



June 16, 2020

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Electronically delivered

Dr. Borum,

IPL appreciates the opportunity to respond to stakeholder comments submitted in response to the 2019 Integrated Resource Plan. The attached response addresses some of the key topics raised.

We look forward to reviewing the IURC Director's Report upon its release. In the meantime, please let me know if you have any questions.

Sincerely,

Justin Sufan
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Indianapolis Power & Light Company

Indianapolis Power & Light Company Reply to Stakeholder Comments IPL's 2019 Integrated Resource Plan

June 16, 2020

Introduction

Indianapolis Power & Light Company ("IPL") submitted its 2019 Integrated Resource Plan ("IRP") on December 16, 2019. The City of Indianapolis, Indiana Office of Utility Consumer Counselor ("OUCC"), Indiana Coal Council ("ICC"), Advanced Energy Economy ("AEE"), Sierra Club and jointly the Citizens Action Coalition and Environmental Justice Center ("CAC EJ") submitted comments to the Indiana Utility Regulatory Commission ("IURC") regarding IPL's IRP. IPL thanks these stakeholders for their review and feedback and recognizes there are opportunities for continuous improvement. IPL plans to continue to incorporate stakeholder feedback and best practices in its future IRP processes. Data and modeling assumptions were shared early and throughout the IRP process, which led to collaborative dialogue ultimately shaping IPL's preferred resource portfolio.

While not exhaustive, IPL would like to provide clarity or correction on certain topics, as well as key insights in the following areas:

1. Petersburg retirement decisions
 - a) Petersburg Units 1 & 2 early retirement
 - b) Petersburg Units 3 & 4 retirement
2. Environmental investment at Petersburg
3. Modeling and model optimization
 - a) Overall approach
 - b) Modeling assumptions and constraints
 - c) Forecasting
 - d) Demand side management ("DSM") modeling methodology
4. All Source RFP process and results

IPL is dedicated to serving customers' energy needs. As part of serving that need, the IRP analysis provides the Company with a mechanism to model market economics and risks across a wide range of futures while evaluating resource plan choices and alternatives. IPL's 2019 IRP process and preferred resource portfolio meets four core company objectives and areas of focus: *Customer Centricity*, *Economics, Flexibility & Balance*, and a *Greener Energy Future*. The preferred resource portfolio identified in the IRP also maintains optionality and a gradual movement toward a more diverse and balanced generation mix that is cost-effective for IPL customers. IPL will continue to optimize the tools and capabilities to shape its long-term resource plans.

Section 1: Petersburg retirement decisions

OUCC stated "IPL's 2019 preferred resource plan is a significant departure from its 2016 plan."¹ Significant changes in the industry over the past three years have contributed to changes from IPL's 2016

¹ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 1

IRP. Notably, the cost of renewables has declined as well as the forward curves for natural gas and power. These forward curves were provided to stakeholders with a non-disclosure agreement (“NDA”) as early as April 2019.

To further respond, IPL’s 2019 IRP closes with these thoughts on pg. 206 of the IPL IRP Public Report Volume 1:

The Preferred Portfolio provides a reasonable and balanced transition pathway that provides clear off-ramps for remaining coal units. The probabilistic assessment of risk and uncertainty that was embedded in the modeling and decision process provides a data-driven framework to build upon through the passage of time.

The selected dates for the Petersburg units are noted on pg. 122 of IPL IRP Public Report Volume 1. Those reasons include: (1) fixed cost allocation (2) capacity valuation and reserve margin constraints and (3) stakeholder input. The retirement dates also are driven by unit age, timing of renewable tax credits, balance of plant scale, and timing of securing available replacement capacity. The decision to input Petersburg retirement dates as a modeling assumption is discussed further in sections below.

1a. Petersburg Units 1 & 2 early retirement

Due to the age of Petersburg Units 1 and 2, refueling is not a viable option. As noted on page 122 of the IRP, IPL notes:

Unit Age: Petersburg Units 1 and 2 are 52 and 49 years old, respectively, and have age-based retirement dates of 2033 and 2035. Costly unit overhauls and maintenance are required on the units to maintain performance and safety targets, so IPL wanted to evaluate the economics of the ongoing, all-in costs and net benefits of operating those units through the early 2030s compared to alternatives.

As an additional insight, IPL’s NAAQs compliance analysis included a real option analysis that included early retirement of the Petersburg units in retrofit scenarios.² In those results, retrofitting Petersburg Units 1 & 2 with the necessary environmental compliance equipment resulted in a lower probabilistic PVRR than to refuel the units even considering early retirement possibilities.

In contrast, the analysis to refuel Harding Street Station Unit 7 was driven in large part due to its location. As referenced in IURC Cause No. 44540 Order (page 32), “HS-7 is of particular importance to the reliability of the IPL system due to its location. While supplying energy to serve IPL’s retail load, it also serves as an important component in meeting system reliability needs. HS-7 offsets the need for import capability and provides critical voltage and dynamic reactive power support to the IPL transmission system under normal conditions and during system disturbances.”

1b. Petersburg Units 3 & 4 retirement

The Sierra Club states that “...IPL’s customers would likely save money if IPL retired Petersburg units 3 and 4 and replaced those units with a diverse portfolio of clean energy resources.”³ At this time and supported by the IRP analysis, the continued operation of safe, reliable and cost effective generation at

² IURC Cause No. 44794

³ Sierra Club Comments on IPL 2020 IRP – FINAL, pg. 1

Petersburg Units 3 & 4 is a prudent option for IPL customers. Page xx of the Executive Summary of the IRP Public Report further describes this position:

IPL conducted a holistic evaluation of the economics of each coal unit in our fleet. While systemic changes in wholesale power markets are impacting the viability of coal in MISO, Pete 3 and 4 provide firm, dispatchable capacity and maintaining those units preserves optionality in the face of uncertainty over the next five years. The IRP process is every three years, and IPL has established a robust and transparent process for evaluating the future cost effectiveness of the remaining coal units through time. IPL will closely monitor market forces, federal and state regulation, and other industry trends that could impact the future economics of our remaining coal units.

Section 2: Environmental investment at Petersburg

“OUCC is concerned with the costs assumed for 316(b) compliance.”⁴ The referenced cost estimates were provided by Environmental Consulting and Technology, Inc. (“ECT”) based on their expertise and knowledge of IPL’s specific facilities. ECT is a reputable industry leader and has worked with large, multi-faceted organizations while developing water resource compliance solutions. The 316(b) compliance cost estimates for Petersburg Station were preliminary in nature based on the need to retrofit the cooling water intake structure’s six bays. These estimates were not based on an engineering evaluation because the evaluation of 316(b) Best Technology Available for impingement and entrainment had not (and has not) yet been completed pursuant to 40 CFR 122.21. Furthermore, the engineering evaluation requirement is not required to be completed until June 2021 and will subsequently be determined by the Indianapolis Department of Environmental Management (“IDEM”). Still, IPL expects these cost estimates are reasonable based on the expertise of ECT. Specific to the OUCC’s concern, IPL notes these estimates are reasonable and were relied on for modeling purposes. IPL will seek refreshed estimates closer to the compliance date.

The OUCC goes on to note “...that ACE Rule costs assumed are preliminary and are not based on any detailed engineering studies.”⁵ This is a result of the status of the rulemaking process and the uncertainty around potential compliance requirements absent a State Plan implementing the ACE Rule. In fact, at the time of IPL’s IRP filing, Indiana had not yet initiated the rulemaking process. Subsequently, on February 19, 2020, Indiana published a First Notice for the Indiana ACE Rule indicating that IDEM intends to determine the best system of emissions reductions and CO₂ standards for affected units. This is the first step in that rulemaking process. Impacts remain largely uncertain because Indiana’s State Plan has not yet been developed. Engineering studies along with refined cost information will be completed as part of the compliance planning process as the rule is further developed.

Section 3: Modeling and model optimization

IPL utilized the PowerSimm production cost model and Automatic Resource Selection (“ARS”) for the IRP. The CAC EJ commenters requested additional transparency into input and output model files.⁶ IPL appreciates this feedback and will continue to find ways to present information in a meaningful format. Ahead of the next IRP, IPL will work to improve reporting functionality for data sharing to maintain and

⁴ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 6

⁵ Id

⁶ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 6

continue a thorough and transparent process for stakeholder input and review of the IRP and associated models.

Another topic of stakeholder feedback is related to why a placeholder natural gas combined cycle gas turbine (“CCGT”) resource was hardcoded in the IRP ARS model.⁷ This is largely addressed in page 156 of the IPL Public IRP Report Volume 1:

A 1x1, 325 MW (ICAP) combined cycle was added to all portfolios in 2034 to provide firm, dispatchable capacity on the IPL 138 kV transmission system after the Harding Street steam units retire. IPL has not performed a detailed engineering or reliability study to determine if a combined cycle is the required solution. This combined cycle addition is a placeholder to represent the firm capacity needed for the IPL distribution system, a need that is currently fulfilled by a combination of natural gas units (Eagle Valley, Harding Street, Georgetown).

The analysis for future replacement firm system capacity will be evaluated more fully as the needs are better known in future IRPs.

3a. Overall approach

The ICC noted that “IPL considered five scenarios with multiple portfolios in each. The Preferred Resource Portfolio was close in cost to the Reference Case in the first five years. IPL did not include costs related to the incremental transmission and distribution revenue requirements in the Preferred Resource Portfolio, which is often significant for renewables”.⁸ The 2019 IPL IRP addressed this concern by considering the potential need for incremental transmission investment for new wind, solar, and energy storage by performing capital cost sensitivities. Page 190 IRP Volume 1, Figure 8.44 shows that even with a significant increase in capital costs (associated with transmission investment, for example), the PVRR for Portfolio 3 is lower than the mean PVRR for Portfolio 1 using base cost assumptions.

3b. Modeling assumptions and constraints

Petersburg modeling assumption

The “OUCC is concerned with the high level of forced outage rates modeled for Petersburg Unit 2.”⁹ In IRP modeling, IPL recognized that the Petersburg Unit 2 forced outage rate trended higher than the other Plant Units. That acknowledged, Petersburg Unit 2 achieving a forced outage rate more closely aligned with the other Plant Units did not have a material impact on the PVRR or change the rankings of the portfolios. Moreover, the forced outage rates modeled were derived from actual historical data and used consistently in all Portfolios/Scenarios.

Renewable capacity

CAC EJ states “IPL placed annual and cumulative constraints on the amount of solar, wind, and energy storage that could be selected in the PowerSimm model”¹⁰ and questioned why “...solar was first available to pick in 2023, and wind was first available in 2022”.¹¹ IPL intentionally made this distinction for solar and wind. IPL is not expected to be short capacity until 2023 in Portfolios 3-5 (or later for

⁷ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 22

⁸ IPL IRP_ICC Comments on IRP_041520, pg. 2

⁹ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 2

¹⁰ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 12

¹¹ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 14

Portfolios 1-2). The modeling recognizes the phase-out of the PTC for wind (as of the time of submitting the IRP). Since the filing of the IRP, the PTC has been extended one additional year, which we expect would reduce the cost of wind in 2024. Figure 7.23 in the 2019 IRP shows wind is most attractive in 2021, but IPL expects the earliest it could obtain capacity due to project development and approvals is 2022.¹² Solar is expected to be most attractive in 2023 coinciding with IPL's short capacity position as can be seen in Figure 7.24 of the 2019 IRP, so there was less value to make solar available earlier.

CAC EJ and the City of Indianapolis questioned why there was a cumulative total MW constraint for total selection of solar and wind MWs in the model.¹³ As noted above, the constraint is based on IPL's expected needs and the impracticality of procuring that much wind generation in such a short timeframe. To further support the use of this constraint, in preliminary review of responses to IPL's recently issued All-Source RFP, IPL received zero wind bids in Indiana.

IPL constrained the capacity expansion model to select 1,500 MW (ICAP) of wind and solar each, for a total of 3,000 MW of additional renewable capacity. The additions of this much replacement capacity would have to coincide with retirements of thermal dispatchable capacity such as Petersburg Unit 1 and Petersburg Unit 2. In this hypothetical resource mix, nearly 50% of IPL's annual energy would come from intermittent resources. MISO's Renewable Integration Impact Assessment ("RIIA") study indicates there is an inflection point in integration complexity as the grid moves from 30% to 40% renewable energy penetration.¹⁴ In light of this complexity and uncertainty, IPL currently considers a future with such high levels of intermittent resources to increase risk. IPL recognizes that future solutions to handle increasing renewable penetration levels will arise and will consider the economics and practicality of those solutions in future IRP cycles.

For IRP modeling purposes, hybrid resources are an emergent technology type requiring several unknown assumptions in order to adequately model a generic hybrid asset. For example, the ratio of generation to storage, or even the type of generation or storage technologies deployed is not standard. Hybrid proposals from the IPL's All-Source RFP will be modeled for evaluation since their configurations and technologies are specified.

Energy storage modeling

Four (4) hour duration batteries were available for selection in the capacity expansion model. IPL did not model ancillary service revenues for selectable storage assets because storage participation models are still being developed in MISO and it is difficult to confidently forecast ancillary value. However, energy storage modeling continues to advance and evolve. IPL plans to continue work in this area to include more energy storage modeling configurations, which is further explained and discussed in the IRP Public report on pg. 205.

Hourly and sub-hourly modeling allows IPL to evaluate its ability to meet load for all hours. Some resources such as batteries offer exceptional flexibility. This value may be more accurately captured by sub-hourly modeling, though this currently pushes the limits of many available

¹² IPL IRP Volume I, pg. 141 "Timing: the first year new wind was available was January 1, 2022. The PowerSimm model operates on a calendar year basis, which means that new build decisions will occur on January 1st. Because of the expected contracting and construction lead time required for new wind, it is expected that the in-service date for new wind in 2021 would be at the end of the calendar year. Therefore, the first year new wind is available is 2022, but the cost of the new wind is based on 2021 in-service with 80% PTC."

¹³ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 13
Indianapolis Comments on IPL 2019 IRP 4.15.20, pg. 3

¹⁴<https://cdn.misoenergy.org/20181128%20RIIA%20Workshop430633.pdf>, slide 4.

models. IPL will continue to assess whether the value of more granular modeling justifies the increase in complexity.

Additionally, IPL's Harding Street Battery Energy Storage System ("HSS BESS") provides essential primary frequency response ("PFR"). IURC Cause No. 45029 discusses operating considerations for the HSS BESS. IPL has configured the HSS BESS to provide PFR, as that is the most critical BESS component needed on IPL's system at present day. The provision of PFR could be impacted if IPL were required to configure the HSS BESS to concurrently provide other services or offer it as capacity.

3c. Forecasting

Regarding its forecasting process, IPL updates projections as a general business practice throughout the year. Additionally, IPL backcasts against prior forecasts to assess forecast accuracy each month. These practices ensure the most accurate forecast and allow for course correction as forecasting trends change.

Load

The OUCC and CAC EJ indicate that IPL's load forecast used in the IRP is too high in future years.¹⁵ Both stakeholders provide graphs illustrating their opinion. Specifically, the CAC EJ notes the forecast exhibits an Average Annual Growth Rate ("AAGR") of 0.89% over the IRP period compared to little to no growth in prior years. Both CAC EJ and OUCC analyses fail to consider that the IRP load forecast excludes all IPL-sponsored forecasted DSM over the IRP period. IPL intentionally excluded all forecasted DSM from the load forecast because this DSM was instead treated as a selectable resource to the IRP model. By not reducing the forecast for DSM selected in the IRP, the stakeholders' analyses are inaccurate and misleading. IPL has been engaged in meaningful DSM for many years and plans to continue offering DSM based on the recent IRP results; thus, the load forecast must be reduced for selected DSM in order to correctly perform the analysis. If the DSM that was selected by the IRP model (Decrements 1-4) is also included in the load forecast, the AAGR drops to 0.16% from 2020 – 2029, essentially flat and more in line with load trends. Additionally, IPL expects load to begin to level off and flatten from its historical decline due to utility-sponsored and organic saturation of LED lighting. This measure has been the largest driver of efficiency savings in the residential sector over the past decade resulting in declining utility loads. With saturation, there is less low cost, low hanging DSM options remaining for residential customers. This LED saturation is captured in the EIA data that drives the load models resulting in a flat forecast (AAGR 0.16% as noted above).

Income

The OUCC notes that the level of projected growth in the real income variable used in the load forecast is unrealistically high.¹⁶ IPL reviewed the input assumptions provided by Moody's Analytics including income and found their estimates reasonable given the level of high-end, multi-family unit growth IPL is seeing in the Indianapolis city center.¹⁷

¹⁵ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 2; CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 26

¹⁶ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 2

¹⁷ IPL IRP Volume 1, pg. 36, IBJ Downtown Apartment Growth

OUCC points out that on pg. 36 of IPL’s Public IRP Report Volume 1, IPL mistakenly presents the income growth rate as 0.8% and that this value should be 2%.¹⁸ IPL agrees that the value is 2% and this was a transcription error in the IRP report. The IRP modeling, however, correctly relied on the 2% value.

Electric Vehicles (“EV”)

The OUCC notes “[w]hile IPL’s load forecast incorporated its EV and distributed solar forecasts, it did not modify its expected load shape resulting from those forecasts.”¹⁹ This statement is incorrect. IPL modeled its system load and then layered on hourly forecasts of EVs and Distributed Solar separately within the PowerSimm model. Therefore, the EV components did have a direct influence on IPL’s overall load shape.

Also, the OUCC pointed out that “IPL’s load forecast includes a large jump in EVs during the year 2020 (from approximately 500 to 5,000 in a single year).”²⁰ IPL discussed this recalibration to better represent the expected trends in EV adoption in the third public advisory meeting on May 14, 2019 and again in a post IRP submission technical discussion with the OUCC. IPL notes that “[the] increase was used in the forecast as a baseline to ensure that the forecast did not miss anything and covered all the possibilities of EV growth for IPL to consider in long-term planning.”²¹

The ICC notes IPL may be potentially understating the resource requirements for future EV growth and that IPL potentially mischaracterized the load curve for EVs.²² IPL acknowledges there is some uncertainty around forecasting EVs. Many sources predict there will be an inflection point where EV ownership moves beyond just early adopters to common car owners. However, it is not currently known when that inflection point will occur. IPL concluded that the lack of reliable, transparent data and the weakness of assumptions regarding the inflection point and maximum penetration required for such modeling is currently too ambiguous for the recent IRP process. Therefore, IPL scaled to generally known and accepted forecasts (i.e., Bloomberg).

3d. DSM modeling methodology

The CAC EJ expressed concern regarding “...whether DSM was properly optimized,” and “... cautioned IPL against grouping measures by cost insofar as this would not result in the optimal selection of energy efficiency since this approach does not provide a true representation of how IPL implements its energy efficiency programs.”²³ While IPL appreciates and considered the CAC EJ suggestion, energy efficiency assumptions are rapidly changing (e.g., LED baselines) which is creating uncertainty and impacting near-term program offerings (especially residential). As such, there was concern that defining program bundles in 2019 for delivery in 2021 - 2023, much less 2029 or 2039, could result in inaccurate planning and future program delivery risk. IPL prefers bundling measures from most cost effective to least cost effective to provide the most flexibility for developing programs in future years and realistic forecasts of DSM adoption. Also, contrary to the CAC EJ’s recommendation, IPL was concerned that bundling by program may actually result in less DSM being selected. For example, with the LED baseline changes, residential programs are having trouble maintaining cost effectiveness in their current or similar form.

¹⁸ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 2, footnote 1

¹⁹ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 3

²⁰ Id

²¹ IPL 2019 IRP Meeting 3 Summary, pg. 11

²² IPL IRP_ICC Comments on IRP_041520, pg. 10

²³ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 9

The CAC EJ indicated that IPL used a loss factor which struck them as improbably low.²⁴ This loss factor was used for the energy (MWh) portion of the DSM and captures only the transmission and distribution losses to the MISO connection point where the energy is measured for load transactions. IPL used a loss factor of 5.5% for the capacity (MW) value of the DSM in the capacity expansion analysis. These additional losses or control area losses are included to capture the total losses of transmitting from the power plant (resource selection decision point) to the home.

The CAC EJ proposed including a higher loss factor at the May 29, 2019 technical meeting citing the Regulatory Assistance Project's paper on accounting for avoided line losses. That proposal is based on the idea that losses for EE happen at the margin or during periods of high system demand when losses are greater. At the time, IPL consulted with its T&D engineers to determine the feasibility of calculating marginal line losses according to this approach. The IPL T&D team indicated that this would require additional research and analysis that was not available at that point in the IRP process. IPL will continue to work closely with stakeholders to consider this approach in IPL's future IRPs.

The OUCC expressed concern about the amount of avoided T&D capacity costs IPL assumed.²⁵ IPL utilized conservative T&D avoided cost assumptions in the DSM Market Potential Study ("MPS") and were submitted as Confidential Attachment 5.4 of the IRP. OUCC asserts that "[b]ecause T&D capacity issues will be addressed directly by IPL's TDSIC Plan, no 'avoided' T&D costs should be attributed to DSM."²⁶ As an initial matter, the OUCC suggestion that the TDSIC Plan is focused on load growth is not accurate.

The general intention of the TDSIC Plan is not to address general capacity issues or load growth as the OUCC would suggest. Rather the Plan is designed to improve safe and reliable functioning through the planned replacement and modernization of aging electric system components, which, if not undertaken, would likely result in more frequent or extended outages for customers or otherwise impair the resiliency of the system. Certain parts of the TDSIC Plan are designed to harden IPL's energy delivery system and minimize emergency restoration. In other words, IPL's TDSIC Plan reduces risk of asset failure, maintains or improves reliability, improves the customer experience, supports the economy, and protects overall public safety. While the plan contains three deliverability projects that will result in capacity benefits, these benefits will be very location specific and, in some cases, are required to host known and anticipated customer load. As such, the delivery of DSM programs will help avoid general circuit capacity issues that the TDSIC Plan was never intended to address.

Since 2011, IPL's DSM programs have contributed to a summer cumulative peak coincident reduction of approximately 150 MW system wide. While IPL has not commissioned a study to identify circuit level avoided T&D costs, it is reasonable to presume there are real costs that have been avoided (and will continue to be delayed as a result of DSM program delivery). DSM programs and measures have a long useful life (on average seven to nine years, with some measures useful lives of up to 25 years) with cumulative effects over time, which the benefit and cost analysis is designed to capture. Not including T&D avoided costs in this calculation would unfairly burden the results of the benefit and cost analysis and would favor a supply side only approach.

Additionally, per 170 IAC 4-7-4-29 in the IRP Rules, the IRP must include the following:

²⁴ CAC EJ Public Report on IPL 2019 IRP, 4-16-2020, FINAL, pg. 33

²⁵ OUCC Public Report on IPL 2019 IRP, 4_15_20, pg. 7

²⁶ Id

An explanation, with supporting documentation, of the avoided cost calculation for each year in the forecast period, if the avoided cost calculation is used to screen demand-side resources. The avoided cost calculation must reflect timing factors specific to the resource under consideration such as project life and seasonal operation. The avoided cost calculation must include the following:

- (A) The avoided generating capacity cost adjusted for transmission and distribution losses and the reserve margin requirement.*
- (B) The avoided transmission capacity cost.*
- (C) The avoided distribution capacity cost.*
- (D) The avoided operating cost, including:(i) fuel cost;(ii) plant operation and maintenance costs;(iii) spinning reserve;(iv) emission allowances;(v) environmental compliance costs; and(vi) transmission and distribution operation and maintenance costs.*

Accordingly, IPL included a conservative estimate for the avoided T&D benefits that DSM receives which assumes only 20% of its circuits are at or near capacity. Additionally, IPL's T&D team calculated the T&D estimates based on assumptions of known costs rather than using the simple and less rigorous industry approach of using 10% of the generation capacity avoided costs.

IPL is confident in its capacity expansion analyses and the modeling team took deliberate steps to model additional DSM until the PVRR increased, which ensures the IPL's IRP results identified the most economic level of DSM. A robust set of scenarios around DSM in the modeling supports identifying a target level of DSM that is economic (by the measure of the 20-year PVRR), which puts DSM on the same playing field as supply side resources. The target level of DSM is between Decrement 3 and Decrement 4 for the 2021 – 2023 period.²⁷ In future IRP processes, IPL will strive to provide additional details and work with stakeholders in advance for more read only access to the models.

Section 4: All Source RFP process and results

IPL appreciates the feedback from stakeholders about our efforts to solicit bids for new generation.²⁸ IPL's decision to pursue an All Source RFP solicitation was discussed with stakeholders during the IRP process. Through the modeling and selection of the preferred resource portfolio, IPL's 2019 IRP identified a need for approximately 200 megawatts (MW) of near-term replacement unforced capacity (UCAP). IPL's All-Source RFP aims to competitively procure replacement capacity available beginning in the 2023-2024 MISO Planning Year.

IPL contracted Sargent & Lundy ("S&L"), an independent third-party consultant, to execute the RFP and evaluate proposals. The All-Source RFP solicitation was released on December 20, 2019. Bidders were required to provide their notice of intent by January 24, 2020 and were able to submit any questions and clarification requests prior to the bidder proposal deadline. Written responses to all submitted questions were published to IPL's RFP webpage (www.iplpower.com/rfp). While the 2019 IRP modeling indicated that a combination of wind, solar, storage, and energy efficiency was expected to be the lowest cost options for the replacement capacity, the RFP allows for assessment of the type, size, and location of all resources bid into the process. IPL received 152 proposals from 57 projects on or before the bidder proposal due date, February 28, 2020. The proposals included thermal, solar, wind, storage, hybrid (solar + storage) and demand response projects. Upon receipt of these bids, S&L began the Phase 1 evaluation, which included an initial screening and shortlisting of proposals according to a qualitative and initial

²⁷ IPL IRP Volume I, pg. 202

²⁸ Indiana AEE IPL Comments Final, pg. 2
Indianapolis Comments on IPL 2019 IRP 4.15.20, pg. 5

pricing evaluation. The scoring criteria for this phase is included in Table 3.1 of the public RFP document. Phase 2 of the All-Source RFP includes a quantitative evaluation where bid proposals are run through production cost and revenue requirement models. Phase 2 additionally considers twelve qualitative criteria: (1) technical viability (2) development and schedule risk, (3) permitting risk, (4) environmental impacts (5) contractor experience, (6) financing plan and qualifications, (7) T&D system integration, (8) site control, (9) community impacts and acceptance, (10) operations and maintenance plan, (11) fuel supply plan (if applicable), and (12) exceptions to agreements. The Phase 2 evaluation also includes T&D studies, and due diligence with short listed bidders. IPL anticipates preliminary selection of proposal(s), due diligence, and contract negotiations to extend through the remainder of the year, with eventual IURC filings.

Conclusion

IPL thanks stakeholders for their review and participation in IPL's 2019 IRP and anticipates continued collaboration.