes in this IRP, including an assumption in the high case that nearly all new light duty vehicles sold by 2040 are electric.
 - In addition, most studies have shown that 80% of charging occurs in the home. With DC fast charging stations, it is less about load impacts and more about grid impacts on the distribution system. The level of utilization for public charging stations is low so far. Therefore, the distribution of the stations will be more important than the total number, and NIPSCO will be continually tracking such impacts on total and local loads.
- Will the WebEx be shared?

- No, but the meeting minutes will be available at nipsco.com/irp approximately two weeks from the meeting date.

MISO Market Initiatives Update

Pat Augustine, CRA

Mr. Augustine introduced the section with an overview of the major considerations NIPSCO is taking into account while performing a long-term planning exercise with significant amounts of intermittent resources. He then provided an overview of Independent System Operator functions, and compared MISO's role and NIPSCO's role with regard to long-term planning and market operations. Mr. Augustine then identified four major regulatory changes related to MISO market operations since NIPSCO's 2018 IRP: (i) Effective Load Carrying Capability (ELCC); (ii) the Resource Availability and Need (RAN) initiative and the seasonal capacity construct; (iii) the Renewable Integration Impact Assessment (RIIA); and (iv) FERC Order 2222. He then proceeded to detail how each change impacts NIPSCO's IRP modeling and associated assumptions.

Participants had the following questions and comments, with answers provided after:

- How do you handle Zone Resource Credits ("ZRCs") deliverable and delivered to any MISO Local Resource Zone?
 - This topic may be addressed further later in the day when the RFP is discussed. From a planning perspective, zonal resource credits are means of tracking resource adequacy throughout the MISO territory. NIPSCO's load is within Load Resource Zone ("LRZ") 6, and NIPSCO resources therefore need to help ensure there is sufficient capacity within that resource zone. As noted in the question, that capacity is tracked with zonal resource credits. When considering the supply / demand balance, the analysis focuses on that geographic distinction. Having deliverability and ZRCs in Zone 6, either as owned resources or contracts, is an important criteria due to the resource adequacy constraint.
- Is NIPSCO considering time of production rates for customer owned DERs such as rooftop solar?
 - That likely will not be considered within the context of the IRP. From an IRP context, the analysis is not considering specific rate-making provisions, although this might be a good topic for a 1-1 conversation.
- Have you identified a number to use for expected solar capacity accreditation in winter? If so, what will you be using?
 - Yes, there is a footnote at the bottom of slide 21 noting that the winter capacity credit is expected to be between 5-10%. Based on NIPSCO's preliminary analysis of the coincidence of solar output with its coincident winter peak loads, the IRP analysis is planning to use 6.6% for the winter solar capacity credit. This number will be further reviewed based on hourly solar shapes that NIPSCO has from its planned solar projects and any future data received in the 2021 RFP. To arrive at the preliminary 6.6% number, CRA looked at the top 10-20 winter peak hours and noted that those tend to occur during the early morning and evening hours. On average, the solar output during those hours was approximately 6.6% of nameplate capacity. While geographic diversity could help improve that number in aggregate, and while different projects are likely to have different ratings, this is the general range for what will be used for the winter credit in this IRP.

- Is NIPSCO planning to model the two or three seasonal construct proposed by MISO? Will NIPSCO be modeling this for all scenarios in the IRP?
 - The short answer is yes. This topic came up in March 19 meeting as well. During that discussion, NIPSCO committed to consider, from a NIPSCO portfolio perspective, to look at a portfolio that only has to meet the summer peak requirement since this proposed rule is not in force yet. However, MISO is expected to make a filing in September with FERC to implement the seasonal capacity construct with four seasons. Therefore, it is prudent to look at a seasonal requirement in all scenarios and to build portfolios that can meet the requirement. So given the developments at MISO and anticipation of the filing in a few months, the long term view will be to focus on the four season requirement with special attention on summer and winter, which NIPSCO has found will be most binding for its portfolio. As discussed in March, NIPSCO's load is lower in the winter than the summer, but the impact of fewer firm solar MWhs during winter peak hours is important to plan for. It is important across scenarios, but the analysis can test portfolios focused on summer reserve margins for cost comparisons.
- Is there a reason that the feed-in tariff (“FIT”) information on the slide 22 on UCAP is not broken out by technology, i.e. solar and biomass?
 - It was not broken out for consolidation purposes. There is solar, biomass, and some wind in the FIT. While it was consolidated for reporting purposes, the data is available if there is interest in seeing it.
- Is it possible in all future presentations to separate out biofuels from green energies since biofuels are not green for several reasons and should not be lumped together with green energies?
 - Yes, that can be taken into account. There are very few biofuels in the NIPSCO generation portfolio. To the extent there is some biomass that is part of the FIT that the prior question was referencing, this would be the only existing resource that would fall into this category. While the general comment is appreciated, it is not a significant change in anything that is presented here or going forward.
- Has NIPSCO evaluated the winter capacity credit for wind resources?
 - That is being considered and MISO has recently been studying that issue. The latest MISO report indicates that wind capacity credit during the winter from a system-wide perspective will be close to 25%, whereas the summer tends to be closer to 15%. The assumption in the analysis currently is a slight premium in winter versus summer for wind resources, and as NIPSCO gets more project-specific data going forward, that number will be refined in the future.

Environmental Considerations in 2021

Maureen Turman, Director, Environmental Policy and Sustainability, NiSource

Ms. Maureen Turman, Director, Environmental Policy and Sustainability, opened the section with an overview of NiSource’s environmental impact targets. She then provided an overview of the environmental controls present on NIPSCO’s generation fleet and summarized how the 2018 IRP’s preferred portfolio addressed CCR and ELG compliance requirements. She closed the section with an overview of the Biden Administration’s climate-related initiatives within its proposed infrastructure plan.

Participants had the following questions and comments, with answers provided after:

- The corroded wall on Lake Michigan (built in the 1940s) is holding back more coal ash than all ponds designated for excavation at Michigan City Generating Station (“MCGS”).

Is that wall slated for repair or replacement? What about the coal combustion residual fill there, is it leaching into Lake Michigan? What is your plan if that wall blows?

- That wall is part of NIPSCO's facility and it is maintained as a critical piece of infrastructure. The wall is inspected on a regular basis, and NIPSCO has engineering reports that say that wall is in serviceable condition. The engineering firm made recommendations to NIPSCO for maintenance on the wall, and NIPSCO has taken action on those recommendations. NIPSCO has confidence in that wall and continues to maintain it.
- Can you provide the engineering report?
 - Yes, anyone who would like a copy can request it.
- On Slide 29 I would appreciate having the acronyms CCR and ELG spelled out, along with a statement of what authority issued them.
 - CCR = Coal combustion residuals, which is the ash left after coal is burned.
ELG = Effluent limitation guidelines, associated with water discharge
Both rules lay out industry-specific standards that the United States Environmental Protection Agency ("EPA") puts in place to regulate waste water discharge.
- Are those EPA rules?
 - Yes.

Modeling of Uncertainty: Scenarios and Stochastics for 2021 IRP

Pat Augustine, CRA, Robert Kaineg, Principal, CRA, and Goran Vojvodic, Principal, CRA

Mr. Augustine introduced the section by providing an overview of how the 2021 IRP will perform both scenario and stochastic analysis, and he noted the reasons for performing both types of assessments. He then recapped NIPSCO's resource planning approach and how scenario and stochastic analysis development fits into the broader analysis framework and the ultimate scorecard metrics. Mr. Augustine then introduced NIPSCO's four planning scenarios and provided an overview of the key variable drivers within each one. He then introduced Mr. Robert Kaineg, Principal at CRA, to discuss the natural gas markets.

Mr. Kaineg provided a review of the fundamental drivers of CRA's Reference Case natural gas price forecast from Meeting #1 and discussed how each of the fundamental supply and demand drivers were flexed across the scenarios in CRA's fundamental modeling. He closed his section with an overview of the natural gas price forecast range.

Mr. Augustine then introduced the CO2 policy drivers across the scenarios relative to the Reference Case and provided a summary of the CO2 price and Clean Energy Credit pricing expectations. He then detailed the projected MISO market outcomes for each scenario, with summaries related to capacity and energy mixes, clean energy percentage, CO2 emissions, hourly energy output, annual and hourly price forecasts, and capacity price projections. Mr. Augustine then discussed the details of NIPSCO's load forecast across scenarios, including the impacts of economic drivers, electric vehicle penetration, distributed energy resource penetration, industrial load loss risk, and other electrification.

Mr. Augustine then provided an overview of NIPSCO's approach to stochastic analysis in the 2021 IRP and how it will impact portfolio cost accounting and ultimately contribute to NIPSCO's scorecard. He then introduced Mr. Goran Vojvodic, Principal at CRA, to discuss the stochastic input development in more detail. Mr. Vojvodic reviewed CRA's process for developing commodity price stochastic price paths and provided several examples. He then explained an enhancement to the 2021 IRP process to incorporate renewable output uncertainty and its

associated impacts on hourly MISO power prices. He closed the section by providing a summary of the distributions to be used for natural gas prices, power prices, and wind and solar generation output.

Participants had the following questions and comments, with answers provided after:

- Under the Economy-Wide Decarbonization (“EWD”) Scenario, Why would there be an extension of the investment tax credit (“ITC”) and the production tax credit (“PTC”)? It seems to be unnecessary under a clean energy standard approach.
 - NIPSCO is aiming to capture a scenario that would be somewhat consistent with the Biden Administration’s framework. As Maureen Turman outlined on slide 30, that framework calls for a 100% clean power sector by 2035 and proposes a 10 year extension in the ITC and PTC. One could certainly make an argument that a clean energy standard could be sufficient to meet the stated goals, but the idea in the EWD scenario, and in the Administration’s framework proposal, would be that a long-term extension of those tax credits would accelerate renewable development prior to the clean energy standard driving investment in new technologies later on.
- On Slide 42, why does the EDW scenario not include a carbon price/market?
 - That comes down to policy design. What we talked about on slide 44 is the heart of the answer. The idea is that carbon regulation does not have to be performed just through a price, something that NIPSCO has heard from a few stakeholders. The construct is that federal policy would establish a national target (for example, x% clean energy by certain date) without a carbon tax or cap-and-trade mechanism. As a result of the target, different market mechanisms would develop, such as a clean energy credit or zero emission electricity credit market to help compensate those resources that might need to come into market to achieve the target. It is all about the policy design and the desire to test a range of potential outcomes that could impact the markets in very different ways.
- It looks like the lion's share of MISO gas and coal capacity in the future across all scenarios is a carryover of current capacity. Is that the case? If so, does your model require these resources to cover their embedded fixed costs in order to keep operating, or does the model only require them to cover variable costs to continue to be available to the market?
 - It is the case that no new coal capacity would be built over time across the scenarios, but there is some new gas capacity. For reference, on slide 45, current gas capacity is 68 GW and in two of the four scenarios, that number increases to 79 and 84 GWs, respectively. That means net new gas capacity is entering the market. There may be some retirement of older units, but on balance, new capacity would be entering to meet future capacity needs and in response to economic signals. In response to the second part of the question, the economic modeling evaluates things from a system-wide perspective, seeking to minimize costs and meet load or environmental constraints. Generally this means that resources are covering all variable and fixed costs. However, it is possible that an existing unit may not be fully covering its fixed costs if it is cheaper to continue operating than it is to build a new plant that may have even more difficulty covering all capital and fixed costs.
- How is carbon capture and storage (“CCS”) a capacity resource? And should there not be a feedstock associated with the CCS, like coal, gas, hydrogen? Or does it assume that the feedstock is irrelevant since the assumption is zero carbon because it's being captured?
 - There is a feedstock and NIPSCO could provide details on the breakdown of the capacity in the MISO market modeling if requested. On slide 45, in the AER scenario,

with high gas and CO2 prices, all of that CCS is coal-based, so the feedstock would be coal. In the EWD scenario, the generically-labeled CCS is a mix of coal and some gas-fired carbon capture and sequestration. As noted, if interested, the details can be carved out.

- Do you model the effects of increased electricity prices on the demand for electricity? It would seem that some scenarios would have higher effects on electricity prices and thus more effect on demand, which might be useful to capture in the modeling.
 - The load forecasting exercise does this partially. The retail rate is a variable in the econometric analysis, and this is explicitly evaluated in the base case forecast. As the question implies, higher retail rates tend to result in modestly lower electricity consumption. However, to the extent that the scenarios result in materially different retail rates than the baselines, NIPSCO has not gotten into that level of detail. There is uncertainty regarding how all the drivers associated with each of the four scenarios impact all the elements that drive retail rates. The MISO power market, for instance, might capture part of it, but in some of the scenarios, there might be different outcomes for transmission and distribution cost components, which also impact rates. Since the analysis has not gone into that level of detail across the scenarios, we may be underestimating potential load feedbacks in certain areas. However, price elasticity likely has a smaller impact than all of the other elements of load uncertainty that are being captured, such as electric vehicle or distributed energy resource penetration. Nevertheless, this is a good point and something that NIPSCO may need to consider more qualitatively and in more detail in the future.

2021 RFP Update

Andy Campbell, Director, Regulatory Support and Planning, NIPSCO

Bob Lee, Vice President, CRA

Andy Campbell, Director Regulatory Support and Planning introduced the section by presenting an overview of NIPSCO's RFP, including the specifics of each event, the range of capacity being requested, duration expectations, and other details. He then introduced Bob Lee, Vice President at CRA, who discussed the evaluation criteria, RFP logistics, and the timeline.

Participants had the following questions and comments, with answers provided after:

- For the Thermal RFP, would you be interested in participating in demand response programs?
 - This RFP is not specifically looking for demand response programs. However, there may be circumstances where it fits the criteria under other capacity resources. For example, distributed energy resources are moving through system, FERC issued guidance and RTOs are required to put forth a plan and MISO is working on that. There could be some instances where a distributed energy resource coupled with demand response could be partially or fully qualified.
- Can you elaborate on your answer on the RFP website to the question about accepting aggregation of DERs? How will you address this given that MISO's implementation on FERC Order 2222 has received an extension of time?
 - DERs or aggregation of such resources are emerging technologies and developmental technologies themselves. NIPSCO recognizes a lot can change between now and the in service years being considered (2024 -2026). The Company understands

implementation of the Order is delayed. That does not mean NIPSCO cannot effectively evaluate options given where we are in the timeline relative to in-service dates. Bidders should clearly state assumptions associated with their bid and the number of ways that the FERC Order can be implemented. NIPSCO will have to wait and see how things develop with the rest of the market.

Wrap Up and Next Steps

Mike Hooper, President and Chief Operating Officer, NIPSCO

Mike Hooper, President and COO of NIPSCO, closed the session by thanking attendees for their participation and reminding stakeholders about key dates associated with the RFP and other requested feedback.