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INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS POWER & LIGHT COMPANY FOR APPROVAL OF IPL'S TDSIC PLAN FOR ELIGIBLE TRANSMISSION, DISTRIBUTION, AND STORAGE SYSTEM IMPROVEMENTS PURSUANT TO IND. CODE § 8-1-39-10	))))))	CAUSE NO. 45264

CONSUMER PARTIES' SUBMISSION OF JOINT PROPOSED ORDER AND JOINT ACCOMPANYING BRIEFS

The Indiana Office of Utility Consumer Counselor ("OUCC"), the IPL Industrial Group ("Industrial Group"), the City of Indianapolis, Indiana ("Indianapolis"), Citizens Action Coalition of Indiana, Inc. ("CAC"), and Environmental Law & Policy Center ("ELPC") (collectively the "Consumer Parties"), by counsel, hereby submits their Joint Proposed Order in the above captioned matter. In attached Exhibit A, the Consumer Parties submit a full redline of IPL's Proposed Order. In attached Exhibit B, the Consumer Parties submit a full clean version of the Proposed Order. Word versions of Exhibits A and B will be provided to the Administrative Law Judge and counsel of record.

The Consumer Parties respectfully request the Indiana Utility Regulatory Commission ("Commission") adopt the Consumer Parties' summary of their own witnesses, as well as the Consumer Parties' discussion and findings and ordering paragraphs jointly submitted herein in lieu of those provided by IPL.

The Consumer Parties are also submitting the *Joint Brief of Consumer Parties on Statutory Standard that Incremental Benefits Must Justify Estimated Costs* and the *Joint Consumer Parties' Brief in Opposition to IPL's Untimely Request for Administrative Notice of Workpapers.*

Counsel for the Industrial Group has been authorized by counsel for the other Consumer Parties to submit the Proposed Order and Joint Briefs on behalf of all Consumer Parties.

Respectfully submitted,

LEWIS & KAPPES, P.C.

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CERTIFICATE OF SERVICE

The undersigned counsel hereby certifies that a copy of the foregoing document, Exhibits A and B, and the Joint Briefs were served via electronic mail, this 10th day of December, 2019, upon the following:

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ORDER OF THE COMMISSION

Presiding Officers:
David E. Ziegner, Commissioner
Jennifer L. Schuster, Administrative Law Judge

On July 24, 2019, Indianapolis Power & Light Company ("Petitioner," "IPL" or "Company") filed its Verified Petition together with its verified direct testimony~~,~~ and attachments, and submitted its workpapers. The following witnesses provided testimony in support of IPL's case-in-chief:

- Barry J. (Joe) Bentley, AES US Vice President, US Utilities Operations
- James (Jim) William Shields, Jr., IPL Director of TDSIC Plan Development
- Jason D. De Stigter, Business Lead, Capital Asset Planning Utility Consulting for Burns & McDonnell Engineering Company, Inc. ("Burns & McDonnell")
- William D. Williams, Associate Vice President in Asset Management Practice of Black & Veatch Corporation ("Black & Veatch")
- Matthew R. Kinghorn, Senior Research Analyst, Indiana University Business Research Center
- Chad A. Rogers, IPL Senior Program Manager, Regulatory Affairs

Petitions to Intervene were filed on July 26, 2019, by Citizens Action Coalition of Indiana, Inc. ("CAC") and by an ad hoc group of industrial customers ("IPL Industrial Group" or "IG"). Each petition to intervene was granted by docket entry dated August 7, 2019.

On July 30, 2019, the Presiding Officers issued a docket entry requesting an agreed procedural schedule in this Cause. On August 6, 2019, the parties filed a Stipulation and Agreement in Lieu of Prehearing Conference which was approved by docket entry dated August 7, 2019.

On August 2, 2019, the Indiana Office of Utility Consumer Counselor ("OUCC") and CAC filed a Joint Motion to Establish Multiple Field Hearings. The Presiding Officers granted the Joint Motion by docket entry on August 5, 2019, and public field hearings were held in this Cause on September 3, 2019 and September 10, 2019 in the City of Indianapolis, the largest municipality in

Petitioner's service territory. At the field hearings, members of the public made statements to the Commission under oath.

On September 13, 2019, the City of Indianapolis, Indiana ("City") filed a Petition to Intervene, which was granted by docket entry dated September 25, 2019.

On September 30, 2019, the Environmental Law & Policy Center ("ELPC") filed a Petition to Intervene, which was granted by docket entry dated October 10, 2019.

On October 7, 2019, the OUCC and Intervenors filed their respective testimony and attachments. The OUCC initially submitted testimony from the following witnesses:

- Brian R. Krieger, Utility Analyst–Natural Gas Division, OUCC
- Wes R. Blakley, Senior Utility Analyst, OUCC

At the evidentiary hearing, the OUCC withdrew the testimony of OUCC Witness Krieger.

The IPL Industrial Group provided testimony from the following witness:

- Brian C. Collins, Principal, Brubaker & Associates, Inc.

CAC and ELPC provided testimony and attachments from the following witnesses:

- Kerwin L. Olson, Executive Director, CAC
- Ronny Sandoval, President, ROS Energy Strategies, LLC

The City provided testimony and attachments from the following witnesses:

- Paul J. Alvarez, President, Wired Group
- Dennis Stephens, Senior Technical Consultant, Wired Group

On October 23, 2019, IPL filed its rebuttal testimony and attachments. The following witnesses filed rebuttal testimony on behalf of IPL:

- Barry J. (Joe) Bentley
- Jason D. De Stigter
- Jeffrey W. Cummings, Senior Vice President of UMS Group
- William D. Williams
- Matthew R. Kinghorn
- James (Jim) William Shields, Jr.
- Chad A. Rogers

The Commission commenced the evidentiary hearing in this Cause at 9:30 a.m. on November 14, 2019 and continued the hearing on November 21 and 22, 2019, in Hearing Room 222, 101 W. Washington Street, Indianapolis, Indiana. At the hearing the evidence was heard. IPL, the OUCC, CAC, IG, the City and ELPC appeared at and participated in the hearing. No members of the general public attended the hearing.

Based upon the applicable law and evidence presented the Commission finds:

1. Notice and Jurisdiction. Notice of the hearing in this Cause was given and published by the Commission as required by law. Petitioner is a "public utility" under Ind. Code §§ 8-1-2-1 and 8-1-39-4. Under Ind. Code ch. 8-1-39, the Commission has jurisdiction to approve a public utility's plan for eligible transmission, distribution, and storage improvements ("TDSIC Plan" or "Plan"). Ind. Code § 8-1-2-23 also provides Commission authority to approve improvements to utility facilities. Therefore, the Commission has jurisdiction over Petitioner and the subject matter of this proceeding in the manner and to the extent provided by Indiana law.

2. Petitioner's Characteristics. IPL is a corporation organized and existing under the laws of the State of Indiana, with its principal offices at One Monument Circle, Indianapolis Indiana. IPL is engaged in rendering electric service in the State of Indiana, and owns and operates plant, equipment and related facilities within the State of Indiana that are in service and used and useful in the generation, transmission, distribution and furnishing of such service to the public.

3. Requested Relief. IPL requests approval of its TDSIC Plan pursuant to Ind. Code § 8-1-39-10(a). IPL's TDSIC Plan proposes seven years of defined investment totaling $1.2 billion, to replace, rebuild, upgrade, redesign and modernize a wide range of IPL's aging transmission and distribution ("T&D") system assets in two thematic areas: *Age and Condition* and *Deliverability*. The IPL TDSIC Plan consists of the following thirteen (13) Projects:[1]

AGE AND CONDITION

1. Circuit Rebuilds
2. Substation Assets Replacement
3. XLPE Cable Replacement
4. 4 kV Conversion
5. Tap Reliability Improvement Projects
6. Meter Replacement
7. Central Business District ("CBD") Secondary Network Upgrades
8. Static Wire Performance Improvement
9. Remote End - Breaker Relay/Upgrades
10. Pole Replacements
11. Steel Tower Life Extension

[1] The IPL TDSIC Plan is IPL Exhibit 2 in the record of this Cause and was included as Attachment BJB-2 to the Direct Testimony of Mr. Bentley. As shown by the table of contents included with the Plan, this document provides relevant background, summarizes the Plan and includes a narrative discussion of each TDSIC Plan Project. This document explains how the Plan was developed and assessed, including the risk modeling and the risk reduction benefit monetization analysis. The TDSIC Plan discusses IPL's use of independent engineering firms to assist and validate its planning effort. The TDSIC Plan also explains how the cost estimates were developed. The TDSIC Plan includes numerous appendices, including the Burns & McDonnell Risk Model Report, Black & Veatch's Cost Estimate Review and Validation Report created from their review of IPL's cost estimates, Black & Veatch's report on their technical review of the Burns & McDonnell Risk Model, the Burns & McDonnell Risk Reduction Benefit Monetization Report, and the Economic Impact Assessment prepared by the Indiana Business Research Center, Kelley School of Business, Indiana University. ~~The appendices also include a sortable list of project, year by year details, and examples of the cost estimates, all of which were provided via electronic spreadsheets in IPL's confidential workpapers.~~

DELIVERABILITY
12. Distribution Automation
13. Substation Design Upgrades

Both categories support IPL's ability to maintain and operate the grid in a safe, reliable and efficient manner. *Id.* at 9.

4. IPL's Evidence.

A. Overview. Barry J. Bentley, AES US Vice President, US Utilities Operations, which includes IPL, explained that IPL has developed a seven year TDSIC Plan that focuses on improving service for customers in a cost-conscious manner through projects that also modernize IPL's system and support economic development. Bentley Direct at 7. He said the TDSIC Plan also addresses grid resiliency and explained that a hardened and resilient grid can better withstand the impact of weather and is easier to restore when outages inevitably occur. *Id.* Mr. Bentley added that the TDSIC Plan provides a structured and proactive means for capital investment of $1.2 billion over the Plan period and identified the Plan capital costs by year. Bentley Direct at 7-8. Mr. Bentley explained that systematic investment in IPL's energy delivery system allows IPL to better utilize capital dollars, realize economies of scale, and promote efficiency through better planning of workflow and resources, all of which benefits customers. *Id.* at 9.

B. TDSIC Plan Development and Projects. James William Shields Jr., IPL Director of TDSIC Plan Development, supported the project details and explained how the TDSIC Plan was developed. In particular, Mr. Shields explained that to develop the proposed TDSIC Plan, IPL conducted an iterative process to prioritize system needs and determine how to best address aging infrastructure while also building a modern grid that is ready and able to meet today's demands as well as the demands of the future. Mr. Shields testified that IPL engaged a third-party consultant, Burns & McDonnell Engineering Company, Inc. to model and prioritize investments ("Risk Model"). He noted that the Risk Model is described and supported by IPL Witness De Stigter. Mr. Shields testified that to provide further rigor to the analysis, IPL engaged Black & Veatch Corporation to review the Risk Model, validate the cost estimates, and otherwise assist in the TDSIC Plan development. Mr. Shields also discussed how IPL considered plan feasibility in developing the scope and schedule of the proposed improvements. Shields Direct at 3-4, 6-8.

Mr. Shields stated that while the Plan does not include any "targeted economic development projects" as that term is used in the TDSIC Statute, energy delivery infrastructure remains important to the communities in which IPL provides retail service and the Plan supports economic development in IPL's service area. Shields Direct at 5. Mr. Shields added that the TDSIC Plan capital investment will require contract labor and other resources over the Plan period and this too has a positive economic impact. *Id.*

Jason D. De Stigter, Business Lead, Capital Asset Planning Utility Consulting for Burns and McDonnell Engineering Company, Inc., explained that Burns & McDonnell utilized a risk-based assessment of the electric transmission and distribution system to help identify high-risk assets and identify projects to be included in its TDSIC Plan. De Stigter Direct at 4. He said that Burns & McDonnell utilized an approach similar to that used in other TDSIC proceedings. *Id.* He

said the approach is based on the ISO 31000 framework for risk management and the ISO 55001 standard for asset management practices. *Id.*

Mr. De Stigter testified that Burns & McDonnell developed a Risk Model for all critical substation and circuit assets, including 1,690 substation assets and nearly 220,000 circuit section assets (628 circuits covering 8,789 circuit miles). *Id.* He explained the risk-based assessment is data-driven augmented by subject matter experience from both the Burns & McDonnell and IPL team. *Id.* He said the Risk Model prioritizes assets based on the amount of risk they pose to the IPL system and the cost to buy down asset risk. *Id.*

Mr. De Stigter described the Risk Model. *Id*. at 5. He said the main purposes for the Risk Model are firstly, to identify high-risk assets and establish a plan to mitigate the risk, and secondly, to invest capital into the system that provides the highest risk reduction per dollar invested. *Id.* at 6. He explained the Risk Model used condition data, hierarchy, and other information to determine each individual asset's likelihood of failure ("LOF") and consequence of failure ("COF"). *Id.* at 5-15. He said the asset LOF is based on an asset class survivor curve, age, and Asset Health Index, which is derived from available asset condition information, inspection information, and service history or test data. *Id.* at 5. He said an asset's COF is derived for six different criteria that consider the impact to IPL customers, stakeholders, or its system in the event of an asset failure. *Id.* He said the criteria are summed to calculate a total consequence score for each asset. *Id.*

Mr. De Stigter added that the Risk Model includes risk frameworks and asset risk information already developed by IPL through its asset management program. *Id.* at 6. Mr. De Stigter also explained how the Risk Model identified projects to be included in the IPL TDSIC Plan. *Id.* He said the framework was initially developed by IPL staff and previously reviewed in a collaborative effort conducted per the Commission's Order in Cause No. 44576 dated March 16, 2016. *Id.* Mr. De Stigter stated that based on the risk score, risk reduction benefit, replacement cost, and other resource constraints, the Risk Model provides a prioritized list of assets for replacement that targets high-risk assets and provides the highest risk reduction per dollar invested into the system. *Id.* at 5-6. He said the output of the Risk Model was reviewed and then used by IPL to develop the Projects included in the TDSIC Plan. *Id.* at 6. In addition, William D. Williams, Associate Vice President in Asset Management Practice of Black & Veatch Corporation, described the Black & Veatch independent review of the Risk Model and concluded that the Risk Model is appropriate to use to identify capital expenditures for substations and circuits that are part of IPL's TDSIC filing. IPL TDSIC Plan, Appendix 8.4 at 12.

C. <u>Best Estimate</u>. As summarized in the Plan, and discussed by IPL Witnesses Bentley and Shields, IPL presented Association for the Advancement of Cost Engineering ("AACE") Class 2 cost estimates for many of the proposed Projects for Plan Years 1 and 2. Class 3 and Class 4 estimates were developed for the remaining projects. This information was compiled in Table 1 of Mr. Shields' testimony and supported with additional details in the IPL TDSIC Plan, appendices and workpapers. IPL proposes to update these cost estimates through its annual Plan update filings. Bentley Direct at 4; Shields Direct at 15-16; also IPL TDSIC Plan at 26. IPL also developed a process to validate its cost estimates to ensure IPL is providing the Commission with the best estimates of TDSIC Plan costs. As discussed by IPL Witness Shields, IPL employed Black & Veatch to conduct an independent review of the costs estimates and the process used to develop them. Shields Direct at 12. A summary of the review and the results of the analysis are found in

IPL Witness Williams' testimony and the "Black & Veatch Cost Review and Validation Report" is included with IPL's TDSIC Plan as Appendix 8.6.

IPL Witness Williams described the approach Black & Veatch used to validate IPL's cost estimates. Mr. Williams stated that to validate the costs estimates, Black & Veatch (1) reviewed the cost estimate documentation for a sample of IPL's TDSIC cost estimates developed for the Plan; (2) discussed and reviewed IPL's cost estimating processes to understand what tools and processes are used in cost estimating for the TDSIC projects; (3) developed independent costs estimates for a sample of the projects using Black & Veatch cost estimating tools, databases and expertise; (4) assessed the AACE Cost Estimate level for the sample estimates based on review of the cost estimate documentation; and (5) utilized expertise and professional judgement to complete the check for reasonableness. Williams Direct at 3-4. Based on this review, Mr. Williams testified that IPL's cost estimating process is aligned with industry good practice based on Black & Veatch experience and professional judgement and the AACE classification guidelines. *Id.* at 5. Mr. Williams further testified that based on the Black & Veatch review of IPL's cost estimating process and the independent estimates, he believed IPL's cost estimates are the best estimates of the projects identified in the TDSIC Plan. *Id.*

D. <u>Public Convenience and Necessity</u>. Mr. Bentley explained that there is a reasonable and apparent need for the Plan. Bentley Direct at 12. He stated that the TDSIC Plan and attached appendices identify what Projects will be undertaken, when they will be undertaken and why these Projects are necessary and beneficial. *Id.* He added that many of the TDSIC Projects are designed to improve the safe and reliable functioning of the system, 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. *Id.* He said the planned replacement of infrastructure that has or is reaching the end of its useful life hardens the energy delivery system and minimizes emergency restoration. *Id.* He stated that modernizing the electric system enhances system operation and control, enables customers to have access to more information to manage their usage, and lays the foundation for new technologies to be deployed in the future. *Id.* He testified that the improved operation and reliability of IPL's energy delivery system safeguards public and employee safety, improves the customer experience and fosters economic development in the communities IPL serves. *Id.* Mr. Bentley concluded that IPL's proposed TDSIC Plan is fitted or suited to the public need. *Id.*

E. <u>Plan Benefits</u>. Mr. Bentley explained that IPL's TDSIC Plan aligns with the TDSIC Statute as the Projects are undertaken for the purpose of safety, reliability, system modernization and support of economic development. *Id.* at 9. He testified that the estimated costs of the improvements included in the IPL TDSIC Plan are justified by incremental benefits attributable to the Plan. *Id.* More specifically, he testified that without these improvements IPL's T&D system will face increasing levels of risk, and an erosion in overall grid integrity and reliability, which will be difficult to correct. *Id.* at 10. He said the Risk Model developed by the Burns & McDonnell and the IPL team shows a system risk reduction of approximately 36.6 percent over the seven year TDSIC Plan period. *Id.* In other words, he stated that by implementing the Plan, total T&D system asset risk is significantly reduced. *Id.*

Mr. Bentley also explained there are also a host of qualitative benefits, introduced in TDSIC Plan Section 3 (TDSIC Benefits) and expanded upon in the TDSIC Plan Section 6 (TDSIC Project Narratives) that combined with the quantifiable benefits, clearly meet the intent of the TDSIC Statute. *Id.*

As summarized in Section 3 of the IPL TDSIC Plan and in Mr. Bentley's direct testimony, the seven Projects that lend themselves to monetization, when viewed as part of a total portfolio, will provide a net benefit (*i.e.*, total escalated nominal benefits less the total escalated nominal cost of the Plan) of $939 million to IPL's customers over a 20-year period. Bentley Direct at 9. Mr. Bentley stated that the monetization analysis is supported by the Burns & McDonnell Risk Reduction Benefit Monetization Report presented by IPL Witness De Stigter (Appendix 8.11 to IPL TDSIC Plan). *Id.*; see also De Stigter Direct at 16-17. The Burns & McDonnell Risk Reduction Benefit Monetization Report explained the monetization analysis and presented both the nominal and net present value benefits. Appendix 8.11 at 12-13.

Mr. Shields testified that IPL commissioned a study by the Indiana Business Research Center, Kelley School of Business, Indiana University to evaluate the economic impact resulting from the TDSIC Plan. He noted that this report is included as Appendix 8.5 to the IPL TDSIC Plan and is supported by IPL Witness Kinghorn. Shields Direct at 5. Matthew R. Kinghorn, Senior Research Analyst, Indiana University Business Research Center, explained that based on his analysis, local spending associated with IPL's plan to upgrade and modernize its electric transmission and distribution system between 2020 and 2026 will support an estimated 880 jobs per year in Marion County worth $62.2 million in annual compensation. Kinghorn Direct at 6. He added that the full impact of these IPL activities will combine to contribute an estimated $92.6 million per year to Marion County's gross domestic product and generate an estimated $3.3 million per year in state and local government revenue. He said, at the state level, these estimates rise to a total employment impact of 950 jobs per year, $65.9 million in annual compensation, $98.5 million in GDP per year, and $3.5 million in annual state and local government revenues. *Id.* at 6-7.

F. <u>Implementation and Annual Updates</u>. Mr. Bentley testified that IPL will begin to implement the Plan Projects August 1, 2019 and ramp up to full project implementation in 2020 upon receipt of Commission approval of the Plan. Bentley Direct at 10. He testified that the Company's experienced contract labor resources have multiple opportunities in other parts of the country and in order to maintain the appropriate contractor labor prior to full project implementation in 2020, IPL found it necessary to advance the scheduling of certain work to secure these contractors. *Id.* at 10-11. Mr. Bentley added that in order to implement the Plan in a timely manner, it is necessary to undertake certain pre-construction and initiate limited project construction. *Id.* at 11. He said contract labor is scheduled to be used for this work. *Id.* Mr. Bentley stated that IPL has taken steps to secure the necessary contract labor resources through a competitive solicitation process and will use these resources to implement the TDSIC projects. *Id.* He added that issuing the competitive solicitation for contract labor resources allowed IPL to improve the quality of the cost estimates and risk modeling presented in this Cause. *Id.*

Mr. Shields testified regarding IPL's proposed annual update process to comply with the TDSIC Statute. Shields Direct at 15. He testified that IPL is proposing to provide updates to its TDSIC Plan during IPL's future, annual tracker filings. *Id.* He said the updates will include: (1) a report on the work that has been completed and the work planned during the upcoming year; (2)

the actual costs of the Projects completed in the prior year and updated cost estimates of the Projects for the following year; (3) for projects with actual or projected costs higher than the previous estimate, an explanation of the variance; and (4) intra-year changes and longer-term changes in the Plan when appropriate. *Id*. at 15-16. Mr. Shields stated that IPL contemplates providing information consistent with Vectren Witness Hoover's Attachment SAH-9: TDSIC Plan – 7 Year Update in Cause No. 44429-TDSIC-9. *Id.* at 16, n. 4. Mr. Shields further testified IPL is prepared to confer with stakeholders on the format and content of the report prior to its initial filing, as well as to refine the content of the update filing over time as necessary and appropriate. *Id*. at 16.

G. Plan Development Costs. Mr. Shields described the costs IPL incurred to develop the TDSIC Plan and support IPL's TDSIC filing. Shields Direct at 12-13. Mr. Shields explained to obtain Commission approval of the TDSIC Plan, IPL was required to perform risk modeling and planning, prepare evidence that the public convenience and necessity require the Projects, that the cost estimates constitute best estimates, and that the estimated costs of the proposed improvements are justified by the incremental benefits attributable to the Plan. *Id*. at 12-13. Mr. Shields further explained IPL hired independent consultants to support this effort including Burns & McDonnell, Black & Veatch and the Indiana Business Research Center. *Id*. at 12-13. Mr. Shields testified that as of the date of the filing, the total amount of these reasonably-incurred Plan development and case support costs is approximately $2.3 million. *Id*. at 13. Chad Rogers, IPL Senior Project Manager, Regulatory Affairs, testified IPL is seeking Commission approval to defer these TDSIC Plan Development costs by creating a regulatory asset and to recover these costs through rates over a three-year amortization period. Rogers Direct at 7.

H. Accounting and Ratemaking. Mr. Rogers testified the proposed investments in IPL's seven year TDSIC Plan were not included in IPL's rate base in its most recent general rate case (Cause No. 45029). Rogers Direct at 5. He also explained IPL's accounting for depreciation expense and the Company's procedures for accrual of Allowance for Funds Used During Construction ("AFUDC") consistent with the Uniform System of Accounts and Commission practice. *Id.* at 5-6.

Mr. Rogers also described the accounting relief IPL is seeking in this Cause with respect to the TDSIC Plan costs. *Id.* at 6-8. Mr. Rogers stated that IPL is requesting Commission approval to defer TDSIC Plan costs until they are recovered through the TDSIC Rider or included in basic rates. *Id*. at 6-7. Mr. Rogers testified IPL is also seeking Commission authority to create regulatory assets to record post-in-service AFUDC (both debt and equity) and depreciation and property tax expenses associated with the Projects until such costs are reflected in the TDSIC Rider rates or the Company's retail electric rates. *Id.* at 7. Mr. Rogers stated IPL will record AFUDC during construction and post-in-service AFUDC until the costs are reflected in the TDSIC Rider. *Id*. Mr. Rogers also explained IPL's proposal regarding depreciation on the TDSIC Plan Projects, and stated IPL is proposing to utilize the applicable depreciation rates for transmission and distribution assets approved in its most recent rate case (Cause No. 45029). Mr. Rogers testified IPL is also proposing that it be allowed to recover depreciation expense prospectively to avoid regulatory lag that would otherwise occur. *Id*.

Witness Rogers also described IPL's plan to file a request for a TDSIC Rider under Ind. Code § 8-1-39-9 ("Section 9"). Mr. Rogers stated IPL plans to file an annual request for a TDSIC

Rider under Section 9 in order to timely recover eighty percent (80%) of the TDSIC Plan capital expenditures and costs, which includes depreciation expense, property taxes, and pretax returns. *Id*. at 8. He further stated IPL is proposing to defer 20% of the TDSIC Rider revenue requirement with carrying costs pursuant to Ind. Code § 8-1-39-9 until such costs are reflected in the Company's retail electric rates. *Id*. As described in Witness Shields' testimony, the Company will update its TDSIC Plan on an annual basis through the Section 9 Rider filings. Mr. Rogers testified IPL anticipates making its first Section 9 Rider filing in the second quarter 2020 and added that IPL intends to confer with the OUCC and interested intervenors in making these filings. *Id*. at 9.

Mr. Rogers also described the TDSIC Plan's estimated impact on retail revenues. He testified that, as shown below (and on Table 1 in Mr. Roger's testimony,) IPL's Plan does not result in an average aggregate increase in IPL's total retail revenues of more than two percent (2%) in a twelve (12) month period.

Table 1 – Average Aggregate Increase in IPL's Total Retail Revenues[2]

$ in millions		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
TDSIC Rider Revenues		$11.4	$26.3	$45.3	$65.5	$83.6	$100.8	$115.3
Incremental Rider Revenue		$11.4	$14.9	$19.0	$20.2	$18.1	$17.3	$14.5
Total Estimated Retail Operating Revenues	$1,454.6	$1,466.0	$1,480.9	$1,499.9	$1,520.1	$1,538.2	$1,555.5	$1,569.9
Annual % Increase		0.8%	1.0%	1.3%	1.3%	1.2%	1.1%	0.9%

Id.

5. OUCC Evidence. Mr. Wes R. Blakley, Senior Utility Analyst for the OUCC, disagreed with three aspects of IPL's proposal - 1) the method and timing of calculating the gross-up of federal income taxes on the deferred return, 2) the three year amortization period for TDSIC plan development costs; and 3) not recognizing plant retirements embedded in base rates replaced by TDSIC projects (which affects the depreciation expense calculation in subsequent TDSIC tracker proceedings. Mr. Blakley explained the he opposed IPL's proposal to gross up the entire TDSIC revenue requirement for taxes, depreciation expense, property taxes and amortization of plan development costs (as shown of Witness Rogers Attachment CAR-1 page 2 of 3) and then defer 20% of the grossed up amount. He testified that IPL's proposal increases makes it possible that the 20% deferred TDSIC revenue requirement, when eligible for recovery in IPL's next rate case, might once again be grossed up, allowing IPL to recover a portion of federal income tax twice. To avoid this, Mr. Blakley recommended that IPL split its TDSIC revenue requirement 80

[2] See Ind. Code § 8-1-39-14.

/ 20, and only gross up the 80% eligible for immediate recovery. The deferred 20% would be grossed up in the proceeding when it is eligible for recovery.

Regarding IPL's proposed three year amortization period for $2.3M in TDSIC plan development costs, Mr. Blakley said it was more appropriate to amortize the costs over the life of the assets. He testified aligning the amortization period and the depreciable life of the assets also mitigates the rate impact for IPL's customers. For costs associated with T&D investments, the amortization rate should be at the depreciation rate approved from IPL's last rate case for the particular plant account.

On the issue of not recognizing plant retirements embedded in base rates replaced by TDSIC projects, Mr. Blakley testified retirement accounting affects the TDSIC revenue requirement by reducing the plant account at retirement, and when new investment results in a retirement of an existing asset, depreciation expense included in the revenue requirement will be reduced by the depreciation expenses amount attributed to those retired assets. If retirement accounting is not used, Mr. Blakley stated IPL will receive a return of the new replacement assets while at the same time continuing to receive a return of the retired assets that are no longer used and useful. Mr. Blakley noted this method had already been accepted by the Commission with regards to the retiring of other types of assets in Cause No. 44182, page 59 of the Commission's Order. He specifically pointed to Commission language concluding this treatment "has no effect on rate base," and therefore the new investment does not need to be lowered in the calculation of return in the tracker.

6. Industrial Group Evidence. The Industrial Group presented the testimony and attachments of Brian C. Collins, a Principal with Brubaker & Associates, Inc. Mr. Collins presented testimony addressing the requirement that the incremental benefits of a TDSIC plan must justify the estimated costs. His conclusion was that the IPL Plan did not satisfy that standard. He recommended that the requested approval either be denied or at least conditioned on submission of a revised Plan.

Mr. Collins started by putting the IPL proposal into ratemaking context. *See* IG Ex. 1 at 4-7. He noted that as of IPL's 2014 rate case, the Commission approved an original cost rate base of about $2 billion, and in the 2017 rate case the total rate base was $3.3 billion, an increase of 60% between rate cases. *Id.* at 4. The proposed TDSIC spend of $1.2 billion would represent an additional 35% increase in rate base over a short period of time. *Id.* Mr. Collins presented the corresponding increase to IPL's transmission and distribution rate base on a per-customer basis, as shown on FERC Form 1, which started at $741 in 2014 and rose to $1,208 by 2018. *Id.* at 4-5. If the proposed TDSIC spend of $1.2 billion were implemented, the average T&D spend per customer would be around $2,409, nearly twice the 2018 T&D rate base per customer. *Id.* On that basis, Mr. Collins stated the proposed Plan would involve a very large increase in rate base with significant rate impact, making scrutiny of the level of reliability benefits resulting from such massive investment important. *Id.* at 5.

Mr. Collins then addressed the expected revenue increase associated with the proposed Plan. He noted that IPL computed the annual revenue increase by the end of the Plan period as being $115.3 million. *Id.* at 6. By comparison, the authorized revenue increase in IPL's 2014 rate

case was $29.6 million and the allowed increase in the 2017 rate case was $43.9 million, for a total of $73.5 million from both rate cases together. *Id.* The TDSIC revenue impact of $115.3 million is thus far in excess of the revenue increases from the last two rate cases combined. *Id.* In the next rate case, when the tracked amounts as well as the additional 20% of deferred costs are rolled into base rates, the revenue impact will be on the order of double the last two rate cases combined. *Id.* Mr. Collins further noted that IPL's retail sales have not been increasing over the 2014-2018 period, and stated that fewer sales over which to spread the cost recovery would only exacerbate the rate increase. *Id.* at 6-7.

Mr. Collins went on to address the reliability status of IPL's system. *Id.* at 7-11. He noted that IPL's website states that "IPL's reliability rate ranks high among investor-owned utilities nationwide." *Id.* at 7. He attached the reliability discussion in a recent report submitted by IPL to the Commission, concerning performance in 2018. *Id.* at 7-8, Attachment BCC-1. In that report, IPL stated it "continues to perform quite well," that it "achieved another year of strong reliability performance," and that it "expected to be in the top quartile in the industry for 2018." *Id.* Mr. Collins also attached a Commission report on 2018 reliability metrics for Indiana's five investor-owned electric utilities. *Id.* at 9, Attachment BCC-2. For 2018, IPL had the second best performance on three reliability metrics reviewed by the Commission. *Id.* Across the 17 years of data included in the report, IPL was consistently best or second best. *Id.* The report did not indicate a recent deterioration in IPL's reliability metrics, as IPL's 2018 results were comparable to both 5-year and 10-year averages. *Id.*

Mr. Collins further noted that IPL presented evidence in its two recent rate cases supporting its system performance, reliability and condition. *Id.* at 9-10. In both cases, IPL presented testimony that its system was "well maintained" and "in good condition," and referenced both the Commission reliability report and an IEEE benchmarking analysis with data on 89 electric utilities. *Id.* at 9. The witness described IPL as "a top performer" in Indiana and stated IPL was in the top quartile for all three performance metrics in the IEEE analysis. *Id.* Another IPL witness quoted a reliability report that referenced IPL's "first-decile performance" and stated "one might be expected to prefer to be an IPL customer than any other investor owned utility in Indiana or indeed most other states." *Id.* at 10.

Mr. Collins pointed out that IPL recently took additional steps to increase its reliability. *Id.* at 10-11. In particular, in its most recent rate case IPL's vegetation management expense was nearly tripled, going from $4.1 million to $11 million. *Id.* In that case, IPL identified trees as the leading cause of outages for 2012-2017, accounting for 40% of outages. *Id.* The rate order in that case was issued in late 2018, and hence the reliability improvements from the increased budget for tree trimming was not reflected in the 2018 data reflected in the Commission report attached to his testimony. *Id.* at 11. In addition, IPL also recently established a storm reserve account, which Mr. Collins expected to help harden IPL's system after storms and thereby increase system reliability. *Id.*

Mr. Collins provided discovery responses in which IPL stated that it has not prepared forecasts as to how its reliability indices will improve due to the proposed TDSIC spending of $1.2 billion. *Id.* at 11, Attachment BCC-3. As reflected in further discovery responses, IPL did not perform any after the fact studies to measure the effectiveness of reliability investments similar to

those proposed in the IPL Plan. *Id.* at 11, Attachment BCC-4. In addition to the reliability metrics addressed in the annual Commission report, Mr. Collins noted two other indices explained by the IEEE that are valuable for measuring outage impacts on customers. *Id.* at 8. He stated that IPL did not include those additional reliability indices in its filing. *Id.*

Mr. Collins compared the IPL Plan to other TDSIC plans approved by the Commission for investor-owned electric utilities. *Id.* at 12. He noted there were three other approved TDSIC plans: (1) Duke Energy is the largest electric utility in Indiana and has a TDSIC plan capped at $1.4 billion; (2) NIPSCO has a much larger territory than IPL with a heavy concentration of industrial load, and its TDSIC plan is capped at $1.2 billion; and (3) Vectren South has a larger geographic territory than IPL and has a TDSIC plan capped at $446 million. *Id.* Mr. Collins noted that IPL serves a compact territory. *Id.* He considered it anomalous that IPL would propose a level of investment comparable to Duke Energy and NIPSCO, which cover larger territories and serve considerably greater load, especially where IPL has achieved consistently better reliability performance than those larger utilities. *Id.*

Mr. Collins proceeded to discuss the "monetization" analysis presented by IPL, which according to IPL shows the proposed Plan will provide $938 million in net benefits. *Id.* at 12-15. Mr. Collins disagreed with the computation insofar as it was based on a comparison of 7 years of spending but 20 years of computed benefits. *Id.* at 13. He stated the computed benefits were overstated because the monetized figures were not adjusted to present value, even though the asserted benefits were weighted toward the end of the 20-year period. *Id.* He further criticized the analysis because it only compared the Plan to a "do nothing" assumption where IPL would hypothetically would allow components to run to failure before taking any action to repair or replace them. *Id.* Mr. Collins testified that a reasonable and prudent utility would not adopt a "do nothing" approach and instead would implement regular ongoing measures to keep the system in good working condition. *Id.* He stated the "do nothing" alternative greatly overstates the consequences of system failures, and the more appropriate comparison would be to assume prudent utility investments with ongoing repairs and replacements. *Id.* at 14. He also noted the IPL analysis did not compare the $1.2 billion Plan with a plan involving less aggressive spending, and hence did not show incremental benefits compared to a more moderate plan. *Id.*

Further regarding IPL's monetization analysis, Mr. Collins also stated that the costs utilized by IPL were understated. *Id.* at 14-15. He noted that IPL compared 20 years of computed benefits against 7 years of spending, but system investments are unlikely to end after 7 years. *Id.* at 14. At comparable spending levels, total spending for the 20-year period would be in the $3.5 billion range. *Id.* Mr. Collins also noted that spending could increase within the 7-year period due to cost overruns or the addition of new projects. *Id.* He pointed out the planned projects for 5 of the 7 years had only Class 4 estimates with potential cost variability of up to 50%, and could involve as much as another $464 million in actual spending. *Id.* at 15. He further stated that IPL did not show the 7 years of spending would be justified by 7 years of benefits, as the break-even point did not occur until after the Plan period, raising concerns of inter-generational equity. *Id.* at 14.

Mr. Collins raised additional concerns regarding the cost estimates and proposed ratemaking as presented by IPL. *Id.* at 15-16. He noted that IPL's estimates include substantial contingencies, and stated that, since upon Plan approval rate adjustments are assured up to

approved estimates, the Commission should exercise restraint in allowing contingencies in estimates that may reduce the incentive to maintain cost discipline. *Id.* at 15. He also expressed concern with IPL's proposal to change cost estimates in future Plan updates, cautioning against any proposal to erode the statutory safeguards. *Id.* at 15-16. He further questioned the lack of any proposed adjustment to return associated with replaced assets, leading to double recovery for new and removed assets, as well as the lack of any offset for cost savings that IPL may realize from planned investments. *Id.* at 16. He noted IPL's rate impact computation assumed the same return on equity approved in its last rate case, but the approval of a TDSIC plan would reduce IPL's risk and affect the appropriate return for TDSIC purposes. *Id.*

Mr. Collins opined that the economic impact report presented by IPL did not support approval of the Plan. *Id.* at 17. He stated that report only assessed the upside effects of the proposed spending, not the downside impact on ratepayers that are funding the Plan through rates. *Id.* In his view, it is a false premise that the more the utility spends the more the community benefits, and he cautioned against treating preapproval of costs for rate recovery as a form of economic stimulus funding. *Id.*

Addressing IPL's planning process based on a risk model, Mr. Collins stated that IPL failed to supplement that analysis with an effort to identify the worst performing circuits and components on the system. *Id.* at 17-18. He provided an example regarding Indiana University and IU Health, which have experienced a history of service problems but were not identified as high priority facilities for replacement under IPL's risk model. *Id.* at 18. He expressed the view that IPL should incorporate analysis of operational experience in order to address equipment that is known to be causing customer reliability issues. *Id.*

Mr. Collins clarified that he is not opposed to system investments to continue to provide reliable service to customers, but $1.2 billion is a large amount of proposed investment and it is important to ensure it is prudent and cost-justified in light of incremental benefits. *Id.* at 19. He considered the proposed spending level to be greatly excessive to achieve incremental benefits to what is already highly reliable service. *Id.* He emphasized the TDSIC mechanism shifts risk from the utility to ratepayers for both the costs and the benefits, as preapproval would obligate ratepayers to support the investments through rates regardless of the extent to which reliability benefits are actually achieved. *Id.* In his view, this proceeding is important because it is the only check and balance and the only opportunity for the Commission to make an independent determination of whether the incremental benefits justify the estimated costs. *Id.* at 19-20.

Mr. Collins concluded that the Plan as proposed by IPL did satisfy the cost-justification requirement, and a more moderate Plan may do so and would be more reasonable. *Id.* at 20. He recommended that IPL's proposal be denied. *Id.* In the alternative, he offered the opinion that the Plan would be more reasonable if the proposed spending were spread over a longer period, such as two 7-year periods rather than one. *Id.* Such an approach, in his view, would be more appropriate for a utility like IPL with a compact service territory and a history of reliable service, would be more in line with the TDSIC plans approved for other Indiana electric utilities, would permit prioritization that still allows the most pressing work to be completed first, and would result in a more reasonable capital addition to rate base with a less drastic impact on rates. *Id.*

7. City of Indianapolis Evidence.

A. TDSIC Plan Development and Projects. Dennis Stephens, Senior Technical Consultant, Wired Group, testified that he identified significant deficiencies in the methodology IPL used to develop its TDISC Plan, recommending the Commission reject all five components of IPL's Plan which were developed using age-based failure predictions, totally $753 million. Stephens at 3, 24. Mr. Stephens stated that for five components of its Plan, IPL used an age-based approach to select assets for prospective (in advance of demonstrated need) replacement and this is not standard industry practice. *Id*. Mr. Stephens testified that the assets to be replaced in IPL's plan were not selected through testing, but through a Burns and McDonnell model designed to identify assets for which the risk and consequence of failure was greater than that of other assets. *Id.* at 9.

Mr. Stephens testified that asset age, a key component of the Burns and McDonnell model, is a poor predictor of failure, *Id.* at 11. Mr. Stephens also noted that standard industry practices already reflect the most cost-effective approaches. *Id.* at 9. Regarding IPL's assertion that its asset risk assessment techniques were consistent with ISO Standard 55000, Mr. Stephens noted that neither the ISO 55000 standard, nor IEC Standard 31010 regarding risk assessment techniques, makes any mention of the asset survivor curves employed in the Burns and McDonnell risk assessment model. *Id.* at 12. Further, Mr. Stephens testified that any risk assessment models, if they are to be used at all, should be based on historical asset failure rates. He testified that the survivor curves used in the Burns and McDonnel risk assessment model are not based on historical asset failure rates. *Id.* at 12. Mr. Stephens testified that survivor curves are typically used in the industry to determine accounting depreciation periods, not to assess the risk that a particular asset will fail. *Id.* at 11. Mr. Stephens noted that Burns and McDonnel justified its failure to use historical asset failure rates in its modeling because historical failure rates were so low as to constitute an insufficient experience base for modeling. *Id.* at 12.

Mr. Stephens testified as to standard industry practices for replacing asset types other than high-consequence substations assets addressed in IPL's TDSIC Plan, including ELPE Cable Replacement; 4kV Conversion; Circuits Rebuilds; and Remote End- Breaker Relay/Upgrades. Stephens 13-17. He noted that the processes IPL used to select assets for prospective replacement, as with substation asset replacement, were outside such practices. *Id*. He explained that he provided this information in the event the Commission were to reject the Plan, as he recommended, and IPL were to submit another plan. *Id.* at 13. Mr. Stephens recommended the Commission require results from industry standard tests as justifications for prospective asset replacement. *Id.* at 4.

Mr. Stephens testified that rather than grand, distinct grid modernization plans, he advocates the use of standard industry practices, which he believes have proven their worth in distribution grid planning over the past 100 years. *Id.* at 7. He said if IPL has been delivering safe, exceptionally reliable service at reasonable rates through compliance with standard industry practices, he saw no rationale for departing from standard industry practices in IPL's TDSIC Plan. *Id.* Based on all of these observations, Mr. Stephens recommended the Commission reject the 62% of IPL's TDSIC Plan which used non-standard approaches to identify assets for prospective replacement. *Id* at 24.

Mr. Stephens testified that the Distribution Automation Project warrants approval with conditions. *Id*. at 18-19. More specifically, he recommended the Commission require IPL to report performance on the integrated volt-var control ("IVVC") for the purposes of conservation-related voltage reduction ("CVR"). *Id.* at 19. Regarding the ADMS Distribution Automation project, he testified that IPL should prioritize the valuable components of central software over integration for integration's sake, and be careful not to pursue the "rabbit trail" of over-hyped automation potential. *Id.* at 20. Mr. Stephens recommended IPL's pole replacement proposal be approved under the condition that inspection failure documentation be provided for replaced poles and added that poles replaced in accordance with the City's street light agreement with IPL should be excluded from the TDSIC Plan. *Id.* at 21. He said IPL should be allowed to include life extension efforts for steel towers which fail inspection as part of its TDSIC Plan, under the condition that inspection failure documentation be provided for towers identified for life extension efforts. *Id.*

Mr. Stephens testified that the capabilities IPL proposes in its Plan for underground CBD facilities could have merit owing to employee and public safety, limitations of equipment-damage, and benefits to non-IPL utilities. *Id*. He noted that IPL included no "benefit-cost" analysis of its CBD network investment in its TDSIC Plan but added that if IPL can develop and provide a thorough and substantiated analysis which indicates benefits in excess of costs for central business district upgrades, the proposed capabilities should be approved for inclusion in IPL's TDSIC Plan. *Id.* at 22.

Mr. Stephens explained his view that there were no industry standard practices for the prospective replacement of the remaining TDSIC Plan components proposed by IPL. Based on a lack of industry standard practice for proactive replacement, Mr. Stephens recommended the Commission reject these remaining Plan components, including the Tap Reliability Improvement Projects, Static Wire Performance Improvement, and Substation Design Upgrades. *Id.* at 22-25.

B. Public Convenience and Necessity. Mr. Stephens described the manner in which the IPL approach dramatically overstates the replacements needed for public convenience and necessity. Mr. Stephen stated the data he provided on IPL's reliability performance, finding it to be exceptionally good relative to other utilities and in the top 10% nationally, calls into question the need for IPL's TDSIC Plan for public convenience and necessity. *Id.* at 3, 7, 23.

C. Plan Benefits. Paul J. Alvarez, President, Wired Group, testified on IPL's proposed TDSIC Plan benefit-cost analysis. Mr. Alvarez discussed the significant deficiencies in IPL's TDSIC benefit and cost projections, and testified IPL's TDSIC Plan will cost customers far more than they will receive in benefits. Alvarez at 3. He contended IPL's reliability improvement valuations cannot be validated, that the reliability improvements required to deliver the claimed $1.5 billion in reliability value IPL estimates will be impossible to achieve, IPL overstates the estimated customer savings benefits and that IPL's cost estimate ignores an estimated $772 million in carrying charges customers will pay. Alvarez at 4.

Mr. Alvarez testified that IPL provided no details regarding the estimate of the system-wide reliability improvements it expects from its TDISC Plan. Alvarez at 4,5. Mr. Alvarez provided his analysis using the ICE calculator that IPL stated it used in the valuation of reliability improvements, showing that IPL needed to achieve 42% system-wide improvements in both

SAIDI[3] and SAIFI[4] to in order to deliver $1.079 billion in reliability-related customer value over 20 years. *Id*. at 3, 5-9, 13. Mr. Alvarez testified IPL overstates the estimated benefits and it is unlikely to deliver reliability-related benefits anyway near those IPL projects. *Id.* at 4, 9-11. Mr. Alvarez provided further detail to illustrate his perspective that reliability-related benefits will be difficult to achieve. *Id.*

Mr. Alvarez further testified that it is impossible to estimate the reliability improvements the tap projects will deliver given the absence of details from IPL . *Id.* at 6. Mr. Alvarez further testified that IPL's analysis also overstates the economic benefits from sources other than reliability improvements. *Id.* at 10-11. He testified that IPL cannot take credit for reducing the cost of reactive work which never would have been completed as some of the assets would not have failed. *Id*. at 10. He also testified with other examples of inflated benefits testifying it is difficult to understand how IPL can estimate $50 million in operating expense savings for Tap Reliability Improvement Projects from zero headcount reduction. *Id.*.

Mr. Alvarez stated he believed some parts of IPL's proposed $1.2 billion capital spend will deliver economic benefits to some parts of the central Indiana economy but said the study IPL commissioned is fundamentally flawed because it does not take into account the detrimental effects of any rate increases associated with the IPL's spending. Mr. Alvarez stated that an economist must also take into account any detrimental effects of any rates increases associated with that spending but IPL's study does not do so. Mr. Alvarez noted IPL estimates that the TDSIC Plan will increase distribution rates by 10%. This increase does not include any rate increase IPL may request.. Alvarez at 11-12. Mr. Alvarez noted that the negative impact of electric rate increases on economic development offset, or even exceed, the positive impact of utility capital spending. *Id.*

D. Plan Costs. Mr. Alvarez also testified IPL understated the costs of its TDSIC Plan because while the Plan is estimated to be $1.218 billion in capital over 7 years it ignores carrying charges customers will pay through rates. *Id*. at 4, 12-13. Mr. Alvarez estimated the revenue requirement for the first 20 years of IPL's TDSIC Plan, including carrying charges, to be $1.991 billion, 63% more than IPL's cost estimate of $1.218 billion. *Id.* at 13.

E. IPL's TDSIC Plan Cost Not Justified by Incremental Benefits. Mr. Alvarez concluded his testimony stating that the IPL's TDSIC Plan costs to customers will significantly exceed the benefits and recommended the Commission reject IPL's TDSIC Plan on that basis. *Id*. at 14.

8. CAC-ELPC Evidence.

Kerwin L. Olson, the Executive Director of Citizens Action Coalition of Indiana, Inc. (CAC) provided testimony discussing the fact that IPL is not offering customers the ability to opt-

[3] System Average Interruption Duration Index.

[4] System Average Interruption Frequency Index.

out of a smart meter installation. Mr. Olson explained that customers have concerns over the advanced capabilities of smart meters, including around health impacts, consumer and data privacy, safety, and increased cyber-security risks potentially related to the installation and utilization of smart meters. CAC-ELPC Exhibit 1 at 4. Mr. Olson noted that the most common concern that CAC hears from the public relate to the privacy of customers' usage information and access to that data. *Id*. He explained that the fact that neither the Indiana General Assembly, nor the Commission have done anything to assuage these privacy concerns by enacting new laws, regulations, or rules restricting how utilities can use customer data and which third parties may or may not be given access to the data, elevates those concerns. *Id*.

Mr. Olson explained that other Indiana electric utilities have offered their customers the ability to opt-out of the installation of a smart meter, and stated that NIPSCO, Duke and Indiana and Michigan Power Company all have provided, or are seeking Commission approval to provide the option to their customers to elect to not have advanced meters installed on their premises. *Id*. at 6. Mr. Olson recommends that the Commission direct IPL to file an opt-out tariff affording customers the option to elect to not have a smart meter installed on their premises until and unless the Commission or the legislature have adopted policies and rules protecting customers' rights related to the installation and use of AMI and associated data. *Id*. Mr. Olson also recommends the Commission direct IPL to update their Terms and Conditions to reflect the data which will be collected through AMI technology, and the rights of customers relating to the usage of that data. *Id*. Finally, Mr. Olson recommends that the Commission commence a rule-making to update statewide consumer protections relating to smart meters' advanced capabilities. *Id*.

Mr. Sandoval, President of ROS Energy Strategies, LLC provided testimony explaining why IPL's TDSIC Plan is deficient, and describing how the Commission can strengthen the Plan and help ensure that it benefits IPL's customers. CAC-ELPC Exhibit 2 at 4. Mr. Sandoval testified that IPL's TDSIC Plan lacks several elements and safeguards that are critical to ensuring that its customers will actually receive the benefits that the Company claims they will as a result of the Plan. *Id*. at 6.

Mr. Sandoval recommended that the Commission require IPL to initiate an Integrated Distribution Planning (IDP) process; provide a concrete plan to better leverage the benefits of advanced metering infrastructure; and track and report year-over-year performance metrics associated with its TDSIC investments, beyond costs, on an annual basis. *Id*. at 6. Mr. Sandoval explained that IDP would help ensure that IPL's customers actually benefit from the Company's advanced technology investments, and that those investments do not hinder the deployment of distributed energy resources. *Id*. at 10. Mr. Sandoval explained that IDP includes five capabilities: (1) Advanced Forecasting and System Modeling, (2) Hosting Capacity Analysis, (3) Disclosure of Grid Needs and Locational Value, (4) New Solution Acquisition, and (5) Meaningful Stakeholder Engagement. *Id*. at 8. Advanced forecasting and system modeling involve load and DER performance modeling in a granular manner, with consideration for local dynamics and the feeder level and reflecting hourly and sub-hourly variations associated with the various forms of DERs. A hosting capacity analysis is a study of the amount of distributed energy resources that can be accommodated without adversely impacting power quality or reliability under current configurations and without requiring infrastructure upgrades. *Id*. at 13. Non-wires alternatives (NWAs) are projects that allow utilities to defer or avoid conventional infrastructure investments

by procuring distributed energy resources that lower costs and emissions while maintaining or improving system reliability. *Id*. at 15.

Mr. Sandoval noted that not all five capabilities need to be implemented at once; however, the value of the capabilities is maximized when they work in concert. *Id*. at 8. He explained that utilities across various states have begun to grapple with changes in planning criteria, customer expectations, and market conditions by implementing distribution planning processes that are transparent, engage energy stakeholders, and ensure grid investments align with intended objectives. *Id*. at 10. Mr. Sandoval provided the example of Consolidated Edison's Distributed System Implementation Plan, which he stated exemplified the essential IDP capabilities working in concert in one dedicated forum.

Mr. Sandoval raised concerns with IPL's AMI deployment project. CAC-ELPC Exhibit 2 at 19. He stated that IPL proposes significant investment in AMI deployment without proposing sufficiently concrete plans to leverage AMI meters in a manner that will benefit its customers. *Id*. He noted that a significant amount of the value from AMI comes from the granularity and timeliness of the data AMI meters provide. *Id.* Mr. Sandoval stated that the Company could leverage AMI to support forecasting, hosting capacity analyses, and the evaluation and procurement of non-wires alternatives. *Id.* He recommended that IPL explore enhancing its smart thermostat program in coordination with its Demand Side Management Oversight Board. *Id*. at 21. He also recommended that IPL offer optional time-variant rates as a small-scale pilot. *Id.* Finally, Mr. Sandoval recommended that IPL initiate a transparent stakeholder process within six months of a final order in this proceeding in order to develop a set of standards and expectations for IPL, their customers, and third parties on what data will be collected using AMI and how that data can and should be used and accessed. *Id*. Mr. Sandoval also provided testimony regarding performance evaluation and reporting. *Id.* at 22. He stated that ensuring that ratepayers realize benefits from its TDSIC investments requires that IPL go further than tracking program expenditures. *Id.* Mr. Sandoval suggested that IPL should measure the performance of its TDSIC investments and work alongside stakeholders to identify opportunities for maximizing value from those investments. *Id.* Mr. Sandoval noted that Duke Energy agreed to file a report in its TDSIC proceeding on the energy efficiency and greenhouse gas emissions reductions impact of its Integrated Volt VAR Control program. *Id.* at 23. He also noted that regulators in other states have required utilities to track and report performance metrics associated with their grid modernization investments, and described the performance metrics that Rockland Electric Company is required to report in New Jersey in association with its AMI deployment. *Id.* Mr. Sandoval recommended that the Commission require IPL to work with stakeholders to define appropriate metrics to measure the performance of TDSIC projects. He also recommended that the Company track and report a specific series of metrics:

Benefit Category	**Metric**	**Units of Measurement**
Customer Experience	Customers using the AMI Portal	# of customers
Customer Experience	Customers targeted with energy saving messaging	% of customers
Customer Experience	Customer Awareness of AMI	% of customers

Customer Experience	Customer Adoption of Time-Variant Rates	# of customers
Modernization	Number of AMI meters installed	# of meters
Operational Efficiency	Number of networks deployed with CVR	# of networks
Operational Efficiency	Energy Savings attributed to CVR	amount of kwh savings
Operational Efficiency	Total fuel consumption savings and emissions reductions for CVR	metric tons CO_2 reduction
Operational Efficiency	Reduction in vehicle fuel consumption and emissions due to AMI	metric tons CO_2 reduction
Operational Efficiency	Number of false outages resolved through AMI	# resolved false outages
Power Quality	Power Quality Issues identified	# of issues identified through AMI
Resiliency	Cumulative daily power outages	Customer-days without power
Resiliency	Repair and recovery costs bore by the utility	$ (dollars)
Resiliency	Emergency service assets without power for more than 48 hours	# of assets
Resiliency	Emergency Response Labor Reduction	# of single outages identified through AMI without crews

9. IPL Rebuttal.

A. TDSIC Plan and Public Convenience and Necessity. While Mr. Bentley appreciated the IPL Industrial Group and City of Indianapolis acknowledging IPL's historical reliability performance and delivery of safe and reliable electricity at reasonable rates, he disagreed with their view that IPL is departing from standard industry practices in IPL's TDSIC Plan. Bentley Rebuttal at 2. He said it is important to recognize that IPL has experienced recent degradation the past couple of years of approximately a 10%-20% increase in its IEEE[5] SAIDI reliability performance and based on IPL's robust asset management system and asset health information, IPL would expect that performance to continue to degrade unless the Company is able to make additional investments in the IPL T&D system. *Id.* at 2-3.

B. Plan Development and Risk Model. Mr. Bentley explained that Mr. Stephens' contentions do not capture the asset management program IPL has in place and they also overlook the work the Commission has done in this area. Bentley Rebuttal at 3-4. Mr. Bentley disagreed with Mr. Collins' characterization regarding IPL's rate base growth and noted that Mr.

[5] Institute of Electrical and Electronics Engineers.

Rogers' direct testimony shows the relative TDSIC investment impact on rates is gradual and trends under or near the historic U.S. inflation rate. *Id.* at 4. Mr. Bentley stated that proactive investments in utility infrastructure, especially in the capital city of Indianapolis, are not only prudent, but necessary. *Id*. at 5. He added that as the grid continues to evolve, IPL must harden and modernize its transmission and distribution infrastructure to allow for continued growth in customer demand, distributed energy resources, and electric vehicles. *Id.*

1. Risk Reduction. Vs. Reliability Improvement. Jeffrey W. Cummings, Senior Vice President of UMS Group, responded to the other parties' mistaken premise that IPL's TDSIC Plan consists of projects primarily focused on improving reliability. Cummings at 4-5, 6-16. He and Mr. De Stigter explained that a large portion of IPL's TDSIC Plan starts with a review of the condition of individual assets within critical asset classes to compute their likelihood of failure. He said these assets (station breakers, power transformers, batteries, transmission / sub-transmission circuits and overhead /underground primary distribution) are currently functioning well but are operating at varying levels of risk (with an ever-increasing number of assets migrating into the high-risk zone). Cummings at 7; De Stigter Rebuttal at 15, 21-22. Mr. Cummings explained that in submitting its TDSIC Plan, IPL seeks to counter the continuing trend of more assets moving into the high-risk region, which will lead to more frequent equipment failures, thus affecting larger numbers of customers. Further, with respect to reliability, he reinforced the notion that the Plan was more about stemming potential degradation, and less about improvement. Cummings at 7.

Mr. Cummings clarified that the Tap Reliability Improvement Project ("TRIP") and Distribution Automation projects, representing fifteen percent of the TDSIC Plan, provide for improved reliability. *Id*. at 7-8. He added however, that the TRIP project targets taps prone to reoccurring outages (equivalent to a worst performing circuit program, but isolated to overhead fused taps), and given the comparatively small number of customers impacted, will improve reliability at the circuit level thus improving the customer experience (a key element in achieving customer satisfaction), but will have no major impact on *system* reliability. *Id.* at 8 (emphasis added).

Mr. Cummings explained that Distribution Automation, on the other hand, strategically prepares the distribution system for managing distributed energy resources and loads, with the tactical benefits of improved reliability, enhanced safety and voltage management / associated energy conservation. *Id.* Mr. Cummings explained why extending these reliability improvement benefits to predict overall system reliability improvement on a quarterly or annual basis is difficult, if not impossible. *Id.* at 7-11; also IPL Witness JWC Attachments 4-R and 7-R.

2. Risk Based, Not Age Based. Mr. De Stigter testified that the risk-based approach used by IPL and Burns & McDonnell to identify the assets for replacement for the five Projects, prioritize the investments, and provide justification is based on a robust data-driven best practice methodology recognized by ISO and applied by utilities across Indiana and the United States. De Stigter Rebuttal at 15. He discussed the investment scenario alternatives considered in the Risk Model Report. *Id.* at 7-8. He testified that the results of the evaluation shown in the various risk grids (see Appendix 8.3), clearly show IPL's system has high risk assets and the need for proactive replacement. *Id.* at 15.

Mr. Williams stated that Mr. Stephens' mischaracterizes the approach IPL has taken to identify assets for replacement by calling it 'age-based'. Williams Rebuttal at 5. Mr. Williams said IPL's Plan is risk-based and is based on scoring of LOF and COF. Mr. Williams explained that age is only one component of the Risk Model. In assessing the likelihood of failure, the model utilizes asset age, as well as existing condition data to adjust the position of the assets on a survivor curve. He said the model also considers the criticality of the assets in order to score their overall risk. *Id.*; also IPL TDSIC Plan Appendix 8.3 at 20-24. He said this allows prioritization and prudent allocation of resources as different mitigations are applied to assets that have different consequences of failure and explained that he had used a risk model in previous cases in Indiana and other states. Williams Rebuttal at 5-6. Mr. Williams also explained that increasingly utilities are adopting asset management and risk management approaches where they are moving away from 'run to failure' towards risk-based asset management. *Id.* at 7-8.

Mr. De Stigter further explained that an age-based approach would replace all assets in an asset class when they reached a predetermined age. De Stigter Rebuttal at 7. He said a risk-based approach, in alignment with ISO 31000 and 55001, identifies assets for replacement based on their risk and location in the risk grid. *Id.* He stated that risk is defined as the LOF multiplied by the COF. *Id.* He stated that LOF is based on asset age, condition (when data is available), and estimated service lives and COF is based on a range of criteria, typically including safety, customer, environmental, financial, regulatory, and other system impacts. *Id.*

Mr. De Stigter also showed that an age-based approach could require significantly more investment over the next seven years. *Id.* at 8-10.

Mr. Shields clarified that IPL has not overlooked reliability concerns for a specific customer served by IPL's T&D system. Shields Rebuttal at 13-14. He explained that the IPL Risk Model identified a significant number of T&D assets for replacement in the area that serves the customer identified by Mr. Collins. Mr. Shields added that IPL has been working directly with its customer on action plans outside of the TDSIC Plan to further improve reliability in the area and added that these additional action plans are being implemented in 2019. *Id.*

3. Department of Energy ("DOE") Interruption Cost Estimator ("ICE" Calculator). In response to Mr. Alvarez's analysis of reliability improvements, Mr. Cummings explained that the DOE ICE tool supports two perspectives, estimating *either* interruption costs *or* the benefits associated with reliability improvements. Cummings at 12 (emphasis added). He explained that in the case of IPL's TDSIC Plan, the focus of the five Asset Replacement projects is on estimating interruption costs (*i.e.*, not reliability improvement) to quantify, in the absence of replacing aging assets, the effect of additional interruptions and a likely outcome in the event of a failed asset. *Id.*

4. Standard Industry Practice. In response to Mr. Stephens' statement that the industry practice is "to replace assets only as they fail", Mr. Cummings explained that this has been a standard approach in the past, but, consistent with effective asset management practices, the industry as a whole is trending towards a more proactive approach. Key factors driving this trend include: lower customer tolerance for unplanned outages (even during major storm events and independent of the number of customers affected); the mounting "bow wave" of assets with a high risk of failure, potentially resulting in more frequent extended outages (discussed by Mr. De

Stigter); and the addition of more distributed resources to the distribution system, resulting in more customers being isolated until restoration. *Id.* at 14. Mr. Cummings added that Mr. Stephens' testimony erroneously assumes that IPL will maintain a steady risk profile at current levels and focus of investments. *Id.*

Mr. De Stigter explained that proactive replacement aligns with the best practice asset management Witness Stephens promotes and is an active strategy employed by many utilities. De Stigter Rebuttal at 2, 3-5, 12-13. He added that Mr. Stephens' and Mr. Collins' characterization of the Burns & McDonnell approach is inaccurate; it is risk-based rather than being reliability-based or aged-based. *Id.* at 2, 6-9, 21-22. Mr. De Stigter explained that the Burns & McDonnell team he led performed a robust and detailed risk-based evaluation of the asset base including all power transformers, breakers, batteries, wood poles, primary, towers, and transmission conductor (see Section 3 of Appendix 8.3). *Id.* at 6-9, 14. He explained that the circuit assets were modeled at the span level providing a very granular level of detail for investment decision making. *Id.* He explained that the evaluation estimated a LOF for each of these assets based on the assets 'effective' age and survivor curves. *Id.* at 6-9, 14-15. He testified that asset health indices based on condition data were utilized to calculate 'effective' age for power transformers, breakers, and wood poles, a significant portion of the asset base (see Section 2.2 of Appendix 8.3). *Id.* at 15. He stated that the evaluation further factored in six different consequence categories with 15 total sub-categories to estimate the consequence of failure for each of these assets. *Id.* He added that the consequence categories are comprehensive including safety, customers, environmental, financial, system operations, and regulatory factors (see Section 2.3 of Appendix 8.3). *Id.* He said the risk-based evaluation then plots all the assets within the risk-grid providing the guidance for recommended investment strategy based on best practice asset management principles (see Section 4.0 of Appendix 8.3). He stated that the plan prioritizes investments to replace high-risk assets and provide the highest risk reduction per dollar invested (see Section 5.0 of Appendix 8.3). *Id.*

Mr. Shields also responded to Mr. Stephens' testimony regarding specific TDSIC Plan Projects and conditions. Shields Rebuttal at 14-21. Mr. Shields explained that Witness Stephens' rationale that double recovery should not be allowed is reasonable, he is mistaken as to the IPL/City of Indianapolis street light contract. *Id.* at 17. Mr. Shields explained that the cost of replacing a wood pole that fails inspection is not a cost the City pays under the contract. *Id.*

Mr. Shields also pointed out that Witness Stephens appears to assume (incorrectly) that the cost of replacement towers is currently included in IPL's TDSIC Plan Steel Towers Life Extension Project. *Id.* at 18. Mr. Shields clarified that this Project includes only the cost of the inspection and treatment of Steel Towers on IPL's transmission system as shown in IPL TDSIC Plan Section 6.11. *Id.*

With respect to the CBD Secondary Network Project, Mr. Shields explained that public safety is of paramount importance and was a primary driver in the Commission launching its previous investigation. *Id.* at 18-19. He said, notwithstanding IPL's reluctance to place a dollar value on health and safety, the CBD Secondary Network offers the benefit of providing public safety and maintains compliance with the direction from the Collaborative and therefore this Project should be approved. *Id.*; also IPL TDSIC Plan at 22.

Mr. Shields pointed out that Mr. Bentley's workpaper showed the TRIP Project has a benefit to cost ratio of 3.3 and is cost effective. *Id.* at 19. He said, this Project, calling for the inspection and mitigation of poorly performing taps in a targeted and deliberate manner, speaks to improving the customer experience, while proving to be cost justified. *Id.* Mr. Shields stated that Mr. Stephens' testimony that IPL provided no specific projects was not an accurate portrayal of the situation with this Project. *Id.* at 20. Mr. Shields explained IPL submitted 20 TRIP Class 2 estimates in its filing. *Id.* He added that since this project involves an "inspect and then mitigate" approach (similar to the Pole Replacement Project that Witness Stephens supports), prudence dictates that IPL key the scope of subsequent years on the most recent inspection review information. *Id.*

Mr. Shields explained there are several benefits relating to the Static Wire Performance Improvement and Substation Design Upgrades Projects, including: in replacing 3#8 Alumaweld static wire in a proactive manner, IPL is addressing a known poor performing component of its transmission system, the replacement of static wire with OPGW [Optical Ground Wire][6] represents a modernization effort that supports microprocessor relay protection type schemes, and the Substation Design Upgrades Project proactively addresses known system deficiencies in IPL's T&D system. *Id.*

He explained that in monetizing benefits to the TDSIC Projects in general, IPL's focus was on the customer experience. He added that since these Projects impact IPL's transmission system, the risk in deferring them is less about avoiding / eliminating customer interruptions and more about reducing the vulnerability of IPL's transmission system to an unplanned outage should one more event occur (*i.e.*, the rationale for establishing N-2 contingency). He said therefore, any customer impact (*i.e.*, the basis for monetizing the reliability-related benefits of a Project) represents a second-order effect (*i.e.*, two events would have to occur in tandem for a customer to experience an outage); and, consequently, the associated risk was not monetized. *Id.* at 20-21. He stated that failure to address the above-mentioned deficiencies though, places the IPL's system at risk, regarding transmission system reliability. *Id.*

5. Other Utility TDSIC Plans. Mr. Cummings addressed the relevance of comparing the level of investment of IPL's TDSIC Plan with the approved TDSIC plans for other Indiana utilities. Cummings at 4-5. Mr. Cummings stated that in applying risk as a key driver (defined as the product of likelihood and consequence of failure), not only does age and condition of specific assets come into play, the notion of the consequence of an asset failure plays a significant role in determining and prioritizing risk remediation efforts. *Id.* at 17. He said Indianapolis represents a comparably large population center with a wide range of customer categories (*i.e.*, residential, commercial and industrial) and corresponding increased expectations for safe and reliable service, which definitely increases the calculated consequences of any service interruption as compared to outages in other, perhaps larger, service territories. *Id.* He stated that the comparison by Mr. Collins focused on other factors (*e.g.*, larger service territories, heavier load, and less favorable reliability metrics) to suggest that IPL's funding request is out of proportion with other TDSIC plans approved by the Commission and ignores the effect of these potentially higher consequences. *Id.* at 17-18.

[6] See IPL TDSIC Plan at 57 for definition.

Mr. Shields testified that Mr. Collins' proposal that the IPL TDSIC Plan be spread over fourteen (14) years of work with two $600 million plans is completely arbitrary. Shields Rebuttal at 12-13. Mr. Cummings added that Mr. Collins' statements reflect a lack of understanding of the process invoked in assessing asset-related risk, while simultaneously laying the foundation for the integration of new technologies. Cummings at 14. He said a funding level of $600 million would force IPL to conduct suboptimal trade-offs between Age and Condition Projects (totaling approximately $1.0 billion in cost in IPL's TDSIC Plan) and those focused on Deliverability (totaling approximately $200 million in cost). *Id.* at 14-15. Mr. Cummings explained that even if IPL were to totally forego the Deliverability Projects (Distribution Automation and Substation Design Upgrades) which is not advisable, a significant gap would exist (approximately $400 million) in proactively addressing asset health related risks. *Id.* at 15. He added that in deferring these investments seven years (as inferred by Mr. Collins' recommendation), the likelihood of failure for these high-risk assets increases, and the resulting backlog creates even a greater challenge for years eight through fourteen. *Id.* He said Mr. Collins' statements regarding more moderate and less expensive plans also run counter to the approach in formulating a plan that optimizes the balance between mitigating risk, assuring safe and reliable service, and implementing the foundational elements for grid modernization. He said the current investment level of $1.2 billion reflects an iterative prioritization process, focused on meeting the objectives as specified in the TDSIC Statute. *Id.*

6. "Do Nothing Modeling Scenario". Mr. De Stigter also responded to claims made by Mr. Collins regarding the "Do Nothing" scenario in IPL's Risk Model. De Stigter Rebuttal at 15, 21. Mr. De Stigter testified that use of the "Do Nothing" scenario is appropriate; it represents the increased risk for the assets in the Asset Risk Model if no assets are replaced during the seven year planning period. *Id.* at 15-16. He said this provides a baseline for comparing investment scenarios and their impact to IPL's system risk. Mr. De Stigter further testified that using this approach is appropriate because few utilities, including IPL, have a long-term (5 to 10 year) baseline for capital improvements with specific projects. *Id.* at 16. Mr. De Stigter and Mr. Williams also explained that "Do Nothing" scenarios are routinely used to perform this type of analysis, the scenario is consistent, can be readily modeled, and is appropriate for use in creating risk reduction comparisons. *Id.*; Williams Rebuttal at 4-5.

Mr. De Stigter also explained that historical failure rates are not the best predictor of future asset failures, and the survivor curves incorporate historical asset failures. De Stigter Rebuttal at 2, 9-12. More specifically, Mr. De Stigter explained that using history as the guide for the future as urged by Mr. Stephens, ignores the fact that assets in a population do not last forever and will eventually reach the "Wear Out" period, regardless of how much maintenance has been performed. *Id.* at 10. Mr. De Stigter also explained that Mr. Stephens' assertions on how survivor curves are developed are inaccurate; the survivor curves do reflect retirements, which on many occasions were caused by asset failures as recorded in the property accounting record. *Id.* at 2, 9-12, 13-14. Mr. De Stigter added that the survivor curves are not based entirely on assumptions, they do incorporate actual failure data. *Id.* at 13-14.

C. Best Estimate.

1. Contingency and Inflation. Mr. Shields responded to Mr. Collins' claims regarding contingency included in IPL's cost estimates. Mr. Shields disagreed with Mr.

Collins' contention that IPL's cost estimates include a "large" contingency allowance. Shields Rebuttal at 5. He testified that IPL applied contingencies of 1-20% depending on complexity level, with most projects receiving a 10% contingency. *Id.* Mr. Shields testified that a 10% contingency is reasonable for T&D projects and is similar to contingencies used in other approved TDSIC filings. *Id.*

Mr. Williams added that including an allowance for contingency in construction project budgeting allows for uncertainties to be efficiently addressed as they occur rather than creating delays from the need to seek approval for additional funds. Williams Rebuttal at 2. He said inclusion of contingency is industry standard practice and added that IPL has included contingency consistent with the AACE cost estimating guidelines, based upon the technical complexity and the availability of appropriate cost reference information. *Id.* He added that, as discussed in Section 4.3 of IPL's TDSIC Plan, the degree of project definition was considered in determining the appropriate contingency. *Id.*

Mr. Shields also testified that including contingency in the cost estimate recognizes that unknown issues can arise in the implementation of any construction project. Shields Rebuttal at 8. He said given that it is industry standard to include contingency in estimating costs, the exclusion of contingency from the cost estimate would not establish the "best estimate" as required by the TDSIC Statute. Mr. Shields' explained why he disagreed with Mr. Collins' contention that approval of the Company's best estimate would cause the Company to relax its "cost discipline". *Id.* at 8-9. Mr. Shields concluded that the Company's best estimate should be approved. *Id.* at 8.

D. <u>Plan Benefits</u>.

1. <u>Monetization Analysis</u>. Mr. Cummings and Mr. De Stigter responded to the parties' misconceptions regarding IPL's monetization analysis. Cummings at 19-21; De Stigter Rebuttal at 16-19.

Mr. Cummings testified that the inference that the incremental benefits as presented by IPL are overstated and do not justify the proposed $1.2 billion of investment fails to recognize the full range of plan benefits. Cummings at 19-20. He explained that IPL adopted a portfolio perspective in formulating the TDSIC Plan, accounting for a host of quantitative and qualitative benefits across a comprehensive, integrated and inter-related group of thirteen (13) projects. *Id.* at 19. He stated that in combining this portfolio perspective with monetizing only those benefits most directly realized by IPL's customers (*e.g.*, prevention or reduction of customer interruptions, energy savings, and elimination of reactive work), and limiting the monetization to seven of the thirteen projects that define the TDSIC Plan, IPL avoided overstating (*i.e.*, double counting) the portfolio's economic value. *Id.* at 19-20. Mr. Cummings testified that of the seven "Benefit Categories" presented in Table 3.1 of IPL's TDSIC Plan, IPL only partially monetized portions of two for the five Asset Replacement Projects (Reactive Work and Customer and Small C&I Reliability). *Id.* at 20. He said IPL only partially monetized a subset of three for TRIP and Distribution Automation Projects (Reduced Maintenance and Reliability for TRIP and Reliability and Conservation Voltage Reduction for Distribution Automation). *Id.* Mr. Cummings explained that IPL maintained a conservative posture regarding cost factors for the partial list of monetized benefits. *Id.* He stated that IPL applied industry standard approaches in monetizing for reliability-related benefits, most notably the U.S. DOE ICE Calculator, which given the changing dynamic around customer

expectations is viewed as conservative in estimating the value a residential customer assigns to a service interruption. *Id.* Mr. Cummings maintained the position, stated in Section 3.1 of the Plan, that IPL's proposed TDSIC Plan provides benefits, both quantitative and qualitative, that far exceed the calculated monetized benefit-to-cost ratio. *Id.* at 21.

Mr. De Stigter also explained that the monetization analysis outlined in the risk monetization report, Appendix 8.11, does not consider all the benefit factors of replacing assets. De Stigter Rebuttal at 17. He said that the monetization report describes two subcategories of the consequence of failure framework outlined in the Asset Risk Model and is supplementary and subordinate to the Risk & Investment Assessment, Appendix 8.3. Mr. De Stigter explained that the risk monetization analysis does not factor in safety, environmental, system operations, or regulatory risk reduction benefits and should be read and understood only after reading and understanding Appendix 8.3. *Id.* at 18. He summarized that whereas Appendix 8.3 estimates risk as a score, Appendix 8.11 estimates risk in dollars. *Id.* at 18-19.

Mr. De Stigter also disagreed with Mr. Alvarez's statement that IPL "overstates the estimated customer savings benefits." *Id.* at 2, 22-23. Mr. De Stigter explained that Mr. Alvarez mischaracterizes IPL's analysis. *Id.* Mr. De Stigter explained that the assessment does not assume all the assets replaced as part of the Plan fail within the seven years. Rather, the analysis factors that some assets will not fail. *Id.*

Mr. Cummings explained that Mr. Alvarez's approach and supporting calculations ignore a TDSIC objective to replace those assets projected to perform poorly in the near future and ignores the customer experience during major outage events. Cummings at 23. Mr. Cummings explained that IPL's focus for establishing a baseline was on the full customer experience (*i.e.*, IPL included Major Event Days in its calculations), whereas Mr. Alvarez excluded the more costly and longer outage duration Major Event Days in his calculations. *Id*. at 22. Mr. Cummings stated that with Major Event Days included, equipment failures at IPL already account for 30 percent of the outages and is likely to increase without TDSIC. *Id.* at 22-23.

Mr. Cummings clarified that the savings attributed to reducing the cost of reactive work in IPL's monetization analysis (*i.e.*, the inefficiency factor for performing work in a reactive, unplanned manner) centers exclusively on the five Asset Replacement projects. *Id.* at 23. He said the specific assets identified for replacement were the result of applying the Model and the approach taken by IPL coincides with standard Asset Management practices where the probabilistic aspect of risk provides a valid basis for making asset-related decisions, and therefore demonstrates prudence in determining the appropriateness of proactively replacing critical assets. *Id.* at 23-24.

Mr. Cummings added that the majority of the interruptions on TRIP tap lines occur outside normal business hours and / or during adverse weather events. *Id.* at 24. He said restoration often involves tree trimming contractors, line construction contractors, and overtime for IPL employees. Therefore, the $50 million reduction in operating expenses over a 20-year period reflects adjustments in contract labor and reduced overtime, and the IPL employees typically assigned to reactive work will likely perform activities to support the maintenance, refurbishment, operation and replacement of assets. *Id.*

Mr. Cummings and Mr. De Stigter explained why the evaluation period of 20 years is reasonable. Cummings at 19-21; De Stigter Rebuttal at 19-20. In particular, Mr. Cummings explained that the 20 years of computed benefits represents a conservative window of continued customer benefits after the completion of the TDSIC-identified projects. Cummings at 19. He said the asset replacement and configuration changes related to these projects generally have expected lives in excess of 20 years. *Id.* He added that to suggest that customers can only benefit during the actual installation timeframe of new assets and capabilities, and that there is no residual benefit after installation defies logic. *Id.*

In response to Mr. Collins, Mr. De Stigter explained why the break-even point is not a concern. *Id.* at 19-20. He said the Plan's total net benefits (meaning total benefits outweigh total costs), occur within one year after the Plan's investment stops and for this reason, he is not concerned about the year payback period. *Id.* He added that every year after year eight increases the total net monetized risk benefits to a total of $658 million by year 20. *Id.* at 20. During cross-examination, Mr. De Stigter clarified that he modeled the capital costs being incurred as they may come. In other words, the break-even analysis is not an estimated revenue requirement because it did not reflect how the costs will actually be reflected in rate base and spread out over a 40-year period. He explained that if we were to re-perform the analysis and spread the investment over a 40-year period, the payback period would drop dramatically and likely be in the one to two-year range. TR. at C-20-21.

2. "Carrying Charges" And Nominal Vs. Present Value. Mr. Rogers explained why he disagreed with Mr. Alvarez's calculation of a $1.991 billion revenue requirement. Rogers Rebuttal at 3.

Mr. Cummings said he had not come across a situation where a benefit and cost comparison for a capital investment portfolio included the carrying charges to which Mr. Alvarez refers. Cummings at 25. That said, Mr. Cummings added that the net monetized benefit of $939 million (nominal) represented in IPL's TDSIC Plan (refer to Table 3.3 in the IPL TDSIC Plan) exceeds the $772 million (nominal) in carrying charges estimated by Mr. Alvarez. *Id,* Mr. Cummings also stated that when one accounts for the qualitative benefits that do not lend themselves to monetization (*e.g.,* improved customer experience and modernization), or additional quantifiable benefits (*e.g.*, safety and environmental) that IPL opts not to monetize, the gap between the total benefits and cost of the IPL TDSIC Plan only widens. *Id.* Thus, he stated that viewed from an overall Plan perspective, the combined contribution of all benefits (qualitative and quantitative) far exceeds these carrying charges.

Mr. De Stigter stated that Mr. Collins' contention that IPL's monetized benefits evaluation included only nominal figures is not accurate. Mr. De Stigter stated that Figure 3-3 of the Burns & McDonnell Risk Reduction Benefit Monetization Report (IPL TDSIC Plan as Appendix 8.11) shows both the nominal dollar figures and net present value of the monetized risk evaluation for five projects. De Stigter Rebuttal at 21. Mr. Cummings showed that on a present value basis, the total monetized benefits of $1.186 million exceed the TDSIC Plan cost of $944 million, for a net monetized present value benefit of $242 million. Cummings at 21.

3. Meter Replacement. Mr. Bentley disagreed with Mr. Alvarez's recommendation that the Meter Replacement Project should be rejected because it is not cost-

effective. Bentley Rebuttal at 8-9. He explained the proactive approach is both more efficient and avoids the risk of an unanticipated increase in rate of failure of the previously installed AMR meters. *Id.* citing TDSIC Plan Table 6.6.2. Mr. Bentley testified that the project will allow IPL customers to realize a savings of approximately $17.6 million, and will allow IPL to prepare for new and emerging technologies such as electric vehicle charging infrastructure and energy storage sooner, which will also benefit IPL's customers. *Id.* at 9; see also Shields Rebuttal at 21.

4. IBRC Economic Impact Estimate. Mr. Kinghorn explained that his study was not intended to be a broad cost benefit analysis. He explained that under a broad cost-benefit analysis, the cost associated with higher customer rates would be a factor, but so too would additional potential benefits, such as the value to customers of expected reliability improvements (*i.e.,* fewer/shorter service interruptions), energy conservation, etc. He said this type of broad cost-benefit analysis is outside the scope of a typical input-output analysis, which focuses exclusively on the degree to which the local economy in Marion County can expect to capture the expenditures associated with IPL's TDSIC Plan, as well as the magnitude of the ripple effects in the local economy related to these payments made to local businesses. Kinghorn Rebuttal at 2.

E. Annual Updates. In response to Mr. Collins, Mr. Shields explained that IPL does not seeks to erode the statutory safeguards in Section 9(g). Shields Rebuttal at 9-10. He reiterated that IPL plans to confer with stakeholders on the format and content of the annual update. *Id.*

F. Accounting and Ratemaking. Mr. Chad Rogers responded to the issues raised by OUCC Witness Blakley and Industrial Group Witness Collins regarding IPL's "rate impact analysis." Mr. Rogers clarified that IPL is not seeking approval of a revenue requirement in this Cause and the purpose of including Table 1 – Average Aggregate Increase in IPL's Total Retail Revenues – in his direct testimony was to demonstrate that IPL's TDSIC Plan does not result in an average aggregate increase in IPL's total retail revenues of more than two percent (2%) in a twelve (12) month period. Rogers Rebuttal at 2. He testified the calculation is only an estimate, and IPL will file an annual request for a TDSIC Rider under Section 9 in order to timely recover the actual revenue requirement based on actual project spend. *Id.*

Mr. Rogers also clarified that to increase administrative efficiency IPL plans to file an *annual* request for a TDSIC Rider under Section 9 rather than a semi-annual request as suggested in Mr. Collins' testimony. *Id.* at 4-5.

With respect to Witness Collins' concern that IPL used its return on equity approved in its most recent rate case in the analysis, Mr. Rogers reiterated that IPL is not seeking approval of a revenue requirement in this Cause. *Id.* at 2. He said his estimated revenue requirement properly used the authorized return on equity from IPL's most recent rate case and IPL's cost of debt and capital structure as accepted in IPL's most recent approved Environmental Compliance Cost Recovery Adjustment filing (Cause No. 42170-ECR32). *Id.* at 5.

Mr. Shields responded to Mr. Collins' statement that IPL does not propose to track cost savings that it may realize through the planned investments. Mr. Shields explained that IPL's TDSIC Plan focuses on risk reduction, reliability and new technologies. Shields Rebuttal at 21. He said these types of investments are not expected to result in IPL's overall O&M expense dropping,

but help mitigate ongoing increases in O&M. In other words, the projects are expected to reduce ongoing O&M as compared to what it would otherwise be. *Id.* He added that each TDSIC Project has an associated O&M expense component (*e.g.,* distribution transformers are capitalized upon receipt and the labor to install transformers are expensed at the time of installation). *Id.* Specific to metering, Mr. Shields explained that IPL currently operates an AMR system, which removed expense of reading meters manually at the time of the AMR installation. *Id.* He said, as a result, IPL's customers have already benefitted from the associated O&M savings. *Id.* He said, the proposed meter replacement project moves to the next generation technology (AMI) and the expected operational savings are less than what was achieved at the time IPL transitioned from manual to automated meter reading. *Id.*

Mr. Rogers explained why IPL will not recover income taxes on the same earnings twice as stated by Mr. Blakley and testified that IPL's treatment of federal income taxes in this case is consistent with the treatment IPL used in other Commission proceedings. Rogers Rebuttal at 6-9.

Mr. Rogers also testified he disagreed with Mr. Blakley's recommendation to amortize the $2.3 million in Plan Development Costs over the life of the assets, as opposed to a period of three years as IPL has suggested. *Id.* at 9-10. Mr. Rogers explained that the Plan Development Costs relate to the overall preparation and activities involved with developing and presenting the Plan for approval by the Commission, and are not fully identifiable to a specific capital project. *Id.* at 9. He testified Mr. Blakley's position therefore does not properly recognize the nature of the costs and a three-year period has the benefit of reducing the amount of carrying costs on the deferral. *Id.* at 9-10.

Mr. Rogers disagreed with Mr. Blakley's recommendation that the retirement of replaced assets be recognized as a reduction in depreciation expense in IPL's TDSIC tracker and explained that Mr. Blakley's recommendation conflicts with the Commission's past decision on the issue in Cause No. 44371. Rogers Rebuttal at 10. Mr. Rogers added that Mr. Collins is correct that IPL does not propose an adjustment to eliminate the return on the replaced assets. *Id.* at 11. Mr. Rogers explained that the Commission's May 7, 2014 Order on Petition for Reconsideration in NIPSCO, Cause No. 44371 and the Indiana Court of Appeals Conclusion in Cause No. 93A02-1403-EX-158 support not making an adjustment to eliminate the return on the replaced assets. *Id.* Mr. Rogers noted that OUCC Witness Blakley explained (page 5) in his testimony: "The Commission's Order in Cause No. 44182 confirms that the appropriate accounting treatment of plant retirements is to debit the original cost of the replaced asset to the accumulated depreciation account and to credit that amount to the plant account. Thus, as the Commission stated, this 'has no effect on rate base,' therefore the new investment does not need to be lowered in the calculation of return in the tracker." *Id.*

Finally, Mr. Rogers disagreed with Mr. Collins' characterization of the amounts in Table 1 of his testimony as historical "IPL Transmission and Distribution Rate Base. *Id.* at 15-16.

G. <u>Other Matters</u>. In response to the concerns raised by Mr. Olson, Mr. Bentley testified that concerns over radio frequency exposure are not new and have been studied by a wide variety of health organizations over the years. Bentley Rebuttal at 6. He said smart meters emit a low level of radio frequency energy that is both Federal Communications Commission-approved and lower than the level of Radio Frequency energy emitted by many other

devices that are used daily by millions of people, such as cell phones and microwave ovens. *Id.* at 6. He said the World Health Organization and American Cancer Society have found that low level, non-ionizing radiation, such as that produce by a smart meter is not directly associated with damage to human DNA. *Id.* With respect to privacy concerns, Mr. Bentley testified that no customer identity information is transmitted from the AMI meter, and only meter readings and electrical quantities are transmitted over the network. *Id*. at 6-7. He said IPL's existing AMR/AMI network security suite is built and certified by IPL's AMR/AMI meter supplier to meet or exceed US government and international standards. *Id.*

Mr. Bentley testified that IPL began installing smart meters almost 20 years ago. *Id.* at 5, 7. He explained that smart meters are a very important step to improving the delivery of electricity for consumers. *Id.* at 7. He explained that working as a part of the smart grid, smart meters improve power outage detection, resulting in faster restoration and improved status notification to the customer and added that smart meters help create a more efficient, more reliable, and better quality of service for customers. *Id.* at 7. Mr. Bentley said AMI meters will allow IPL to manage the grid and provide improved accommodation for distributed generation such as solar and wind, as well as be better able to meet increased adoption of storage and electric vehicles in the future. *Id.*

He said an opt-out program would require IPL to use outdated meters, would be burdensome and costly, as it would ultimately lead to the creation of special routines to read meters, provide less outage information to customers and the utility, and increase costs to dispatch meter-readers. *Id*. Mr. Bentley suggested that if the Commission desires to further explore these matters, it has the ability to initiate a rulemaking, which would allow the issue to be adequately assessed and addressed on an industry-wide basis. *Id*.

Mr. Bentley stated that while there are many customer benefits associated with smart thermostats and additional AMI enabled rate designs, the recommendations made by Mr. Sandoval are outside the scope of IPL's TDSIC Plan and the TDSIC statute. *Id.* at 8. He added that IPL is willing to discuss the enhancement of the smart thermostat program with the DSM Oversight Board and that IPL is also willing to consider whether a pilot would be beneficial and to seek stakeholder input but stated however, it is premature to impose requirements at this point. *Id.* With respect to Mr. Sandoval's recommendation that a stakeholder process be initiated to discuss using AMI and how the data can be used and accessed, Mr. Bentley reiterated that a Commission rulemaking would be a better approach because it would allow the issue to be assessed and addressed on an industry-wide basis. *Id*.

With respect to Mr. Sandoval's recommendations regarding IDP, Mr. Bentley stated that a comprehensive statewide study regarding IDP is already underway, as the Indiana Legislature passed a bill in the 2019 Session requiring the Commission to initiate a comprehensive study that includes the impacts of new and emerging technologies for generation of electricity, including the potential impact of such technologies on local grids or distribution infrastructure. Bentley Rebuttal at 9. Mr. Bentley explained why the transition to IDP is not something that needs be addressed within the context of the TDSIC case, and added that imposing new and unique IDP requirements on IPL now when the Commission is considering statewide requirements is inappropriate. *Id.* at 10. Mr. Cummings rebutted the notion that a full-fledged IDP process is required to comply with, or for that matter applies to the TDSIC Statute, explaining that any such process would necessarily address the challenges of aging infrastructure and would incorporate a risk-based approach similar

to that described in the IPL's TDSIC Plan. Cummings at 6. He said the Plan certainly incorporates elements that would constitute the preliminary aspects of IDP but extending its scope to address a vastly expanded vision, is risky and by his interpretation, outside the purview of the TDSIC Statute. *Id.*

With respect to Mr. Sandoval's recommendations regarding performance metrics and reporting, Mr. Bentley pointed out that Mr. Sandoval does not articulate why his proposed metrics should be tracked and he fails to consider the resource and cost considerations of such efforts. Mr. Bentley stated that the Company has a well-established asset management framework and already reports performance metrics, which were established through a stakeholder collaborative discussion conducted in accordance with the Commission order in Cause No. 44576. Bentley Rebuttal at 13-14. Mr. Bentley stated that if the Commission concludes there is a need to proceed with Mr. Sandoval's proposal, the Commission should structure such regulatory requirements through the context of IPL's existing Collaborative, established in Cause No. 44602, so as to mitigate the cost thereof. *Id.* at 14. Mr. Bentley added that the performance-based regulation issues of interest to Mr. Sandoval are not limited to IPL but affect other utilities as well. *Id.* Mr. Bentley stated that while smaller forums or collaboratives may be better suited for an initial exploration of issues, the Commission has generally convened rulemakings or other generic proceedings to assess matters affecting the utility industry at large. *Id.*

10. Commission Discussion and Findings.

Indiana Code §8-1-39-10 establishes the statutory criteria we are to utilize in evaluating whether IPL's TDSIC Plan[7] should be approved. Section 10(b), in particular, sets forth three conclusions we must reach before we can approve a TDSIC plan. That statutory provision requires that we make specific, and separate, findings based on the record evidence. Namely:

(1) A finding of the best estimate of the costs of the eligible improvements included in the plan.
(2) A determination whether the public convenience and necessity require or will require the eligible improvements included in the plan.
(3) A determination whether the estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan.

We must also conclude that the plan is "reasonable" before we may approve the plan and authorize "TDSIC treatment" for "eligible transmission, distribution, and storage system improvements."

In this proceeding various parties challenged whether some of the 13 proposed Projects should be included in any approved TDSIC plan. No party, however, challenged that the list of Projects and specific system improvements proposed by IPL, set forth in Confidential Appendix 8.7 to Attachment BJB-2, failed to meet the definition of "eligible transmission, distribution, and storage system improvements" under Indiana Code §8-1-39-2. Nor did any party challenge that

[7] Provided as Attachment BJB-2 to Mr. Bentley's Direct testimony.

Attachment BJB-2 fails to meet the minimum requirements of a "TDSIC plan" under Indiana Code §8-1-39-7.8. We conclude that in the absence of a challenge to these statutory criteria, IPL has met its minimum burden of proof to establish that its proposed Projects and individual investments meet the definition of "TDSIC plan" under Indiana Code §8-1-2-7.8. [8]

As noted above, Section 10(b) of the TDSIC Statute requires we make specified findings regarding a proposed TDSIC plan including that the utility has presented a "best estimate" of the costs of improvements, that the "public convenience and necessity" require the improvements, and that the "estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan." Each of these criterion must be satisfied in order for the Commission to approve a TDSIC plan, and in the event the utility cannot meet any one of the criteria the proposed TDSIC plan cannot be approved.

The Indiana Supreme Court has made clear that we must "meaningfully apply the Statute's cost-benefit guideposts" during a Section 10 plan approval case, and that doing so "requires the Commission to determine whether the estimated costs of the improvements are justified by their incremental benefits." *See NIPSCO Industrial Group v. Northern Indiana Public Service Co.*, 100 N.E.3d 234, 242-243 (Ind. 2018).

The reason for this requirement is clear. In the context of traditional ratemaking the Commission has the opportunity to review capital investments after they are in service for their prudence and cost effectiveness and has the opportunity to disallow excessive or unreasonable expenditures. *See*, *Indiana-American Water Co. v. Office of Utility Consumer Counselor*, 844 N.E.2d 106, 116 (Ind. Ct. App. 2005); *Citizens Action Coalition v. Northern Indiana Public Service Co.*, 485 N.E.2d 610, 614-15 (Ind. 1985), *cert. denied*, 476 U.S. 1137 (1986). Here, however, as in the case of tracking mechanisms, we are preapproving planned system work, and pursuant to Indiana Code §8-1-39-9(a) the TDSIC Statute allows costs to be recovered from customers up to the approved estimates. This shifts risk from IPL to its customers, both with

[8] This statute requires that a "TDSIC Plan" be between five and seven years in length and be comprised of "eligible transmission, distribution, and storage system improvements" a term of art defined in Indiana Code §8-1-39-2. We note that Indiana Code Chapter 8-1-39 was revised in 2019 by House Enrolled Act 1470 and now only requires that eligible improvements under Section 2 be "described" for purposes of inclusion in a TDSIC Plan.

IPL's TDSIC Plan, set out in Attachment BJB-2, at least "describes" the 13 Projects included in the Company's plan, as well as individual planned investments to be undertaken by IPL over the course of its proposed seven-year TDSIC Plan. The exhibit identifies not only the broader Projects, but Confidential Appendix 8.7 to Attachment BJB-2 sets out a list of the proposed investments to be undertaken in each plan year by Project as well as the proposed capital cost. This description, together with the testimony of IPL's witness Rogers, at least allows us to be assured that the projects were not included in IPL's rate base at the time of its last rate case. *See Rogers Direct* at 3, 5.

Because we address the approval of IPL's TDISC Plan with regards to the incremental benefits criterion under Section 10(b), we make no finding as to whether IPL's evidentiary submission is sufficient to allow us to assess the Plan against the "best estimate" and "public convenience and necessity" requirements of Section 10(b). Nor do we make any finding with respect to the Plan's sufficiency overall. *See NIPSCO Industrial Group v. Northern Indiana Public Service Co.*, 31 N.E.3d 1 (Ind. App. 2015) (rejecting offered plan as inadequate when detail was insufficient to evaluate plan under Section 10(b) criteria).

respect to the rate impacts associated with the system improvements and with respect to the anticipated benefits from the improvements.

This case, then, is the opportunity for the Commission to determine the costs and benefits of the planned projects included in IPL's TDSIC Plan and Section 10(b)(3) operates as a substitute for the prudence review and potential cost disallowance under traditional ratemaking. We note that although portions of the TDSIC Statute were amended in 2019, Section 10(b)(3) was not. There is nothing, then, to suggest this critical ratepayer protection was undone by the legislature, and we will continue to diligently apply the cost benefit criterion.

Here, IPL has not demonstrated or quantified the incremental benefits associated with the Company's TDSIC Plan. IPL's presentation did not analyze the reliability improvements achieved through the Plan using established methods to measure system reliability such as SAIFI or SAIDI. Instead, the Company repeatedly emphasized that its Plan is focused on "risk reduction", and "maintain[ing] system reliability" rather than enhancing reliability. *IPL Proposed Orde*r at 34-35. IPL, accordingly, argues that its Plan will result in a 36.6% reduction in risk, but this does not address the level of incremental service improvement to be achieved as a result of a planned investment of $1.2 Billion over the next seven (7) years.

This reduction in risk is measured against a "do nothing" scenario. While a "do nothing" scenario may be convenient for the purported purpose of establishing a baseline upon which to estimate alleged benefits of the Plan, it simply does not reflect realistic operations. Even without a TDSIC plan, we would expect IPL to be making system investments in accordance with prudent management practices and its obligation to provide safe, adequate and reliable service. Mr. Bentley, in fact, testified at the hearing that IPL is already making significant, annual, capital investments in its transmission and distribution systems. Further, as Mr. Collins testified, IPL is already taking defined steps such as increased budgets for tree-trimming that will address what IPL described as the leading cause of outages. *Collins Direct* at 10-11. Thus, we cannot view IPL's system in a vacuum for the purposes of measuring risk reduction when we know, inherently, that the Company will already address reliability, safety, and risk reduction through its ongoing investment outside of the proposed Plan.

IPL attempts to monetize the value of the proposed Plan by asserting a net benefit value of $938 million over the course of the next 20 years. IPL's monetization analysis is seriously flawed in that it did not adjust the calculated benefits to the present value. Doing so, by IPL's own calculation, lowers the claimed benefits from $938 million to $242 million — a 74.2% reduction. *Cummings Rebuttal* at 21. Likewise, the view of benefits to be realized over a 20-year horizon, when Plan expenditures will be undertaken during the 7 years of the Plan, represents a mismatch. IPL analyzes the benefits "out of phase" with the incurred costs, raising serious questions about asking today's customers to pay for benefits that will ultimately only be realized by future generations of customers. Indeed, IPL's own analysis shows that the Plan's calculated benefits will not exceed the costs until at least one year after the conclusion of the Plan when "benefits are not burdened by costs." *De Stigter Rebuttal* at 20. But costs will continue to be incurred as IPL

continues investments in its system, continues to collect costs related to the Plan over the life of the improvements made, and the analysis further assumes that there will be no changes to the Projects or costs over the course of the Plan. Thus, IPL has not shown that net benefits will result from the Plan.

IPL fully acknowledges that, even if approved and completed, its proposed Plan will not eliminate risk on the system. There is no guarantee "risky" assets will not fail even if they are replaced. Using IPL's definition where Risk = Likelihood of Failure X Consequences of Failure, the best that can be said is that under IPL's "risk reduction" plan, while the likelihood of failure may be reduced, the "consequences of failure" will remain even if the Plan is fully approved and all the proposed investments are made. In other words, risk remains.

This reality underscores another difficulty with IPL's analysis by opening the door to long-term consequences. Using IPL's analysis, investment would reach a point of diminishing return as more and more capital is invested to produce a smaller and smaller level of risk reduction. IPL's efforts to meet the Section 10(b)(3) requirement by emphasizing risk reduction, are thus misdirected as it is effectively arguing that any investment that reduces risk justifies the expenditure. But that cannot be true. Risk will always remain, and adopting "risk reduction" as a substitute for incremental benefits will, therefore, forever justify further expenditures regardless of the magnitude of costs invested or the progressively smaller service improvements or risk reduction achieved.

We further note that IPL's proposed TDSIC Plan is not consistent with the circumstances of its system. IPL has a strong history of performance in established reliability metrics among peer utilities in Indiana and across the nation. It has touted that fact in Commission proceedings and to the public. *Collins Direct* at 7-10. IPL acknowledges that investments are already being made to maintain, and even improve, that reliability. IPL asserts concern that its reliability metrics are slipping, but now IPL requests approval of $1.2 Billion in capital investment without demonstrating any enhancement to its existing system reliability as a result of that investment.

IPL's proposed TDSIC Plan is on a comparative dollar magnitude to plans approved, pursuant to settlements, for larger and more diverse electric systems with different reliability metrics. We recognize that all utility systems are different and face different challenges so that benchmarking IPL's proposed TDSIC Plan has its limits. This applies to the analysis on the part of Consumer Parties, but also to IPL's analysis which relies heavily on assessing the reasonableness of its Plan against approved plans for other electric utilities without taking into account the circumstances under which those plans were approved — namely as settlements with extensive ratepayer protections.

That said, it is nevertheless, reasonable to consider that IPL's proposed Plan is, financially, comparable to Duke's (the largest investor owned utility in Indiana) and NIPSCO's (the investor owned utility with the largest concentration of heavy industry in Indiana). It is, no matter the challenges imposed by operating in an urban center, difficult to conclude a comparably sized plan

is appropriate. In addition, compared to the base rate increases approved in IPL's two most recent rate cases, $29.6 million and $43.9 million, the TDSIC Plan here calls for an estimated annual revenue requirement of $115.3 million by the final year. That, of course, is assuming a range of factors, including that that no new projects are added over the life of the plan, and that costs do not change. There is no certainty of any of the presumptive conditions that went into IPL's calculations, done primarily to illustrate the Plan will remain below the 2% statutory cap, will remain the same over the course of the Plan. We thus recognize that $115.3 million annual revenue requirement could fluctuate.

Regardless of any fluctuation, this is a significant burden to be imposed on customers. In evaluating that burden, we are mindful that while the TDSIC Statute was enacted in part to encourage investment in utility infrastructure, the General Assembly has also established that it is the policy of the state that while pursuing infrastructure investment, we do so "while protecting the affordability of utility services for present and future generations of Indiana citizens." Indiana Code §8-1-2-0.5.

Faced with a utility that has an established track record of providing reliable service, unconvinced that the risk reduction analysis is an appropriate lens through which to measure the "incremental benefits" of a TDISC plan, and concerned with the consequences for affordability associated with IPL's plan, we find that the Company has not met its burden under Indiana Code §8-1-39-10(b)(3) to demonstrate that the "estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan." We therefore conclude that IPL's TDSIC Plan does not satisfy the cost-justification requirement and, hence, cannot be approved.

In doing so, however, we are not foreclosing the approval of a future TDSIC plan submitted by IPL. The policy of the state is to pursue necessary infrastructure investment and the TDSIC is a tool by which a utility may pursue that policy. Nevertheless, we encourage IPL to consider the contents of this Order, and the positions taken by other parties to this case, before submitting another TDSIC plan for approval. We further encourage IPL to review closely the protections afforded in approved plans and to actively work to integrate, with clarity, those protections prior to any subsequent filing.

In light of the determination that IPL's TDSIC Plan, as proposed, does not meet the cost-justification requirement under Indiana Code §8-1-39-10(b)(3), the Commission need not make findings with respect to the other statutory considerations. In particular, the Commission is not deciding whether particular components of the Plan as presented that were challenged by other parties would be appropriate to include in any revised Plan; whether the cost estimates reflect a reasonable contingency allowance; whether the Plan update process envisioned by IPL complies with the cost increase provisions of Indiana Code §8-1-39-9(g); whether depreciation should be netted when assets are replaced; and whether IPL's other accounting treatment (such as the request to recover initial Year One costs and plan development costs) should be approved.

11. Other Matters.

A. Confidentiality Findings. IPL filed a Motion for Protection and Nondisclosure of Confidential and Proprietary Information on July 24, 2019, which Motion was supported by affidavits showing documents and workpapers to be submitted to the Commission were confidential, proprietary, competitively-sensitive and trade secret information within the scope of Ind. Code §§ 5-14-3-4 and 24-2-3-2. The Presiding Officers issued a Docket Entry on August 7, 2019 finding such information to be preliminarily confidential, after which such information was submitted under seal. There was no disagreement among the parties as to the confidential and proprietary nature of the information submitted under seal in this proceeding. We find all such information is confidential pursuant to Ind. Code §§ 5-14-3-4 and 24-2-3-2, is exempt from public access and disclosure by Indiana law and shall be held confidential and protected from public access and disclosure by the Commission.

B. Administrative Notice of Workpapers. On the third, and last day, of the evidentiary hearing in this Cause, with a single witness left to be subject to cross-examination, IPL moved for the admission of approximately 200 workpapers. The OUCC, Industrial Group, and City of Indianapolis orally objected on the record on the grounds that the request was untimely and would be a prejudicial supplementation of IPL's case. *Tr.* at E-7 to E-8. The Commission took the issue under advisement. *Tr.* at E-6 to E-9. In its post-hearing submissions, IPL repeated arguments made at the hearing that the material should be included as it was not untimely submitted and there would be no prejudice because the material had been available to all parties since IPL filed its case in July, 2019, and further that inclusion was appropriate given prior appellate treatment of TDSIC matters. *Compare Proposed Order* at 37 *with Tr.* at E-9. The OUCC, Industrial Group, City of Indianapolis, now joined by the CAC and ELPC, filed a separate written response to that portion of IPL's proposed order.

The Commission's rules regarding when requests for Administrative Notice such as IPL's should be made. 170 IAC 1-1.1-21(j) clearly and unequivocally states: "A request by a party for administrative notice of a factual matter that should be included in the party's prefiled testimony shall be made at the same time the related evidence is prefiled."

Here IPL clearly intends the workpapers to provide needed evidentiary support for key elements of its proposed TDSIC Plan including the cost estimates, monetization analysis and Risk Modeling. *Proposed Order* at 37. Indeed, in its supporting brief filed with its Proposed Order, IPL stated that its "exhibits and workpapers provide the information necessary for the Commission and the parties to conduct an independent review of the estimated costs." *IPL Brief* at 4. As material providing "necessary" information to allow the Commission to conduct its review of IPL's case, the material contained in the workpapers should have been included in IPL's evidentiary submission. We cannot review it otherwise for purposes of rendering our decision because as workpapers they have no evidentiary value.

We agree, further, with the Consumer Parties, that they would be prejudiced by inclusion of the workpapers in the record at this time. All parties proceeded with the understanding that IPL's TDSIC Plan is comprised of a single document, Attachment BJB-2. To let IPL supplement

the record at this late hour with additional material would deprive the other parties of a reasonable opportunity to challenge IPL's case.

Because IPL's request is untimely and because granting it would deny the other parties due process, we deny IPL's motion for administrative notice.

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

1. IPL's seven year TDSIC Plan is denied for the reasons set forth herein.

2. All other requests made by IPL in this proceeding are denied at this time. All Parties shall have the right to re-litigate any issue should IPL file a new case seeking approval of a revised TDSIC plan.

~~2.~~3. The information filed by IPL in this Cause pursuant to its Motion for Protective Order is deemed confidential pursuant to Indiana Code §§ 5-14-3-4 and Code 24-2-3-2, is exempt from public access and disclosure by Indiana law, and shall be held confidential and protected from public access and disclosure by the Commission.

~~3.~~4. This Order shall be effective on and after the date of its approval.

HUSTON, FREEMAN. KREVDA, OBER AND ZIEGNER CONCUR:

APPROVED:

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

_____

Mary M. Becerra,
Secretary to the Commission

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF INDIANAPOLIS POWER & LIGHT COMPANY FOR APPROVAL OF IPL'S TDSIC PLAN FOR ELIGIBLE TRANSMISSION, DISTRIBUTION, AND STORAGE SYSTEM IMPROVEMENTS PURSUANT TO IND. CODE § 8-1-39-10.	**)**	**CAUSE NO. 45264**

ORDER OF THE COMMISSION

Presiding Officers:
David E. Ziegner, Commissioner
Jennifer L. Schuster, Administrative Law Judge

On July 24, 2019, Indianapolis Power & Light Company ("Petitioner," "IPL" or "Company") filed its Verified Petition together with its verified direct testimony and attachments, and submitted its workpapers. The following witnesses provided testimony in support of IPL's case-in-chief:

- Barry J. (Joe) Bentley, AES US Vice President, US Utilities Operations
- James (Jim) William Shields, Jr., IPL Director of TDSIC Plan Development
- Jason D. De Stigter, Business Lead, Capital Asset Planning Utility Consulting for Burns & McDonnell Engineering Company, Inc. ("Burns & McDonnell")
- William D. Williams, Associate Vice President in Asset Management Practice of Black & Veatch Corporation ("Black & Veatch")
- Matthew R. Kinghorn, Senior Research Analyst, Indiana University Business Research Center
- Chad A. Rogers, IPL Senior Program Manager, Regulatory Affairs

Petitions to Intervene were filed on July 26, 2019, by Citizens Action Coalition of Indiana, Inc. ("CAC") and by an ad hoc group of industrial customers ("IPL Industrial Group" or "IG"). Each petition to intervene was granted by docket entry dated August 7, 2019.

On July 30, 2019, the Presiding Officers issued a docket entry requesting an agreed procedural schedule in this Cause. On August 6, 2019, the parties filed a Stipulation and Agreement in Lieu of Prehearing Conference which was approved by docket entry dated August 7, 2019.

On August 2, 2019, the Indiana Office of Utility Consumer Counselor ("OUCC") and CAC filed a Joint Motion to Establish Multiple Field Hearings. The Presiding Officers granted the Joint Motion by docket entry on August 5, 2019, and public field hearings were held in this Cause on September 3, 2019 and September 10, 2019 in the City of Indianapolis, the largest municipality in

Petitioner's service territory. At the field hearings, members of the public made statements to the Commission under oath.

On September 13, 2019, the City of Indianapolis, Indiana ("City") filed a Petition to Intervene, which was granted by docket entry dated September 25, 2019.

On September 30, 2019, the Environmental Law & Policy Center ("ELPC") filed a Petition to Intervene, which was granted by docket entry dated October 10, 2019.

On October 7, 2019, the OUCC and Intervenors filed their respective testimony and attachments. The OUCC initially submitted testimony from the following witnesses:

- Brian R. Krieger, Utility Analyst–Natural Gas Division, OUCC
- Wes R. Blakley, Senior Utility Analyst, OUCC

At the evidentiary hearing, the OUCC withdrew the testimony of OUCC Witness Krieger.

The IPL Industrial Group provided testimony from the following witness:

- Brian C. Collins, Principal, Brubaker & Associates, Inc.

CAC and ELPC provided testimony and attachments from the following witnesses:

- Kerwin L. Olson, Executive Director, CAC
- Ronny Sandoval, President, ROS Energy Strategies, LLC

The City provided testimony and attachments from the following witnesses:

- Paul J. Alvarez, President, Wired Group
- Dennis Stephens, Senior Technical Consultant, Wired Group

On October 23, 2019, IPL filed its rebuttal testimony and attachments. The following witnesses filed rebuttal testimony on behalf of IPL:

- Barry J. (Joe) Bentley
- Jason D. De Stigter
- Jeffrey W. Cummings, Senior Vice President of UMS Group
- William D. Williams
- Matthew R. Kinghorn
- James (Jim) William Shields, Jr.
- Chad A. Rogers

The Commission commenced the evidentiary hearing in this Cause at 9:30 a.m. on November 14, 2019 and continued the hearing on November 21 and 22, 2019, in Hearing Room 222, 101 W. Washington Street, Indianapolis, Indiana. At the hearing the evidence was heard. IPL, the OUCC, CAC, IG, the City and ELPC appeared at and participated in the hearing. No members of the general public attended the hearing.

Based upon the applicable law and evidence presented the Commission finds:

1. Notice and Jurisdiction. Notice of the hearing in this Cause was given and published by the Commission as required by law. Petitioner is a "public utility" under Ind. Code §§ 8-1-2-1 and 8-1-39-4. Under Ind. Code ch. 8-1-39, the Commission has jurisdiction to approve a public utility's plan for eligible transmission, distribution, and storage improvements ("TDSIC Plan" or "Plan"). Ind. Code § 8-1-2-23 also provides Commission authority to approve improvements to utility facilities. Therefore, the Commission has jurisdiction over Petitioner and the subject matter of this proceeding in the manner and to the extent provided by Indiana law.

2. Petitioner's Characteristics. IPL is a corporation organized and existing under the laws of the State of Indiana, with its principal offices at One Monument Circle, Indianapolis Indiana. IPL is engaged in rendering electric service in the State of Indiana, and owns and operates plant, equipment and related facilities within the State of Indiana that are in service and used and useful in the generation, transmission, distribution and furnishing of such service to the public.

3. Requested Relief. IPL requests approval of its TDSIC Plan pursuant to Ind. Code § 8-1-39-10(a). IPL's TDSIC Plan proposes seven years of defined investment totaling $1.2 billion, to replace, rebuild, upgrade, redesign and modernize a wide range of IPL's aging transmission and distribution ("T&D") system assets in two thematic areas: *Age and Condition* and *Deliverability*. The IPL TDSIC Plan consists of the following thirteen (13) Projects:[1]

AGE AND CONDITION

1. Circuit Rebuilds
2. Substation Assets Replacement
3. XLPE Cable Replacement
4. 4 kV Conversion
5. Tap Reliability Improvement Projects
6. Meter Replacement
7. Central Business District ("CBD") Secondary Network Upgrades
8. Static Wire Performance Improvement
9. Remote End - Breaker Relay/Upgrades
10. Pole Replacements
11. Steel Tower Life Extension

[1] The IPL TDSIC Plan is IPL Exhibit 2 in the record of this Cause and was included as Attachment BJB-2 to the Direct Testimony of Mr. Bentley. As shown by the table of contents included with the Plan, this document provides relevant background, summarizes the Plan and includes a narrative discussion of each TDSIC Plan Project. This document explains how the Plan was developed and assessed, including the risk modeling and the risk reduction benefit monetization analysis. The TDSIC Plan discusses IPL's use of independent engineering firms to assist and validate its planning effort. The TDSIC Plan also explains how the cost estimates were developed. The TDSIC Plan includes numerous appendices, including the Burns & McDonnell Risk Model Report, Black & Veatch's Cost Estimate Review and Validation Report created from their review of IPL's cost estimates, Black & Veatch's report on their technical review of the Burns & McDonnell Risk Model, the Burns & McDonnell Risk Reduction Benefit Monetization Report, and the Economic Impact Assessment prepared by the Indiana Business Research Center, Kelley School of Business, Indiana University.

DELIVERABILITY
12. Distribution Automation
13. Substation Design Upgrades

Both categories support IPL's ability to maintain and operate the grid in a safe, reliable and efficient manner. *Id.* at 9.

4. IPL's Evidence.

A. Overview. Barry J. Bentley, AES US Vice President, US Utilities Operations, which includes IPL, explained that IPL has developed a seven year TDSIC Plan that focuses on improving service for customers in a cost-conscious manner through projects that also modernize IPL's system and support economic development. Bentley Direct at 7. He said the TDSIC Plan also addresses grid resiliency and explained that a hardened and resilient grid can better withstand the impact of weather and is easier to restore when outages inevitably occur. *Id.* Mr. Bentley added that the TDSIC Plan provides a structured and proactive means for capital investment of $1.2 billion over the Plan period and identified the Plan capital costs by year. Bentley Direct at 7-8. Mr. Bentley explained that systematic investment in IPL's energy delivery system allows IPL to better utilize capital dollars, realize economies of scale, and promote efficiency through better planning of workflow and resources, all of which benefits customers. *Id.* at 9.

B. TDSIC Plan Development and Projects. James William Shields Jr., IPL Director of TDSIC Plan Development, supported the project details and explained how the TDSIC Plan was developed. In particular, Mr. Shields explained that to develop the proposed TDSIC Plan, IPL conducted an iterative process to prioritize system needs and determine how to best address aging infrastructure while also building a modern grid that is ready and able to meet today's demands as well as the demands of the future. Mr. Shields testified that IPL engaged a third-party consultant, Burns & McDonnell Engineering Company, Inc. to model and prioritize investments ("Risk Model"). He noted that the Risk Model is described and supported by IPL Witness De Stigter. Mr. Shields testified that to provide further rigor to the analysis, IPL engaged Black & Veatch Corporation to review the Risk Model, validate the cost estimates, and otherwise assist in the TDSIC Plan development. Mr. Shields also discussed how IPL considered plan feasibility in developing the scope and schedule of the proposed improvements. Shields Direct at 3-4, 6-8.

Mr. Shields stated that while the Plan does not include any "targeted economic development projects" as that term is used in the TDSIC Statute, energy delivery infrastructure remains important to the communities in which IPL provides retail service and the Plan supports economic development in IPL's service area. Shields Direct at 5. Mr. Shields added that the TDSIC Plan capital investment will require contract labor and other resources over the Plan period and this too has a positive economic impact. *Id.*

Jason D. De Stigter, Business Lead, Capital Asset Planning Utility Consulting for Burns and McDonnell Engineering Company, Inc., explained that Burns & McDonnell utilized a risk-based assessment of the electric transmission and distribution system to help identify high-risk assets and identify projects to be included in its TDSIC Plan. De Stigter Direct at 4. He said that Burns & McDonnell utilized an approach similar to that used in other TDSIC proceedings. *Id.* He

said the approach is based on the ISO 31000 framework for risk management and the ISO 55001 standard for asset management practices. *Id.*

Mr. De Stigter testified that Burns & McDonnell developed a Risk Model for all critical substation and circuit assets, including 1,690 substation assets and nearly 220,000 circuit section assets (628 circuits covering 8,789 circuit miles). *Id.* He explained the risk-based assessment is data-driven augmented by subject matter experience from both the Burns & McDonnell and IPL team. *Id.* He said the Risk Model prioritizes assets based on the amount of risk they pose to the IPL system and the cost to buy down asset risk. *Id.*

Mr. De Stigter described the Risk Model. *Id*. at 5. He said the main purposes for the Risk Model are firstly, to identify high-risk assets and establish a plan to mitigate the risk, and secondly, to invest capital into the system that provides the highest risk reduction per dollar invested. *Id.* at 6. He explained the Risk Model used condition data, hierarchy, and other information to determine each individual asset's likelihood of failure ("LOF") and consequence of failure ("COF"). *Id.* at 5-15. He said the asset LOF is based on an asset class survivor curve, age, and Asset Health Index, which is derived from available asset condition information, inspection information, and service history or test data. *Id.* at 5. He said an asset's COF is derived for six different criteria that consider the impact to IPL customers, stakeholders, or its system in the event of an asset failure. *Id.* He said the criteria are summed to calculate a total consequence score for each asset. *Id.*

Mr. De Stigter added that the Risk Model includes risk frameworks and asset risk information already developed by IPL through its asset management program. *Id.* at 6. Mr. De Stigter also explained how the Risk Model identified projects to be included in the IPL TDSIC Plan. *Id.* He said the framework was initially developed by IPL staff and previously reviewed in a collaborative effort conducted per the Commission's Order in Cause No. 44576 dated March 16, 2016. *Id.* Mr. De Stigter stated that based on the risk score, risk reduction benefit, replacement cost, and other resource constraints, the Risk Model provides a prioritized list of assets for replacement that targets high-risk assets and provides the highest risk reduction per dollar invested into the system. *Id.* at 5-6. He said the output of the Risk Model was reviewed and then used by IPL to develop the Projects included in the TDSIC Plan. *Id.* at 6. In addition, William D. Williams, Associate Vice President in Asset Management Practice of Black & Veatch Corporation, described the Black & Veatch independent review of the Risk Model and concluded that the Risk Model is appropriate to use to identify capital expenditures for substations and circuits that are part of IPL's TDSIC filing. IPL TDSIC Plan, Appendix 8.4 at 12.

C. <u>Best Estimate</u>. As summarized in the Plan, and discussed by IPL Witnesses Bentley and Shields, IPL presented Association for the Advancement of Cost Engineering ("AACE") Class 2 cost estimates for many of the proposed Projects for Plan Years 1 and 2. Class 3 and Class 4 estimates were developed for the remaining projects. This information was compiled in Table 1 of Mr. Shields' testimony and supported with additional details in the IPL TDSIC Plan, appendices and workpapers. IPL proposes to update these cost estimates through its annual Plan update filings. Bentley Direct at 4; Shields Direct at 15-16; also IPL TDSIC Plan at 26. IPL also developed a process to validate its cost estimates to ensure IPL is providing the Commission with the best estimates of TDSIC Plan costs. As discussed by IPL Witness Shields, IPL employed Black & Veatch to conduct an independent review of the costs estimates and the process used to develop them. Shields Direct at 12. A summary of the review and the results of the analysis are found in

IPL Witness Williams' testimony and the "Black & Veatch Cost Review and Validation Report" is included with IPL's TDSIC Plan as Appendix 8.6.

IPL Witness Williams described the approach Black & Veatch used to validate IPL's cost estimates. Mr. Williams stated that to validate the costs estimates, Black & Veatch (1) reviewed the cost estimate documentation for a sample of IPL's TDSIC cost estimates developed for the Plan; (2) discussed and reviewed IPL's cost estimating processes to understand what tools and processes are used in cost estimating for the TDSIC projects; (3) developed independent costs estimates for a sample of the projects using Black & Veatch cost estimating tools, databases and expertise; (4) assessed the AACE Cost Estimate level for the sample estimates based on review of the cost estimate documentation; and (5) utilized expertise and professional judgement to complete the check for reasonableness. Williams Direct at 3-4. Based on this review, Mr. Williams testified that IPL's cost estimating process is aligned with industry good practice based on Black & Veatch experience and professional judgement and the AACE classification guidelines. *Id.* at 5. Mr. Williams further testified that based on the Black & Veatch review of IPL's cost estimating process and the independent estimates, he believed IPL's cost estimates are the best estimates of the projects identified in the TDSIC Plan. *Id.*

D. Public Convenience and Necessity. Mr. Bentley explained that there is a reasonable and apparent need for the Plan. Bentley Direct at 12. He stated that the TDSIC Plan and attached appendices identify what Projects will be undertaken, when they will be undertaken and why these Projects are necessary and beneficial. *Id.* He added that many of the TDSIC Projects are designed to improve the safe and reliable functioning of the system, 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. *Id.* He said the planned replacement of infrastructure that has or is reaching the end of its useful life hardens the energy delivery system and minimizes emergency restoration. *Id.* He stated that modernizing the electric system enhances system operation and control, enables customers to have access to more information to manage their usage, and lays the foundation for new technologies to be deployed in the future. *Id.* He testified that the improved operation and reliability of IPL's energy delivery system safeguards public and employee safety, improves the customer experience and fosters economic development in the communities IPL serves. *Id.* Mr. Bentley concluded that IPL's proposed TDSIC Plan is fitted or suited to the public need. *Id.*

E. Plan Benefits. Mr. Bentley explained that IPL's TDSIC Plan aligns with the TDSIC Statute as the Projects are undertaken for the purpose of safety, reliability, system modernization and support of economic development. *Id.* at 9. He testified that the estimated costs of the improvements included in the IPL TDSIC Plan are justified by incremental benefits attributable to the Plan. *Id.* More specifically, he testified that without these improvements IPL's T&D system will face increasing levels of risk, and an erosion in overall grid integrity and reliability, which will be difficult to correct. *Id.* at 10. He said the Risk Model developed by the Burns & McDonnell and the IPL team shows a system risk reduction of approximately 36.6 percent over the seven year TDSIC Plan period. *Id.* In other words, he stated that by implementing the Plan, total T&D system asset risk is significantly reduced. *Id.*

Mr. Bentley also explained there are also a host of qualitative benefits, introduced in TDSIC Plan Section 3 (TDSIC Benefits) and expanded upon in the TDSIC Plan Section 6 (TDSIC Project Narratives) that combined with the quantifiable benefits, clearly meet the intent of the TDSIC Statute. *Id.*

As summarized in Section 3 of the IPL TDSIC Plan and in Mr. Bentley's direct testimony, the seven Projects that lend themselves to monetization, when viewed as part of a total portfolio, will provide a net benefit (*i.e.*, total escalated nominal benefits less the total escalated nominal cost of the Plan) of $939 million to IPL's customers over a 20-year period. Bentley Direct at 9. Mr. Bentley stated that the monetization analysis is supported by the Burns & McDonnell Risk Reduction Benefit Monetization Report presented by IPL Witness De Stigter (Appendix 8.11 to IPL TDSIC Plan). *Id.*; see also De Stigter Direct at 16-17. The Burns & McDonnell Risk Reduction Benefit Monetization Report explained the monetization analysis and presented both the nominal and net present value benefits. Appendix 8.11 at 12-13.

Mr. Shields testified that IPL commissioned a study by the Indiana Business Research Center, Kelley School of Business, Indiana University to evaluate the economic impact resulting from the TDSIC Plan. He noted that this report is included as Appendix 8.5 to the IPL TDSIC Plan and is supported by IPL Witness Kinghorn. Shields Direct at 5. Matthew R. Kinghorn, Senior Research Analyst, Indiana University Business Research Center, explained that based on his analysis, local spending associated with IPL's plan to upgrade and modernize its electric transmission and distribution system between 2020 and 2026 will support an estimated 880 jobs per year in Marion County worth $62.2 million in annual compensation. Kinghorn Direct at 6. He added that the full impact of these IPL activities will combine to contribute an estimated $92.6 million per year to Marion County's gross domestic product and generate an estimated $3.3 million per year in state and local government revenue. He said, at the state level, these estimates rise to a total employment impact of 950 jobs per year, $65.9 million in annual compensation, $98.5 million in GDP per year, and $3.5 million in annual state and local government revenues. *Id.* at 6-7.

F. <u>Implementation and Annual Updates</u>. Mr. Bentley testified that IPL will begin to implement the Plan Projects August 1, 2019 and ramp up to full project implementation in 2020 upon receipt of Commission approval of the Plan. Bentley Direct at 10. He testified that the Company's experienced contract labor resources have multiple opportunities in other parts of the country and in order to maintain the appropriate contractor labor prior to full project implementation in 2020, IPL found it necessary to advance the scheduling of certain work to secure these contractors. *Id.* at 10-11. Mr. Bentley added that in order to implement the Plan in a timely manner, it is necessary to undertake certain pre-construction and initiate limited project construction. *Id.* at 11. He said contract labor is scheduled to be used for this work. *Id.* Mr. Bentley stated that IPL has taken steps to secure the necessary contract labor resources through a competitive solicitation process and will use these resources to implement the TDSIC projects. *Id.* He added that issuing the competitive solicitation for contract labor resources allowed IPL to improve the quality of the cost estimates and risk modeling presented in this Cause. *Id.*

Mr. Shields testified regarding IPL's proposed annual update process to comply with the TDSIC Statute. Shields Direct at 15. He testified that IPL is proposing to provide updates to its TDSIC Plan during IPL's future, annual tracker filings. *Id.* He said the updates will include: (1) a report on the work that has been completed and the work planned during the upcoming year; (2)

the actual costs of the Projects completed in the prior year and updated cost estimates of the Projects for the following year; (3) for projects with actual or projected costs higher than the previous estimate, an explanation of the variance; and (4) intra-year changes and longer-term changes in the Plan when appropriate. *Id*. at 15-16. Mr. Shields stated that IPL contemplates providing information consistent with Vectren Witness Hoover's Attachment SAH-9: TDSIC Plan – 7 Year Update in Cause No. 44429-TDSIC-9. *Id.* at 16, n. 4. Mr. Shields further testified IPL is prepared to confer with stakeholders on the format and content of the report prior to its initial filing, as well as to refine the content of the update filing over time as necessary and appropriate. *Id*. at 16.

G. Plan Development Costs. Mr. Shields described the costs IPL incurred to develop the TDSIC Plan and support IPL's TDSIC filing. Shields Direct at 12-13. Mr. Shields explained to obtain Commission approval of the TDSIC Plan, IPL was required to perform risk modeling and planning, prepare evidence that the public convenience and necessity require the Projects, that the cost estimates constitute best estimates, and that the estimated costs of the proposed improvements are justified by the incremental benefits attributable to the Plan. *Id*. at 12-13. Mr. Shields further explained IPL hired independent consultants to support this effort including Burns & McDonnell, Black & Veatch and the Indiana Business Research Center. *Id*. at 12-13. Mr. Shields testified that as of the date of the filing, the total amount of these reasonably-incurred Plan development and case support costs is approximately $2.3 million. *Id*. at 13. Chad Rogers, IPL Senior Project Manager, Regulatory Affairs, testified IPL is seeking Commission approval to defer these TDSIC Plan Development costs by creating a regulatory asset and to recover these costs through rates over a three-year amortization period. Rogers Direct at 7.

H. Accounting and Ratemaking. Mr. Rogers testified the proposed investments in IPL's seven year TDSIC Plan were not included in IPL's rate base in its most recent general rate case (Cause No. 45029). Rogers Direct at 5. He also explained IPL's accounting for depreciation expense and the Company's procedures for accrual of Allowance for Funds Used During Construction ("AFUDC") consistent with the Uniform System of Accounts and Commission practice. *Id.* at 5-6.

Mr. Rogers also described the accounting relief IPL is seeking in this Cause with respect to the TDSIC Plan costs. *Id.* at 6-8. Mr. Rogers stated that IPL is requesting Commission approval to defer TDSIC Plan costs until they are recovered through the TDSIC Rider or included in basic rates. *Id*. at 6-7. Mr. Rogers testified IPL is also seeking Commission authority to create regulatory assets to record post-in-service AFUDC (both debt and equity) and depreciation and property tax expenses associated with the Projects until such costs are reflected in the TDSIC Rider rates or the Company's retail electric rates. *Id.* at 7. Mr. Rogers stated IPL will record AFUDC during construction and post-in-service AFUDC until the costs are reflected in the TDSIC Rider. *Id*. Mr. Rogers also explained IPL's proposal regarding depreciation on the TDSIC Plan Projects, and stated IPL is proposing to utilize the applicable depreciation rates for transmission and distribution assets approved in its most recent rate case (Cause No. 45029). Mr. Rogers testified IPL is also proposing that it be allowed to recover depreciation expense prospectively to avoid regulatory lag that would otherwise occur. *Id*.

Witness Rogers also described IPL's plan to file a request for a TDSIC Rider under Ind. Code § 8-1-39-9 ("Section 9"). Mr. Rogers stated IPL plans to file an annual request for a TDSIC

Rider under Section 9 in order to timely recover eighty percent (80%) of the TDSIC Plan capital expenditures and costs, which includes depreciation expense, property taxes, and pretax returns. *Id*. at 8. He further stated IPL is proposing to defer 20% of the TDSIC Rider revenue requirement with carrying costs pursuant to Ind. Code § 8-1-39-9 until such costs are reflected in the Company's retail electric rates. *Id*. As described in Witness Shields' testimony, the Company will update its TDSIC Plan on an annual basis through the Section 9 Rider filings. Mr. Rogers testified IPL anticipates making its first Section 9 Rider filing in the second quarter 2020 and added that IPL intends to confer with the OUCC and interested intervenors in making these filings. *Id*. at 9.

Mr. Rogers also described the TDSIC Plan's estimated impact on retail revenues. He testified that, as shown below (and on Table 1 in Mr. Roger's testimony,) IPL's Plan does not result in an average aggregate increase in IPL's total retail revenues of more than two percent (2%) in a twelve (12) month period.

Table 1 – Average Aggregate Increase in IPL's Total Retail Revenues[2]

$ in millions		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
TDSIC Rider Revenues		$11.4	$26.3	$45.3	$65.5	$83.6	$100.8	$115.3
Incremental Rider Revenue		$11.4	$14.9	$19.0	$20.2	$18.1	$17.3	$14.5
Total Estimated Retail Operating Revenues	$1,454.6	$1,466.0	$1,480.9	$1,499.9	$1,520.1	$1,538.2	$1,555.5	$1,569.9
Annual % Increase		0.8%	1.0%	1.3%	1.3%	1.2%	1.1%	0.9%

Id.

5. <u>OUCC Evidence</u>. Mr. Wes R. Blakley, Senior Utility Analyst for the OUCC, disagreed with three aspects of IPL's proposal - 1) the method and timing of calculating the gross-up of federal income taxes on the deferred return, 2) the three year amortization period for TDSIC plan development costs; and 3) not recognizing plant retirements embedded in base rates replaced by TDSIC projects (which affects the depreciation expense calculation in subsequent TDSIC tracker proceedings. Mr. Blakley explained the he opposed IPL's proposal to gross up the entire TDSIC revenue requirement for taxes, depreciation expense, property taxes and amortization of plan development costs (as shown of Witness Rogers Attachment CAR-1 page 2 of 3) and then defer 20% of the grossed up amount. He testified that IPL's proposal increases makes it possible that the 20% deferred TDSIC revenue requirement, when eligible for recovery in IPL's next rate case, might once again be grossed up, allowing IPL to recover a portion of federal income tax twice. To avoid this, Mr. Blakley recommended that IPL split its TDSIC revenue requirement 80

[2] See Ind. Code § 8-1-39-14.

/ 20, and only gross up the 80% eligible for immediate recovery. The deferred 20% would be grossed up in the proceeding when it is eligible for recovery.

Regarding IPL's proposed three year amortization period for $2.3M in TDSIC plan development costs, Mr. Blakley said it was more appropriate to amortize the costs over the life of the assets. He testified aligning the amortization period and the depreciable life of the assets also mitigates the rate impact for IPL's customers. For costs associated with T&D investments, the amortization rate should be at the depreciation rate approved from IPL's last rate case for the particular plant account.

On the issue of not recognizing plant retirements embedded in base rates replaced by TDSIC projects, Mr. Blakley testified retirement accounting affects the TDSIC revenue requirement by reducing the plant account at retirement, and when new investment results in a retirement of an existing asset, depreciation expense included in the revenue requirement will be reduced by the depreciation expenses amount attributed to those retired assets. If retirement accounting is not used, Mr. Blakley stated IPL will receive a return of the new replacement assets while at the same time continuing to receive a return of the retired assets that are no longer used and useful. Mr. Blakley noted this method had already been accepted by the Commission with regards to the retiring of other types of assets in Cause No. 44182, page 59 of the Commission's Order. He specifically pointed to Commission language concluding this treatment "has no effect on rate base," and therefore the new investment does not need to be lowered in the calculation of return in the tracker.

6. <u>Industrial Group Evidence</u>. The Industrial Group presented the testimony and attachments of Brian C. Collins, a Principal with Brubaker & Associates, Inc. Mr. Collins presented testimony addressing the requirement that the incremental benefits of a TDSIC plan must justify the estimated costs. His conclusion was that the IPL Plan did not satisfy that standard. He recommended that the requested approval either be denied or at least conditioned on submission of a revised Plan.

Mr. Collins started by putting the IPL proposal into ratemaking context. *See* IG Ex. 1 at 4-7. He noted that as of IPL's 2014 rate case, the Commission approved an original cost rate base of about $2 billion, and in the 2017 rate case the total rate base was $3.3 billion, an increase of 60% between rate cases. *Id.* at 4. The proposed TDSIC spend of $1.2 billion would represent an additional 35% increase in rate base over a short period of time. *Id.* Mr. Collins presented the corresponding increase to IPL's transmission and distribution rate base on a per-customer basis, as shown on FERC Form 1, which started at $741 in 2014 and rose to $1,208 by 2018. *Id.* at 4-5. If the proposed TDSIC spend of $1.2 billion were implemented, the average T&D spend per customer would be around $2,409, nearly twice the 2018 T&D rate base per customer. *Id.* On that basis, Mr. Collins stated the proposed Plan would involve a very large increase in rate base with significant rate impact, making scrutiny of the level of reliability benefits resulting from such massive investment important. *Id.* at 5.

Mr. Collins then addressed the expected revenue increase associated with the proposed Plan. He noted that IPL computed the annual revenue increase by the end of the Plan period as being $115.3 million. *Id.* at 6. By comparison, the authorized revenue increase in IPL's 2014 rate

case was $29.6 million and the allowed increase in the 2017 rate case was $43.9 million, for a total of $73.5 million from both rate cases together. *Id.* The TDSIC revenue impact of $115.3 million is thus far in excess of the revenue increases from the last two rate cases combined. *Id.* In the next rate case, when the tracked amounts as well as the additional 20% of deferred costs are rolled into base rates, the revenue impact will be on the order of double the last two rate cases combined. *Id.* Mr. Collins further noted that IPL's retail sales have not been increasing over the 2014-2018 period, and stated that fewer sales over which to spread the cost recovery would only exacerbate the rate increase. *Id.* at 6-7.

Mr. Collins went on to address the reliability status of IPL's system. *Id.* at 7-11. He noted that IPL's website states that "IPL's reliability rate ranks high among investor-owned utilities nationwide." *Id.* at 7. He attached the reliability discussion in a recent report submitted by IPL to the Commission, concerning performance in 2018. *Id.* at 7-8, Attachment BCC-1. In that report, IPL stated it "continues to perform quite well," that it "achieved another year of strong reliability performance," and that it "expected to be in the top quartile in the industry for 2018." *Id.* Mr. Collins also attached a Commission report on 2018 reliability metrics for Indiana's five investor-owned electric utilities. *Id.* at 9, Attachment BCC-2. For 2018, IPL had the second best performance on three reliability metrics reviewed by the Commission. *Id.* Across the 17 years of data included in the report, IPL was consistently best or second best. *Id.* The report did not indicate a recent deterioration in IPL's reliability metrics, as IPL's 2018 results were comparable to both 5-year and 10-year averages. *Id.*

Mr. Collins further noted that IPL presented evidence in its two recent rate cases supporting its system performance, reliability and condition. *Id.* at 9-10. In both cases, IPL presented testimony that its system was "well maintained" and "in good condition," and referenced both the Commission reliability report and an IEEE benchmarking analysis with data on 89 electric utilities. *Id.* at 9. The witness described IPL as "a top performer" in Indiana and stated IPL was in the top quartile for all three performance metrics in the IEEE analysis. *Id.* Another IPL witness quoted a reliability report that referenced IPL's "first-decile performance" and stated "one might be expected to prefer to be an IPL customer than any other investor owned utility in Indiana or indeed most other states." *Id.* at 10.

Mr. Collins pointed out that IPL recently took additional steps to increase its reliability. *Id.* at 10-11. In particular, in its most recent rate case IPL's vegetation management expense was nearly tripled, going from $4.1 million to $11 million. *Id.* In that case, IPL identified trees as the leading cause of outages for 2012-2017, accounting for 40% of outages. *Id.* The rate order in that case was issued in late 2018, and hence the reliability improvements from the increased budget for tree trimming was not reflected in the 2018 data reflected in the Commission report attached to his testimony. *Id.* at 11. In addition, IPL also recently established a storm reserve account, which Mr. Collins expected to help harden IPL's system after storms and thereby increase system reliability. *Id.*

Mr. Collins provided discovery responses in which IPL stated that it has not prepared forecasts as to how its reliability indices will improve due to the proposed TDSIC spending of $1.2 billion. *Id.* at 11, Attachment BCC-3. As reflected in further discovery responses, IPL did not perform any after the fact studies to measure the effectiveness of reliability investments similar to

those proposed in the IPL Plan. *Id.* at 11, Attachment BCC-4. In addition to the reliability metrics addressed in the annual Commission report, Mr. Collins noted two other indices explained by the IEEE that are valuable for measuring outage impacts on customers. *Id.* at 8. He stated that IPL did not include those additional reliability indices in its filing. *Id.*

Mr. Collins compared the IPL Plan to other TDSIC plans approved by the Commission for investor-owned electric utilities. *Id.* at 12. He noted there were three other approved TDSIC plans: (1) Duke Energy is the largest electric utility in Indiana and has a TDSIC plan capped at $1.4 billion; (2) NIPSCO has a much larger territory than IPL with a heavy concentration of industrial load, and its TDSIC plan is capped at $1.2 billion; and (3) Vectren South has a larger geographic territory than IPL and has a TDSIC plan capped at $446 million. *Id*. Mr. Collins noted that IPL serves a compact territory. *Id.* He considered it anomalous that IPL would propose a level of investment comparable to Duke Energy and NIPSCO, which cover larger territories and serve considerably greater load, especially where IPL has achieved consistently better reliability performance than those larger utilities. *Id.*

Mr. Collins proceeded to discuss the "monetization" analysis presented by IPL, which according to IPL shows the proposed Plan will provide $938 million in net benefits. *Id.* at 12-15. Mr. Collins disagreed with the computation insofar as it was based on a comparison of 7 years of spending but 20 years of computed benefits. *Id.* at 13. He stated the computed benefits were overstated because the monetized figures were not adjusted to present value, even though the asserted benefits were weighted toward the end of the 20-year period. *Id*. He further criticized the analysis because it only compared the Plan to a "do nothing" assumption where IPL would hypothetically would allow components to run to failure before taking any action to repair or replace them. *Id.* Mr. Collins testified that a reasonable and prudent utility would not adopt a "do nothing" approach and instead would implement regular ongoing measures to keep the system in good working condition. *Id*. He stated the "do nothing" alternative greatly overstates the consequences of system failures, and the more appropriate comparison would be to assume prudent utility investments with ongoing repairs and replacements. *Id.* at 14. He also noted the IPL analysis did not compare the $1.2 billion Plan with a plan involving less aggressive spending, and hence did not show incremental benefits compared to a more moderate plan. *Id*.

Further regarding IPL's monetization analysis, Mr. Collins also stated that the costs utilized by IPL were understated. *Id.* at 14-15. He noted that IPL compared 20 years of computed benefits against 7 years of spending, but system investments are unlikely to end after 7 years. *Id.* at 14. At comparable spending levels, total spending for the 20-year period would be in the $3.5 billion range. *Id*. Mr. Collins also noted that spending could increase within the 7-year period due to cost overruns or the addition of new projects. *Id.* He pointed out the planned projects for 5 of the 7 years had only Class 4 estimates with potential cost variability of up to 50%, and could involve as much as another $464 million in actual spending. *Id.* at 15. He further stated that IPL did not show the 7 years of spending would be justified by 7 years of benefits, as the break-even point did not occur until after the Plan period, raising concerns of inter-generational equity. *Id*. at 14.

Mr. Collins raised additional concerns regarding the cost estimates and proposed ratemaking as presented by IPL. *Id.* at 15-16. He noted that IPL's estimates include substantial contingencies, and stated that, since upon Plan approval rate adjustments are assured up to

approved estimates, the Commission should exercise restraint in allowing contingencies in estimates that may reduce the incentive to maintain cost discipline. *Id.* at 15. He also expressed concern with IPL's proposal to change cost estimates in future Plan updates, cautioning against any proposal to erode the statutory safeguards. *Id.* at 15-16. He further questioned the lack of any proposed adjustment to return associated with replaced assets, leading to double recovery for new and removed assets, as well as the lack of any offset for cost savings that IPL may realize from planned investments. *Id.* at 16. He noted IPL's rate impact computation assumed the same return on equity approved in its last rate case, but the approval of a TDSIC plan would reduce IPL's risk and affect the appropriate return for TDSIC purposes. *Id.*

Mr. Collins opined that the economic impact report presented by IPL did not support approval of the Plan. *Id.* at 17. He stated that report only assessed the upside effects of the proposed spending, not the downside impact on ratepayers that are funding the Plan through rates. *Id*. In his view, it is a false premise that the more the utility spends the more the community benefits, and he cautioned against treating preapproval of costs for rate recovery as a form of economic stimulus funding. *Id*.

Addressing IPL's planning process based on a risk model, Mr. Collins stated that IPL failed to supplement that analysis with an effort to identify the worst performing circuits and components on the system. *Id.* at 17-18. He provided an example regarding Indiana University and IU Health, which have experienced a history of service problems but were not identified as high priority facilities for replacement under IPL's risk model. *Id.* at 18. He expressed the view that IPL should incorporate analysis of operational experience in order to address equipment that is known to be causing customer reliability issues. *Id*.

Mr. Collins clarified that he is not opposed to system investments to continue to provide reliable service to customers, but $1.2 billion is a large amount of proposed investment and it is important to ensure it is prudent and cost-justified in light of incremental benefits. *Id.* at 19. He considered the proposed spending level to be greatly excessive to achieve incremental benefits to what is already highly reliable service. *Id.* He emphasized the TDSIC mechanism shifts risk from the utility to ratepayers for both the costs and the benefits, as preapproval would obligate ratepayers to support the investments through rates regardless of the extent to which reliability benefits are actually achieved. *Id.* In his view, this proceeding is important because it is the only check and balance and the only opportunity for the Commission to make an independent determination of whether the incremental benefits justify the estimated costs. *Id.* at 19-20.

Mr. Collins concluded that the Plan as proposed by IPL did satisfy the cost-justification requirement, and a more moderate Plan may do so and would be more reasonable. *Id.* at 20. He recommended that IPL's proposal be denied. *Id.* In the alternative, he offered the opinion that the Plan would be more reasonable if the proposed spending were spread over a longer period, such as two 7-year periods rather than one. *Id*. Such an approach, in his view, would be more appropriate for a utility like IPL with a compact service territory and a history of reliable service, would be more in line with the TDSIC plans approved for other Indiana electric utilities, would permit prioritization that still allows the most pressing work to be completed first, and would result in a more reasonable capital addition to rate base with a less drastic impact on rates. *Id.*

7. City of Indianapolis Evidence.

A. TDSIC Plan Development and Projects. Dennis Stephens, Senior Technical Consultant, Wired Group, testified that he identified significant deficiencies in the methodology IPL used to develop its TDISC Plan, recommending the Commission reject all five components of IPL's Plan which were developed using age-based failure predictions, totally $753 million. Stephens at 3, 24. Mr. Stephens stated that for five components of its Plan, IPL used an age-based approach to select assets for prospective (in advance of demonstrated need) replacement and this is not standard industry practice. *Id*. Mr. Stephens testified that the assets to be replaced in IPL's plan were not selected through testing, but through a Burns and McDonnell model designed to identify assets for which the risk and consequence of failure was greater than that of other assets. *Id.* at 9.

Mr. Stephens testified that asset age, a key component of the Burns and McDonnell model, is a poor predictor of failure, *Id.* at 11. Mr. Stephens also noted that standard industry practices already reflect the most cost-effective approaches. *Id.* at 9. Regarding IPL's assertion that its asset risk assessment techniques were consistent with ISO Standard 55000, Mr. Stephens noted that neither the ISO 55000 standard, nor IEC Standard 31010 regarding risk assessment techniques, makes any mention of the asset survivor curves employed in the Burns and McDonnell risk assessment model. *Id.* at 12. Further, Mr. Stephens testified that any risk assessment models, if they are to be used at all, should be based on historical asset failure rates. He testified that the survivor curves used in the Burns and McDonnel risk assessment model are not based on historical asset failure rates. *Id.* at 12. Mr. Stephens testified that survivor curves are typically used in the industry to determine accounting depreciation periods, not to assess the risk that a particular asset will fail. *Id.* at 11. Mr. Stephens noted that Burns and McDonnel justified its failure to use historical asset failure rates in its modeling because historical failure rates were so low as to constitute an insufficient experience base for modeling. *Id.* at 12.

Mr. Stephens testified as to standard industry practices for replacing asset types other than high-consequence substations assets addressed in IPL's TDSIC Plan, including ELPE Cable Replacement; 4kV Conversion; Circuits Rebuilds; and Remote End- Breaker Relay/Upgrades. Stephens 13-17. He noted that the processes IPL used to select assets for prospective replacement, as with substation asset replacement, were outside such practices. *Id*. He explained that he provided this information in the event the Commission were to reject the Plan, as he recommended, and IPL were to submit another plan. *Id.* at 13. Mr. Stephens recommended the Commission require results from industry standard tests as justifications for prospective asset replacement. *Id.* at 4.

Mr. Stephens testified that rather than grand, distinct grid modernization plans, he advocates the use of standard industry practices, which he believes have proven their worth in distribution grid planning over the past 100 years. *Id.* at 7. He said if IPL has been delivering safe, exceptionally reliable service at reasonable rates through compliance with standard industry practices, he saw no rationale for departing from standard industry practices in IPL's TDSIC Plan. *Id.* Based on all of these observations, Mr. Stephens recommended the Commission reject the 62% of IPL's TDSIC Plan which used non-standard approaches to identify assets for prospective replacement. *Id* at 24.

Mr. Stephens testified that the Distribution Automation Project warrants approval with conditions. *Id*. at 18-19. More specifically, he recommended the Commission require IPL to report performance on the integrated volt-var control ("IVVC") for the purposes of conservation-related voltage reduction ("CVR"). *Id.* at 19. Regarding the ADMS Distribution Automation project, he testified that IPL should prioritize the valuable components of central software over integration for integration's sake, and be careful not to pursue the "rabbit trail" of over-hyped automation potential. *Id.* at 20. Mr. Stephens recommended IPL's pole replacement proposal be approved under the condition that inspection failure documentation be provided for replaced poles and added that poles replaced in accordance with the City's street light agreement with IPL should be excluded from the TDSIC Plan. *Id.* at 21. He said IPL should be allowed to include life extension efforts for steel towers which fail inspection as part of its TDSIC Plan, under the condition that inspection failure documentation be provided for towers identified for life extension efforts. *Id.*

Mr. Stephens testified that the capabilities IPL proposes in its Plan for underground CBD facilities could have merit owing to employee and public safety, limitations of equipment-damage, and benefits to non-IPL utilities. *Id*. He noted that IPL included no "benefit-cost" analysis of its CBD network investment in its TDSIC Plan but added that if IPL can develop and provide a thorough and substantiated analysis which indicates benefits in excess of costs for central business district upgrades, the proposed capabilities should be approved for inclusion in IPL's TDSIC Plan. *Id.* at 22.

Mr. Stephens explained his view that there were no industry standard practices for the prospective replacement of the remaining TDSIC Plan components proposed by IPL. Based on a lack of industry standard practice for proactive replacement, Mr. Stephens recommended the Commission reject these remaining Plan components, including the Tap Reliability Improvement Projects, Static Wire Performance Improvement, and Substation Design Upgrades. *Id.* at 22-25.

B. <u>Public Convenience and Necessity.</u> Mr. Stephens described the manner in which the IPL approach dramatically overstates the replacements needed for public convenience and necessity. Mr. Stephen stated the data he provided on IPL's reliability performance, finding it to be exceptionally good relative to other utilities and in the top 10% nationally, calls into question the need for IPL's TDSIC Plan for public convenience and necessity. *Id.* at 3, 7, 23.

C. <u>Plan Benefits</u>. Paul J. Alvarez, President, Wired Group, testified on IPL's proposed TDSIC Plan benefit-cost analysis. Mr. Alvarez discussed the significant deficiencies in IPL's TDSIC benefit and cost projections, and testified IPL's TDSIC Plan will cost customers far more than they will receive in benefits. Alvarez at 3. He contended IPL's reliability improvement valuations cannot be validated, that the reliability improvements required to deliver the claimed $1.5 billion in reliability value IPL estimates will be impossible to achieve, IPL overstates the estimated customer savings benefits and that IPL's cost estimate ignores an estimated $772 million in carrying charges customers will pay. Alvarez at 4.

Mr. Alvarez testified that IPL provided no details regarding the estimate of the system-wide reliability improvements it expects from its TDISC Plan. Alvarez at 4,5. Mr. Alvarez provided his analysis using the ICE calculator that IPL stated it used in the valuation of reliability improvements, showing that IPL needed to achieve 42% system-wide improvements in both

SAIDI[3] and SAIFI[4] to in order to deliver $1.079 billion in reliability-related customer value over 20 years. *Id*. at 3, 5-9, 13. Mr. Alvarez testified IPL overstates the estimated benefits and it is unlikely to deliver reliability-related benefits anyway near those IPL projects. *Id.* at 4, 9-11. Mr. Alvarez provided further detail to illustrate his perspective that reliability-related benefits will be difficult to achieve. *Id.*

Mr. Alvarez further testified that it is impossible to estimate the reliability improvements the tap projects will deliver given the absence of details from IPL . *Id.* at 6. Mr. Alvarez further testified that IPL's analysis also overstates the economic benefits from sources other than reliability improvements. *Id.* at 10-11. He testified that IPL cannot take credit for reducing the cost of reactive work which never would have been completed as some of the assets would not have failed. *Id*. at 10. He also testified with other examples of inflated benefits testifying it is difficult to understand how IPL can estimate $50 million in operating expense savings for Tap Reliability Improvement Projects from zero headcount reduction. *Id.*.

Mr. Alvarez stated he believed some parts of IPL's proposed $1.2 billion capital spend will deliver economic benefits to some parts of the central Indiana economy but said the study IPL commissioned is fundamentally flawed because it does not take into account the detrimental effects of any rate increases associated with the IPL's spending. Mr. Alvarez stated that an economist must also take into account any detrimental effects of any rates increases associated with that spending but IPL's study does not do so. Mr. Alvarez noted IPL estimates that the TDSIC Plan will increase distribution rates by 10%. This increase does not include any rate increase IPL may request.. Alvarez at 11-12. Mr. Alvarez noted that the negative impact of electric rate increases on economic development offset, or even exceed, the positive impact of utility capital spending. *Id.*

D. Plan Costs. Mr. Alvarez also testified IPL understated the costs of its TDSIC Plan because while the Plan is estimated to be $1.218 billion in capital over 7 years it ignores carrying charges customers will pay through rates. *Id*. at 4, 12-13. Mr. Alvarez estimated the revenue requirement for the first 20 years of IPL's TDSIC Plan, including carrying charges, to be $1.991 billion, 63% more than IPL's cost estimate of $1.218 billion. *Id.* at 13.

E. IPL's TDSIC Plan Cost Not Justified by Incremental Benefits. Mr. Alvarez concluded his testimony stating that the IPL's TDSIC Plan costs to customers will significantly exceed the benefits and recommended the Commission reject IPL's TDSIC Plan on that basis. *Id*. at 14.

8. CAC-ELPC Evidence.

Kerwin L. Olson, the Executive Director of Citizens Action Coalition of Indiana, Inc. (CAC) provided testimony discussing the fact that IPL is not offering customers the ability to opt-

[3] System Average Interruption Duration Index.

[4] System Average Interruption Frequency Index.

out of a smart meter installation. Mr. Olson explained that customers have concerns over the advanced capabilities of smart meters, including around health impacts, consumer and data privacy, safety, and increased cyber-security risks potentially related to the installation and utilization of smart meters. CAC-ELPC Exhibit 1 at 4. Mr. Olson noted that the most common concern that CAC hears from the public relate to the privacy of customers' usage information and access to that data. *Id*. He explained that the fact that neither the Indiana General Assembly, nor the Commission have done anything to assuage these privacy concerns by enacting new laws, regulations, or rules restricting how utilities can use customer data and which third parties may or may not be given access to the data, elevates those concerns. *Id*.

Mr. Olson explained that other Indiana electric utilities have offered their customers the ability to opt-out of the installation of a smart meter, and stated that NIPSCO, Duke and Indiana and Michigan Power Company all have provided, or are seeking Commission approval to provide the option to their customers to elect to not have advanced meters installed on their premises. *Id*. at 6. Mr. Olson recommends that the Commission direct IPL to file an opt-out tariff affording customers the option to elect to not have a smart meter installed on their premises until and unless the Commission or the legislature have adopted policies and rules protecting customers' rights related to the installation and use of AMI and associated data. *Id*. Mr. Olson also recommends the Commission direct IPL to update their Terms and Conditions to reflect the data which will be collected through AMI technology, and the rights of customers relating to the usage of that data. *Id*. Finally, Mr. Olson recommends that the Commission commence a rule-making to update statewide consumer protections relating to smart meters' advanced capabilities. *Id*.

Mr. Sandoval, President of ROS Energy Strategies, LLC provided testimony explaining why IPL's TDSIC Plan is deficient, and describing how the Commission can strengthen the Plan and help ensure that it benefits IPL's customers. CAC-ELPC Exhibit 2 at 4. Mr. Sandoval testified that IPL's TDSIC Plan lacks several elements and safeguards that are critical to ensuring that its customers will actually receive the benefits that the Company claims they will as a result of the Plan. *Id*. at 6.

Mr. Sandoval recommended that the Commission require IPL to initiate an Integrated Distribution Planning (IDP) process; provide a concrete plan to better leverage the benefits of advanced metering infrastructure; and track and report year-over-year performance metrics associated with its TDSIC investments, beyond costs, on an annual basis. *Id*. at 6. Mr. Sandoval explained that IDP would help ensure that IPL's customers actually benefit from the Company's advanced technology investments, and that those investments do not hinder the deployment of distributed energy resources. *Id*. at 10. Mr. Sandoval explained that IDP includes five capabilities: (1) Advanced Forecasting and System Modeling, (2) Hosting Capacity Analysis, (3) Disclosure of Grid Needs and Locational Value, (4) New Solution Acquisition, and (5) Meaningful Stakeholder Engagement. *Id*. at 8. Advanced forecasting and system modeling involve load and DER performance modeling in a granular manner, with consideration for local dynamics and the feeder level and reflecting hourly and sub-hourly variations associated with the various forms of DERs. A hosting capacity analysis is a study of the amount of distributed energy resources that can be accommodated without adversely impacting power quality or reliability under current configurations and without requiring infrastructure upgrades. *Id*. at 13. Non-wires alternatives (NWAs) are projects that allow utilities to defer or avoid conventional infrastructure investments

by procuring distributed energy resources that lower costs and emissions while maintaining or improving system reliability. *Id*. at 15.

Mr. Sandoval noted that not all five capabilities need to be implemented at once; however, the value of the capabilities is maximized when they work in concert. *Id*. at 8. He explained that utilities across various states have begun to grapple with changes in planning criteria, customer expectations, and market conditions by implementing distribution planning processes that are transparent, engage energy stakeholders, and ensure grid investments align with intended objectives. *Id*. at 10. Mr. Sandoval provided the example of Consolidated Edison's Distributed System Implementation Plan, which he stated exemplified the essential IDP capabilities working in concert in one dedicated forum.

Mr. Sandoval raised concerns with IPL's AMI deployment project. CAC-ELPC Exhibit 2 at 19. He stated that IPL proposes significant investment in AMI deployment without proposing sufficiently concrete plans to leverage AMI meters in a manner that will benefit its customers. *Id*. He noted that a significant amount of the value from AMI comes from the granularity and timeliness of the data AMI meters provide. *Id.* Mr. Sandoval stated that the Company could leverage AMI to support forecasting, hosting capacity analyses, and the evaluation and procurement of non-wires alternatives. *Id.* He recommended that IPL explore enhancing its smart thermostat program in coordination with its Demand Side Management Oversight Board. *Id.* at 21. He also recommended that IPL offer optional time-variant rates as a small-scale pilot. *Id.* Finally, Mr. Sandoval recommended that IPL initiate a transparent stakeholder process within six months of a final order in this proceeding in order to develop a set of standards and expectations for IPL, their customers, and third parties on what data will be collected using AMI and how that data can and should be used and accessed. *Id*. Mr. Sandoval also provided testimony regarding performance evaluation and reporting. *Id.* at 22. He stated that ensuring that ratepayers realize benefits from its TDSIC investments requires that IPL go further than tracking program expenditures. *Id.* Mr. Sandoval suggested that IPL should measure the performance of its TDSIC investments and work alongside stakeholders to identify opportunities for maximizing value from those investments. *Id.* Mr. Sandoval noted that Duke Energy agreed to file a report in its TDSIC proceeding on the energy efficiency and greenhouse gas emissions reductions impact of its Integrated Volt VAR Control program. *Id.* at 23. He also noted that regulators in other states have required utilities to track and report performance metrics associated with their grid modernization investments, and described the performance metrics that Rockland Electric Company is required to report in New Jersey in association with its AMI deployment. *Id.* Mr. Sandoval recommended that the Commission require IPL to work with stakeholders to define appropriate metrics to measure the performance of TDSIC projects. He also recommended that the Company track and report a specific series of metrics:

Benefit Category	**Metric**	**Units of Measurement**
Customer Experience	Customers using the AMI Portal	# of customers
Customer Experience	Customers targeted with energy saving messaging	% of customers
Customer Experience	Customer Awareness of AMI	% of customers

Customer Experience	Customer Adoption of Time-Variant Rates	# of customers
Modernization	Number of AMI meters installed	# of meters
Operational Efficiency	Number of networks deployed with CVR	# of networks
Operational Efficiency	Energy Savings attributed to CVR	amount of kwh savings
Operational Efficiency	Total fuel consumption savings and emissions reductions for CVR	metric tons CO_2 reduction
Operational Efficiency	Reduction in vehicle fuel consumption and emissions due to AMI	metric tons CO_2 reduction
Operational Efficiency	Number of false outages resolved through AMI	# resolved false outages
Power Quality	Power Quality Issues identified	# of issues identified through AMI
Resiliency	Cumulative daily power outages	Customer-days without power
Resiliency	Repair and recovery costs bore by the utility	$ (dollars)
Resiliency	Emergency service assets without power for more than 48 hours	# of assets
Resiliency	Emergency Response Labor Reduction	# of single outages identified through AMI without crews

9. <u>IPL Rebuttal</u>.

A. <u>TDSIC Plan and Public Convenience and Necessity</u>. While Mr. Bentley appreciated the IPL Industrial Group and City of Indianapolis acknowledging IPL's historical reliability performance and delivery of safe and reliable electricity at reasonable rates, he disagreed with their view that IPL is departing from standard industry practices in IPL's TDSIC Plan. Bentley Rebuttal at 2. He said it is important to recognize that IPL has experienced recent degradation the past couple of years of approximately a 10%-20% increase in its IEEE[5] SAIDI reliability performance and based on IPL's robust asset management system and asset health information, IPL would expect that performance to continue to degrade unless the Company is able to make additional investments in the IPL T&D system. *Id.* at 2-3.

B. <u>Plan Development and Risk Model</u>. Mr. Bentley explained that Mr. Stephens' contentions do not capture the asset management program IPL has in place and they also overlook the work the Commission has done in this area. Bentley Rebuttal at 3-4. Mr. Bentley disagreed with Mr. Collins' characterization regarding IPL's rate base growth and noted that Mr.

[5] Institute of Electrical and Electronics Engineers.

Rogers' direct testimony shows the relative TDSIC investment impact on rates is gradual and trends under or near the historic U.S. inflation rate. *Id.* at 4. Mr. Bentley stated that proactive investments in utility infrastructure, especially in the capital city of Indianapolis, are not only prudent, but necessary. *Id*. at 5. He added that as the grid continues to evolve, IPL must harden and modernize its transmission and distribution infrastructure to allow for continued growth in customer demand, distributed energy resources, and electric vehicles. *Id.*

1. Risk Reduction. Vs. Reliability Improvement. Jeffrey W. Cummings, Senior Vice President of UMS Group, responded to the other parties' mistaken premise that IPL's TDSIC Plan consists of projects primarily focused on improving reliability. Cummings at 4-5, 6-16. He and Mr. De Stigter explained that a large portion of IPL's TDSIC Plan starts with a review of the condition of individual assets within critical asset classes to compute their likelihood of failure. He said these assets (station breakers, power transformers, batteries, transmission / sub-transmission circuits and overhead /underground primary distribution) are currently functioning well but are operating at varying levels of risk (with an ever-increasing number of assets migrating into the high-risk zone). Cummings at 7; De Stigter Rebuttal at 15, 21-22. Mr. Cummings explained that in submitting its TDSIC Plan, IPL seeks to counter the continuing trend of more assets moving into the high-risk region, which will lead to more frequent equipment failures, thus affecting larger numbers of customers. Further, with respect to reliability, he reinforced the notion that the Plan was more about stemming potential degradation, and less about improvement. Cummings at 7.

Mr. Cummings clarified that the Tap Reliability Improvement Project ("TRIP") and Distribution Automation projects, representing fifteen percent of the TDSIC Plan, provide for improved reliability. *Id*. at 7-8. He added however, that the TRIP project targets taps prone to reoccurring outages (equivalent to a worst performing circuit program, but isolated to overhead fused taps), and given the comparatively small number of customers impacted, will improve reliability at the circuit level thus improving the customer experience (a key element in achieving customer satisfaction), but will have no major impact on *system* reliability. *Id.* at 8 (emphasis added).

Mr. Cummings explained that Distribution Automation, on the other hand, strategically prepares the distribution system for managing distributed energy resources and loads, with the tactical benefits of improved reliability, enhanced safety and voltage management / associated energy conservation. *Id.* Mr. Cummings explained why extending these reliability improvement benefits to predict overall system reliability improvement on a quarterly or annual basis is difficult, if not impossible. *Id.* at 7-11; also IPL Witness JWC Attachments 4-R and 7-R.

2. Risk Based, Not Age Based. Mr. De Stigter testified that the risk-based approach used by IPL and Burns & McDonnell to identify the assets for replacement for the five Projects, prioritize the investments, and provide justification is based on a robust data-driven best practice methodology recognized by ISO and applied by utilities across Indiana and the United States. De Stigter Rebuttal at 15. He discussed the investment scenario alternatives considered in the Risk Model Report. *Id.* at 7-8. He testified that the results of the evaluation shown in the various risk grids (see Appendix 8.3), clearly show IPL's system has high risk assets and the need for proactive replacement. *Id.* at 15.

Mr. Williams stated that Mr. Stephens' mischaracterizes the approach IPL has taken to identify assets for replacement by calling it 'age-based'. Williams Rebuttal at 5. Mr. Williams said IPL's Plan is risk-based and is based on scoring of LOF and COF. Mr. Williams explained that age is only one component of the Risk Model. In assessing the likelihood of failure, the model utilizes asset age, as well as existing condition data to adjust the position of the assets on a survivor curve. He said the model also considers the criticality of the assets in order to score their overall risk. *Id.*; also IPL TDSIC Plan Appendix 8.3 at 20-24. He said this allows prioritization and prudent allocation of resources as different mitigations are applied to assets that have different consequences of failure and explained that he had used a risk model in previous cases in Indiana and other states. Williams Rebuttal at 5-6. Mr. Williams also explained that increasingly utilities are adopting asset management and risk management approaches where they are moving away from 'run to failure' towards risk-based asset management. *Id.* at 7-8.

Mr. De Stigter further explained that an age-based approach would replace all assets in an asset class when they reached a predetermined age. De Stigter Rebuttal at 7. He said a risk-based approach, in alignment with ISO 31000 and 55001, identifies assets for replacement based on their risk and location in the risk grid. *Id.* He stated that risk is defined as the LOF multiplied by the COF. *Id.* He stated that LOF is based on asset age, condition (when data is available), and estimated service lives and COF is based on a range of criteria, typically including safety, customer, environmental, financial, regulatory, and other system impacts. *Id.*

Mr. De Stigter also showed that an age-based approach could require significantly more investment over the next seven years. *Id.* at 8-10.

Mr. Shields clarified that IPL has not overlooked reliability concerns for a specific customer served by IPL's T&D system. Shields Rebuttal at 13-14. He explained that the IPL Risk Model identified a significant number of T&D assets for replacement in the area that serves the customer identified by Mr. Collins. Mr. Shields added that IPL has been working directly with its customer on action plans outside of the TDSIC Plan to further improve reliability in the area and added that these additional action plans are being implemented in 2019. *Id.*

3. Department of Energy ("DOE") Interruption Cost Estimator ("ICE" Calculator). In response to Mr. Alvarez's analysis of reliability improvements, Mr. Cummings explained that the DOE ICE tool supports two perspectives, estimating *either* interruption costs *or* the benefits associated with reliability improvements. Cummings at 12 (emphasis added). He explained that in the case of IPL's TDSIC Plan, the focus of the five Asset Replacement projects is on estimating interruption costs (*i.e.*, not reliability improvement) to quantify, in the absence of replacing aging assets, the effect of additional interruptions and a likely outcome in the event of a failed asset. *Id.*

4. Standard Industry Practice. In response to Mr. Stephens' statement that the industry practice is "to replace assets only as they fail", Mr. Cummings explained that this has been a standard approach in the past, but, consistent with effective asset management practices, the industry as a whole is trending towards a more proactive approach. Key factors driving this trend include: lower customer tolerance for unplanned outages (even during major storm events and independent of the number of customers affected); the mounting "bow wave" of assets with a high risk of failure, potentially resulting in more frequent extended outages (discussed by Mr. De

Stigter); and the addition of more distributed resources to the distribution system, resulting in more customers being isolated until restoration. *Id.* at 14. Mr. Cummings added that Mr. Stephens' testimony erroneously assumes that IPL will maintain a steady risk profile at current levels and focus of investments. *Id.*

Mr. De Stigter explained that proactive replacement aligns with the best practice asset management Witness Stephens promotes and is an active strategy employed by many utilities. De Stigter Rebuttal at 2, 3-5, 12-13. He added that Mr. Stephens' and Mr. Collins' characterization of the Burns & McDonnell approach is inaccurate; it is risk-based rather than being reliability-based or aged-based. *Id.* at 2, 6-9, 21-22. Mr. De Stigter explained that the Burns & McDonnell team he led performed a robust and detailed risk-based evaluation of the asset base including all power transformers, breakers, batteries, wood poles, primary, towers, and transmission conductor (see Section 3 of Appendix 8.3). *Id.* at 6-9, 14. He explained that the circuit assets were modeled at the span level providing a very granular level of detail for investment decision making. *Id.* He explained that the evaluation estimated a LOF for each of these assets based on the assets 'effective' age and survivor curves. *Id.* at 6-9, 14-15. He testified that asset health indices based on condition data were utilized to calculate 'effective' age for power transformers, breakers, and wood poles, a significant portion of the asset base (see Section 2.2 of Appendix 8.3). *Id.* at 15. He stated that the evaluation further factored in six different consequence categories with 15 total sub-categories to estimate the consequence of failure for each of these assets. *Id.* He added that the consequence categories are comprehensive including safety, customers, environmental, financial, system operations, and regulatory factors (see Section 2.3 of Appendix 8.3). *Id.* He said the risk-based evaluation then plots all the assets within the risk-grid providing the guidance for recommended investment strategy based on best practice asset management principles (see Section 4.0 of Appendix 8.3). He stated that the plan prioritizes investments to replace high-risk assets and provide the highest risk reduction per dollar invested (see Section 5.0 of Appendix 8.3). *Id.*

Mr. Shields also responded to Mr. Stephens' testimony regarding specific TDSIC Plan Projects and conditions. Shields Rebuttal at 14-21. Mr. Shields explained that Witness Stephens' rationale that double recovery should not be allowed is reasonable, he is mistaken as to the IPL/City of Indianapolis street light contract. *Id.* at 17. Mr. Shields explained that the cost of replacing a wood pole that fails inspection is not a cost the City pays under the contract. *Id.*

Mr. Shields also pointed out that Witness Stephens appears to assume (incorrectly) that the cost of replacement towers is currently included in IPL's TDSIC Plan Steel Towers Life Extension Project. *Id.* at 18. Mr. Shields clarified that this Project includes only the cost of the inspection and treatment of Steel Towers on IPL's transmission system as shown in IPL TDSIC Plan Section 6.11. *Id.*

With respect to the CBD Secondary Network Project, Mr. Shields explained that public safety is of paramount importance and was a primary driver in the Commission launching its previous investigation. *Id.* at 18-19. He said, notwithstanding IPL's reluctance to place a dollar value on health and safety, the CBD Secondary Network offers the benefit of providing public safety and maintains compliance with the direction from the Collaborative and therefore this Project should be approved. *Id.*; also IPL TDSIC Plan at 22.

Mr. Shields pointed out that Mr. Bentley's workpaper showed the TRIP Project has a benefit to cost ratio of 3.3 and is cost effective. *Id.* at 19. He said, this Project, calling for the inspection and mitigation of poorly performing taps in a targeted and deliberate manner, speaks to improving the customer experience, while proving to be cost justified. *Id.* Mr. Shields stated that Mr. Stephens' testimony that IPL provided no specific projects was not an accurate portrayal of the situation with this Project. *Id.* at 20. Mr. Shields explained IPL submitted 20 TRIP Class 2 estimates in its filing. *Id.* He added that since this project involves an "inspect and then mitigate" approach (similar to the Pole Replacement Project that Witness Stephens supports), prudence dictates that IPL key the scope of subsequent years on the most recent inspection review information. *Id.*

Mr. Shields explained there are several benefits relating to the Static Wire Performance Improvement and Substation Design Upgrades Projects, including: in replacing 3#8 Alumaweld static wire in a proactive manner, IPL is addressing a known poor performing component of its transmission system, the replacement of static wire with OPGW [Optical Ground Wire][6] represents a modernization effort that supports microprocessor relay protection type schemes, and the Substation Design Upgrades Project proactively addresses known system deficiencies in IPL's T&D system. *Id.*

He explained that in monetizing benefits to the TDSIC Projects in general, IPL's focus was on the customer experience. He added that since these Projects impact IPL's transmission system, the risk in deferring them is less about avoiding / eliminating customer interruptions and more about reducing the vulnerability of IPL's transmission system to an unplanned outage should one more event occur (*i.e.*, the rationale for establishing N-2 contingency). He said therefore, any customer impact (*i.e.*, the basis for monetizing the reliability-related benefits of a Project) represents a second-order effect (*i.e.*, two events would have to occur in tandem for a customer to experience an outage); and, consequently, the associated risk was not monetized. *Id.* at 20-21. He stated that failure to address the above-mentioned deficiencies though, places the IPL's system at risk, regarding transmission system reliability. *Id.*

5. Other Utility TDSIC Plans. Mr. Cummings addressed the relevance of comparing the level of investment of IPL's TDSIC Plan with the approved TDSIC plans for other Indiana utilities. Cummings at 4-5. Mr. Cummings stated that in applying risk as a key driver (defined as the product of likelihood and consequence of failure), not only does age and condition of specific assets come into play, the notion of the consequence of an asset failure plays a significant role in determining and prioritizing risk remediation efforts. *Id.* at 17. He said Indianapolis represents a comparably large population center with a wide range of customer categories (*i.e.*, residential, commercial and industrial) and corresponding increased expectations for safe and reliable service, which definitely increases the calculated consequences of any service interruption as compared to outages in other, perhaps larger, service territories. *Id.* He stated that the comparison by Mr. Collins focused on other factors (*e.g.*, larger service territories, heavier load, and less favorable reliability metrics) to suggest that IPL's funding request is out of proportion with other TDSIC plans approved by the Commission and ignores the effect of these potentially higher consequences. *Id.* at 17-18.

[6] See IPL TDSIC Plan at 57 for definition.

Mr. Shields testified that Mr. Collins' proposal that the IPL TDSIC Plan be spread over fourteen (14) years of work with two $600 million plans is completely arbitrary. Shields Rebuttal at 12-13. Mr. Cummings added that Mr. Collins' statements reflect a lack of understanding of the process invoked in assessing asset-related risk, while simultaneously laying the foundation for the integration of new technologies. Cummings at 14. He said a funding level of $600 million would force IPL to conduct suboptimal trade-offs between Age and Condition Projects (totaling approximately $1.0 billion in cost in IPL's TDSIC Plan) and those focused on Deliverability (totaling approximately $200 million in cost). *Id.* at 14-15. Mr. Cummings explained that even if IPL were to totally forego the Deliverability Projects (Distribution Automation and Substation Design Upgrades) which is not advisable, a significant gap would exist (approximately $400 million) in proactively addressing asset health related risks. *Id.* at 15. He added that in deferring these investments seven years (as inferred by Mr. Collins' recommendation), the likelihood of failure for these high-risk assets increases, and the resulting backlog creates even a greater challenge for years eight through fourteen. *Id.* He said Mr. Collins' statements regarding more moderate and less expensive plans also run counter to the approach in formulating a plan that optimizes the balance between mitigating risk, assuring safe and reliable service, and implementing the foundational elements for grid modernization. He said the current investment level of $1.2 billion reflects an iterative prioritization process, focused on meeting the objectives as specified in the TDSIC Statute. *Id.*

6. "Do Nothing Modeling Scenario". Mr. De Stigter also responded to claims made by Mr. Collins regarding the "Do Nothing" scenario in IPL's Risk Model. De Stigter Rebuttal at 15, 21. Mr. De Stigter testified that use of the "Do Nothing" scenario is appropriate; it represents the increased risk for the assets in the Asset Risk Model if no assets are replaced during the seven year planning period. *Id.* at 15-16. He said this provides a baseline for comparing investment scenarios and their impact to IPL's system risk. Mr. De Stigter further testified that using this approach is appropriate because few utilities, including IPL, have a long-term (5 to 10 year) baseline for capital improvements with specific projects. *Id.* at 16. Mr. De Stigter and Mr. Williams also explained that "Do Nothing" scenarios are routinely used to perform this type of analysis, the scenario is consistent, can be readily modeled, and is appropriate for use in creating risk reduction comparisons. *Id.*; Williams Rebuttal at 4-5.

Mr. De Stigter also explained that historical failure rates are not the best predictor of future asset failures, and the survivor curves incorporate historical asset failures. De Stigter Rebuttal at 2, 9-12. More specifically, Mr. De Stigter explained that using history as the guide for the future as urged by Mr. Stephens, ignores the fact that assets in a population do not last forever and will eventually reach the "Wear Out" period, regardless of how much maintenance has been performed. *Id.* at 10. Mr. De Stigter also explained that Mr. Stephens' assertions on how survivor curves are developed are inaccurate; the survivor curves do reflect retirements, which on many occasions were caused by asset failures as recorded in the property accounting record. *Id.* at 2, 9-12, 13-14. Mr. De Stigter added that the survivor curves are not based entirely on assumptions, they do incorporate actual failure data. *Id.* at 13-14.

C. Best Estimate.

1. Contingency and Inflation. Mr. Shields responded to Mr. Collins' claims regarding contingency included in IPL's cost estimates. Mr. Shields disagreed with Mr.

Collins' contention that IPL's cost estimates include a "large" contingency allowance. Shields Rebuttal at 5. He testified that IPL applied contingencies of 1-20% depending on complexity level, with most projects receiving a 10% contingency. *Id.* Mr. Shields testified that a 10% contingency is reasonable for T&D projects and is similar to contingencies used in other approved TDSIC filings. *Id.*

Mr. Williams added that including an allowance for contingency in construction project budgeting allows for uncertainties to be efficiently addressed as they occur rather than creating delays from the need to seek approval for additional funds. Williams Rebuttal at 2. He said inclusion of contingency is industry standard practice and added that IPL has included contingency consistent with the AACE cost estimating guidelines, based upon the technical complexity and the availability of appropriate cost reference information. *Id.* He added that, as discussed in Section 4.3 of IPL's TDSIC Plan, the degree of project definition was considered in determining the appropriate contingency. *Id.*

Mr. Shields also testified that including contingency in the cost estimate recognizes that unknown issues can arise in the implementation of any construction project. Shields Rebuttal at 8. He said given that it is industry standard to include contingency in estimating costs, the exclusion of contingency from the cost estimate would not establish the "best estimate" as required by the TDSIC Statute. Mr. Shields' explained why he disagreed with Mr. Collins' contention that approval of the Company's best estimate would cause the Company to relax its "cost discipline". *Id.* at 8-9. Mr. Shields concluded that the Company's best estimate should be approved. *Id.* at 8.

D. <u>Plan Benefits</u>.

1. <u>Monetization Analysis</u>. Mr. Cummings and Mr. De Stigter responded to the parties' misconceptions regarding IPL's monetization analysis. Cummings at 19-21; De Stigter Rebuttal at 16-19.

Mr. Cummings testified that the inference that the incremental benefits as presented by IPL are overstated and do not justify the proposed $1.2 billion of investment fails to recognize the full range of plan benefits. Cummings at 19-20. He explained that IPL adopted a portfolio perspective in formulating the TDSIC Plan, accounting for a host of quantitative and qualitative benefits across a comprehensive, integrated and inter-related group of thirteen (13) projects. *Id.* at 19. He stated that in combining this portfolio perspective with monetizing only those benefits most directly realized by IPL's customers (*e.g.*, prevention or reduction of customer interruptions, energy savings, and elimination of reactive work), and limiting the monetization to seven of the thirteen projects that define the TDSIC Plan, IPL avoided overstating (*i.e.*, double counting) the portfolio's economic value. *Id.* at 19-20. Mr. Cummings testified that of the seven "Benefit Categories" presented in Table 3.1 of IPL's TDSIC Plan, IPL only partially monetized portions of two for the five Asset Replacement Projects (Reactive Work and Customer and Small C&I Reliability). *Id.* at 20. He said IPL only partially monetized a subset of three for TRIP and Distribution Automation Projects (Reduced Maintenance and Reliability for TRIP and Reliability and Conservation Voltage Reduction for Distribution Automation). *Id.* Mr. Cummings explained that IPL maintained a conservative posture regarding cost factors for the partial list of monetized benefits. *Id.* He stated that IPL applied industry standard approaches in monetizing for reliability-related benefits, most notably the U.S. DOE ICE Calculator, which given the changing dynamic around customer

expectations is viewed as conservative in estimating the value a residential customer assigns to a service interruption. *Id.* Mr. Cummings maintained the position, stated in Section 3.1 of the Plan, that IPL's proposed TDSIC Plan provides benefits, both quantitative and qualitative, that far exceed the calculated monetized benefit-to-cost ratio. *Id.* at 21.

Mr. De Stigter also explained that the monetization analysis outlined in the risk monetization report, Appendix 8.11, does not consider all the benefit factors of replacing assets. De Stigter Rebuttal at 17. He said that the monetization report describes two subcategories of the consequence of failure framework outlined in the Asset Risk Model and is supplementary and subordinate to the Risk & Investment Assessment, Appendix 8.3. Mr. De Stigter explained that the risk monetization analysis does not factor in safety, environmental, system operations, or regulatory risk reduction benefits and should be read and understood only after reading and understanding Appendix 8.3. *Id.* at 18. He summarized that whereas Appendix 8.3 estimates risk as a score, Appendix 8.11 estimates risk in dollars. *Id.* at 18-19.

Mr. De Stigter also disagreed with Mr. Alvarez's statement that IPL "overstates the estimated customer savings benefits." *Id.* at 2, 22-23. Mr. De Stigter explained that Mr. Alvarez mischaracterizes IPL's analysis. *Id.* Mr. De Stigter explained that the assessment does not assume all the assets replaced as part of the Plan fail within the seven years. Rather, the analysis factors that some assets will not fail. *Id.*

Mr. Cummings explained that Mr. Alvarez's approach and supporting calculations ignore a TDSIC objective to replace those assets projected to perform poorly in the near future and ignores the customer experience during major outage events. Cummings at 23. Mr. Cummings explained that IPL's focus for establishing a baseline was on the full customer experience (*i.e.*, IPL included Major Event Days in its calculations), whereas Mr. Alvarez excluded the more costly and longer outage duration Major Event Days in his calculations. *Id*. at 22. Mr. Cummings stated that with Major Event Days included, equipment failures at IPL already account for 30 percent of the outages and is likely to increase without TDSIC. *Id.* at 22-23.

Mr. Cummings clarified that the savings attributed to reducing the cost of reactive work in IPL's monetization analysis (*i.e.*, the inefficiency factor for performing work in a reactive, unplanned manner) centers exclusively on the five Asset Replacement projects. *Id.* at 23. He said the specific assets identified for replacement were the result of applying the Model and the approach taken by IPL coincides with standard Asset Management practices where the probabilistic aspect of risk provides a valid basis for making asset-related decisions, and therefore demonstrates prudence in determining the appropriateness of proactively replacing critical assets. *Id.* at 23-24.

Mr. Cummings added that the majority of the interruptions on TRIP tap lines occur outside normal business hours and / or during adverse weather events. *Id.* at 24. He said restoration often involves tree trimming contractors, line construction contractors, and overtime for IPL employees. Therefore, the $50 million reduction in operating expenses over a 20-year period reflects adjustments in contract labor and reduced overtime, and the IPL employees typically assigned to reactive work will likely perform activities to support the maintenance, refurbishment, operation and replacement of assets. *Id.*

Mr. Cummings and Mr. De Stigter explained why the evaluation period of 20 years is reasonable. Cummings at 19-21; De Stigter Rebuttal at 19-20. In particular, Mr. Cummings explained that the 20 years of computed benefits represents a conservative window of continued customer benefits after the completion of the TDSIC-identified projects. Cummings at 19. He said the asset replacement and configuration changes related to these projects generally have expected lives in excess of 20 years. *Id.* He added that to suggest that customers can only benefit during the actual installation timeframe of new assets and capabilities, and that there is no residual benefit after installation defies logic. *Id.*

In response to Mr. Collins, Mr. De Stigter explained why the break-even point is not a concern. *Id.* at 19-20. He said the Plan's total net benefits (meaning total benefits outweigh total costs), occur within one year after the Plan's investment stops and for this reason, he is not concerned about the year payback period. *Id.* He added that every year after year eight increases the total net monetized risk benefits to a total of $658 million by year 20. *Id.* at 20. During cross-examination, Mr. De Stigter clarified that he modeled the capital costs being incurred as they may come. In other words, the break-even analysis is not an estimated revenue requirement because it did not reflect how the costs will actually be reflected in rate base and spread out over a 40-year period. He explained that if we were to re-perform the analysis and spread the investment over a 40-year period, the payback period would drop dramatically and likely be in the one to two-year range. TR. at C-20-21.

2. "Carrying Charges" And Nominal Vs. Present Value. Mr. Rogers explained why he disagreed with Mr. Alvarez's calculation of a $1.991 billion revenue requirement. Rogers Rebuttal at 3.

Mr. Cummings said he had not come across a situation where a benefit and cost comparison for a capital investment portfolio included the carrying charges to which Mr. Alvarez refers. Cummings at 25. That said, Mr. Cummings added that the net monetized benefit of $939 million (nominal) represented in IPL's TDSIC Plan (refer to Table 3.3 in the IPL TDSIC Plan) exceeds the $772 million (nominal) in carrying charges estimated by Mr. Alvarez. *Id,* Mr. Cummings also stated that when one accounts for the qualitative benefits that do not lend themselves to monetization (*e.g.,* improved customer experience and modernization), or additional quantifiable benefits (*e.g.,* safety and environmental) that IPL opts not to monetize, the gap between the total benefits and cost of the IPL TDSIC Plan only widens. *Id.* Thus, he stated that viewed from an overall Plan perspective, the combined contribution of all benefits (qualitative and quantitative) far exceeds these carrying charges.

Mr. De Stigter stated that Mr. Collins' contention that IPL's monetized benefits evaluation included only nominal figures is not accurate. Mr. De Stigter stated that Figure 3-3 of the Burns & McDonnell Risk Reduction Benefit Monetization Report (IPL TDSIC Plan as Appendix 8.11) shows both the nominal dollar figures and net present value of the monetized risk evaluation for five projects. De Stigter Rebuttal at 21. Mr. Cummings showed that on a present value basis, the total monetized benefits of $1.186 million exceed the TDSIC Plan cost of $944 million, for a net monetized present value benefit of $242 million. Cummings at 21.

3. Meter Replacement. Mr. Bentley disagreed with Mr. Alvarez's recommendation that the Meter Replacement Project should be rejected because it is not cost-

effective. Bentley Rebuttal at 8-9. He explained the proactive approach is both more efficient and avoids the risk of an unanticipated increase in rate of failure of the previously installed AMR meters. *Id.* citing TDSIC Plan Table 6.6.2. Mr. Bentley testified that the project will allow IPL customers to realize a savings of approximately $17.6 million, and will allow IPL to prepare for new and emerging technologies such as electric vehicle charging infrastructure and energy storage sooner, which will also benefit IPL's customers. *Id.* at 9; see also Shields Rebuttal at 21.

4. IBRC Economic Impact Estimate. Mr. Kinghorn explained that his study was not intended to be a broad cost benefit analysis. He explained that under a broad cost-benefit analysis, the cost associated with higher customer rates would be a factor, but so too would additional potential benefits, such as the value to customers of expected reliability improvements (*i.e.,* fewer/shorter service interruptions), energy conservation, etc. He said this type of broad cost-benefit analysis is outside the scope of a typical input-output analysis, which focuses exclusively on the degree to which the local economy in Marion County can expect to capture the expenditures associated with IPL's TDSIC Plan, as well as the magnitude of the ripple effects in the local economy related to these payments made to local businesses. Kinghorn Rebuttal at 2.

E. Annual Updates. In response to Mr. Collins, Mr. Shields explained that IPL does not seeks to erode the statutory safeguards in Section 9(g). Shields Rebuttal at 9-10. He reiterated that IPL plans to confer with stakeholders on the format and content of the annual update. *Id.*

F. Accounting and Ratemaking. Mr. Chad Rogers responded to the issues raised by OUCC Witness Blakley and Industrial Group Witness Collins regarding IPL's "rate impact analysis." Mr. Rogers clarified that IPL is not seeking approval of a revenue requirement in this Cause and the purpose of including Table 1 – Average Aggregate Increase in IPL's Total Retail Revenues – in his direct testimony was to demonstrate that IPL's TDSIC Plan does not result in an average aggregate increase in IPL's total retail revenues of more than two percent (2%) in a twelve (12) month period. Rogers Rebuttal at 2. He testified the calculation is only an estimate, and IPL will file an annual request for a TDSIC Rider under Section 9 in order to timely recover the actual revenue requirement based on actual project spend. *Id.*

Mr. Rogers also clarified that to increase administrative efficiency IPL plans to file an *annual* request for a TDSIC Rider under Section 9 rather than a semi-annual request as suggested in Mr. Collins' testimony. *Id.* at 4-5.

With respect to Witness Collins' concern that IPL used its return on equity approved in its most recent rate case in the analysis, Mr. Rogers reiterated that IPL is not seeking approval of a revenue requirement in this Cause. *Id.* at 2. He said his estimated revenue requirement properly used the authorized return on equity from IPL's most recent rate case and IPL's cost of debt and capital structure as accepted in IPL's most recent approved Environmental Compliance Cost Recovery Adjustment filing (Cause No. 42170-ECR32). *Id.* at 5.

Mr. Shields responded to Mr. Collins' statement that IPL does not propose to track cost savings that it may realize through the planned investments. Mr. Shields explained that IPL's TDSIC Plan focuses on risk reduction, reliability and new technologies. Shields Rebuttal at 21. He said these types of investments are not expected to result in IPL's overall O&M expense dropping,

but help mitigate ongoing increases in O&M. In other words, the projects are expected to reduce ongoing O&M as compared to what it would otherwise be. *Id.* He added that each TDSIC Project has an associated O&M expense component (*e.g.*, distribution transformers are capitalized upon receipt and the labor to install transformers are expensed at the time of installation). *Id.* Specific to metering, Mr. Shields explained that IPL currently operates an AMR system, which removed expense of reading meters manually at the time of the AMR installation. *Id.* He said, as a result, IPL's customers have already benefitted from the associated O&M savings. *Id.* He said, the proposed meter replacement project moves to the next generation technology (AMI) and the expected operational savings are less than what was achieved at the time IPL transitioned from manual to automated meter reading. *Id.*

Mr. Rogers explained why IPL will not recover income taxes on the same earnings twice as stated by Mr. Blakley and testified that IPL's treatment of federal income taxes in this case is consistent with the treatment IPL used in other Commission proceedings. Rogers Rebuttal at 6-9.

Mr. Rogers also testified he disagreed with Mr. Blakley's recommendation to amortize the $2.3 million in Plan Development Costs over the life of the assets, as opposed to a period of three years as IPL has suggested. *Id.* at 9-10. Mr. Rogers explained that the Plan Development Costs relate to the overall preparation and activities involved with developing and presenting the Plan for approval by the Commission, and are not fully identifiable to a specific capital project. *Id.* at 9. He testified Mr. Blakley's position therefore does not properly recognize the nature of the costs and a three-year period has the benefit of reducing the amount of carrying costs on the deferral. *Id.* at 9-10.

Mr. Rogers disagreed with Mr. Blakley's recommendation that the retirement of replaced assets be recognized as a reduction in depreciation expense in IPL's TDSIC tracker and explained that Mr. Blakley's recommendation conflicts with the Commission's past decision on the issue in Cause No. 44371. Rogers Rebuttal at 10. Mr. Rogers added that Mr. Collins is correct that IPL does not propose an adjustment to eliminate the return on the replaced assets. *Id.* at 11. Mr. Rogers explained that the Commission's May 7, 2014 Order on Petition for Reconsideration in NIPSCO, Cause No. 44371 and the Indiana Court of Appeals Conclusion in Cause No. 93A02-1403-EX-158 support not making an adjustment to eliminate the return on the replaced assets. *Id.* Mr. Rogers noted that OUCC Witness Blakley explained (page 5) in his testimony: "The Commission's Order in Cause No. 44182 confirms that the appropriate accounting treatment of plant retirements is to debit the original cost of the replaced asset to the accumulated depreciation account and to credit that amount to the plant account. Thus, as the Commission stated, this 'has no effect on rate base,' therefore the new investment does not need to be lowered in the calculation of return in the tracker." *Id.*

Finally, Mr. Rogers disagreed with Mr. Collins' characterization of the amounts in Table 1 of his testimony as historical "IPL Transmission and Distribution Rate Base. *Id.* at 15-16.

G. <u>Other Matters</u>. In response to the concerns raised by Mr. Olson, Mr. Bentley testified that concerns over radio frequency exposure are not new and have been studied by a wide variety of health organizations over the years. Bentley Rebuttal at 6. He said smart meters emit a low level of radio frequency energy that is both Federal Communications Commission-approved and lower than the level of Radio Frequency energy emitted by many other

devices that are used daily by millions of people, such as cell phones and microwave ovens. *Id.* at 6. He said the World Health Organization and American Cancer Society have found that low level, non-ionizing radiation, such as that produce by a smart meter is not directly associated with damage to human DNA. *Id.* With respect to privacy concerns, Mr. Bentley testified that no customer identity information is transmitted from the AMI meter, and only meter readings and electrical quantities are transmitted over the network. *Id*. at 6-7. He said IPL's existing AMR/AMI network security suite is built and certified by IPL's AMR/AMI meter supplier to meet or exceed US government and international standards. *Id.*

Mr. Bentley testified that IPL began installing smart meters almost 20 years ago. *Id.* at 5, 7. He explained that smart meters are a very important step to improving the delivery of electricity for consumers. *Id.* at 7. He explained that working as a part of the smart grid, smart meters improve power outage detection, resulting in faster restoration and improved status notification to the customer and added that smart meters help create a more efficient, more reliable, and better quality of service for customers. *Id.* at 7. Mr. Bentley said AMI meters will allow IPL to manage the grid and provide improved accommodation for distributed generation such as solar and wind, as well as be better able to meet increased adoption of storage and electric vehicles in the future. *Id.*

He said an opt-out program would require IPL to use outdated meters, would be burdensome and costly, as it would ultimately lead to the creation of special routines to read meters, provide less outage information to customers and the utility, and increase costs to dispatch meter-readers. *Id*. Mr. Bentley suggested that if the Commission desires to further explore these matters, it has the ability to initiate a rulemaking, which would allow the issue to be adequately assessed and addressed on an industry-wide basis. *Id*.

Mr. Bentley stated that while there are many customer benefits associated with smart thermostats and additional AMI enabled rate designs, the recommendations made by Mr. Sandoval are outside the scope of IPL's TDSIC Plan and the TDSIC statute. *Id.* at 8. He added that IPL is willing to discuss the enhancement of the smart thermostat program with the DSM Oversight Board and that IPL is also willing to consider whether a pilot would be beneficial and to seek stakeholder input but stated however, it is premature to impose requirements at this point. *Id.* With respect to Mr. Sandoval's recommendation that a stakeholder process be initiated to discuss using AMI and how the data can be used and accessed, Mr. Bentley reiterated that a Commission rulemaking would be a better approach because it would allow the issue to be assessed and addressed on an industry-wide basis. *Id*.

With respect to Mr. Sandoval's recommendations regarding IDP, Mr. Bentley stated that a comprehensive statewide study regarding IDP is already underway, as the Indiana Legislature passed a bill in the 2019 Session requiring the Commission to initiate a comprehensive study that includes the impacts of new and emerging technologies for generation of electricity, including the potential impact of such technologies on local grids or distribution infrastructure. Bentley Rebuttal at 9. Mr. Bentley explained why the transition to IDP is not something that needs be addressed within the context of the TDSIC case, and added that imposing new and unique IDP requirements on IPL now when the Commission is considering statewide requirements is inappropriate. *Id.* at 10. Mr. Cummings rebutted the notion that a full-fledged IDP process is required to comply with, or for that matter applies to the TDSIC Statute, explaining that any such process would necessarily address the challenges of aging infrastructure and would incorporate a risk-based approach similar

to that described in the IPL's TDSIC Plan. Cummings at 6. He said the Plan certainly incorporates elements that would constitute the preliminary aspects of IDP but extending its scope to address a vastly expanded vision, is risky and by his interpretation, outside the purview of the TDSIC Statute. *Id.*

With respect to Mr. Sandoval's recommendations regarding performance metrics and reporting, Mr. Bentley pointed out that Mr. Sandoval does not articulate why his proposed metrics should be tracked and he fails to consider the resource and cost considerations of such efforts. Mr. Bentley stated that the Company has a well-established asset management framework and already reports performance metrics, which were established through a stakeholder collaborative discussion conducted in accordance with the Commission order in Cause No. 44576. Bentley Rebuttal at 13-14. Mr. Bentley stated that if the Commission concludes there is a need to proceed with Mr. Sandoval's proposal, the Commission should structure such regulatory requirements through the context of IPL's existing Collaborative, established in Cause No. 44602, so as to mitigate the cost thereof. *Id.* at 14. Mr. Bentley added that the performance-based regulation issues of interest to Mr. Sandoval are not limited to IPL but affect other utilities as well. *Id.* Mr. Bentley stated that while smaller forums or collaboratives may be better suited for an initial exploration of issues, the Commission has generally convened rulemakings or other generic proceedings to assess matters affecting the utility industry at large. *Id.*

10. <u>Commission Discussion and Findings</u>.

Indiana Code §8-1-39-10 establishes the statutory criteria we are to utilize in evaluating whether IPL's TDSIC Plan[7] should be approved. Section 10(b), in particular, sets forth three conclusions we must reach before we can approve a TDSIC plan. That statutory provision requires that we make specific, and separate, findings based on the record evidence. Namely:

(1) A finding of the best estimate of the costs of the eligible improvements included in the plan.
(2) A determination whether the public convenience and necessity require or will require the eligible improvements included in the plan.
(3) A determination whether the estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan.

We must also conclude that the plan is "reasonable" before we may approve the plan and authorize "TDSIC treatment" for "eligible transmission, distribution, and storage system improvements."

In this proceeding various parties challenged whether some of the 13 proposed Projects should be included in any approved TDSIC plan. No party, however, challenged that the list of Projects and specific system improvements proposed by IPL, set forth in Confidential Appendix 8.7 to Attachment BJB-2, failed to meet the definition of "eligible transmission, distribution, and storage system improvements" under Indiana Code §8-1-39-2. Nor did any party challenge that

[7] Provided as Attachment BJB-2 to Mr. Bentley's Direct testimony.

Attachment BJB-2 fails to meet the minimum requirements of a "TDSIC plan" under Indiana Code §8-1-39-7.8. We conclude that in the absence of a challenge to these statutory criteria, IPL has met its minimum burden of proof to establish that its proposed Projects and individual investments meet the definition of "TDSIC plan" under Indiana Code §8-1-2-7.8. [8]

As noted above, Section 10(b) of the TDSIC Statute requires we make specified findings regarding a proposed TDSIC plan including that the utility has presented a "best estimate" of the costs of improvements, that the "public convenience and necessity" require the improvements, and that the "estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan." Each of these criterion must be satisfied in order for the Commission to approve a TDSIC plan, and in the event the utility cannot meet any one of the criteria the proposed TDSIC plan cannot be approved.

The Indiana Supreme Court has made clear that we must "meaningfully apply the Statute's cost-benefit guideposts" during a Section 10 plan approval case, and that doing so "requires the Commission to determine whether the estimated costs of the improvements are justified by their incremental benefits." *See NIPSCO Industrial Group v. Northern Indiana Public Service Co.*, 100 N.E.3d 234, 242-243 (Ind. 2018).

The reason for this requirement is clear. In the context of traditional ratemaking the Commission has the opportunity to review capital investments after they are in service for their prudence and cost effectiveness and has the opportunity to disallow excessive or unreasonable expenditures. *See, Indiana-American Water Co. v. Office of Utility Consumer Counselor*, 844 N.E.2d 106, 116 (Ind. Ct. App. 2005); *Citizens Action Coalition v. Northern Indiana Public Service Co.*, 485 N.E.2d 610, 614-15 (Ind. 1985), *cert. denied*, 476 U.S. 1137 (1986). Here, however, as in the case of tracking mechanisms, we are preapproving planned system work, and pursuant to Indiana Code §8-1-39-9(a) the TDSIC Statute allows costs to be recovered from customers up to the approved estimates. This shifts risk from IPL to its customers, both with

[8] This statute requires that a "TDSIC Plan" be between five and seven years in length and be comprised of "eligible transmission, distribution, and storage system improvements" a term of art defined in Indiana Code §8-1-39-2. We note that Indiana Code Chapter 8-1-39 was revised in 2019 by House Enrolled Act 1470 and now only requires that eligible improvements under Section 2 be "described" for purposes of inclusion in a TDSIC Plan.

IPL's TDSIC Plan, set out in Attachment BJB-2, at least "describes" the 13 Projects included in the Company's plan, as well as individual planned investments to be undertaken by IPL over the course of its proposed seven-year TDSIC Plan. The exhibit identifies not only the broader Projects, but Confidential Appendix 8.7 to Attachment BJB-2 sets out a list of the proposed investments to be undertaken in each plan year by Project as well as the proposed capital cost. This description, together with the testimony of IPL's witness Rogers, at least allows us to be assured that the projects were not included in IPL's rate base at the time of its last rate case. *See Rogers Direct* at 3, 5.

Because we address the approval of IPL's TDISC Plan with regards to the incremental benefits criterion under Section 10(b), we make no finding as to whether IPL's evidentiary submission is sufficient to allow us to assess the Plan against the "best estimate" and "public convenience and necessity" requirements of Section 10(b). Nor do we make any finding with respect to the Plan's sufficiency overall. *See NIPSCO Industrial Group v. Northern Indiana Public Service Co.*, 31 N.E.3d 1 (Ind. App. 2015) (rejecting offered plan as inadequate when detail was insufficient to evaluate plan under Section 10(b) criteria).

respect to the rate impacts associated with the system improvements and with respect to the anticipated benefits from the improvements.

This case, then, is the opportunity for the Commission to determine the costs and benefits of the planned projects included in IPL's TDSIC Plan and Section 10(b)(3) operates as a substitute for the prudence review and potential cost disallowance under traditional ratemaking. We note that although portions of the TDSIC Statute were amended in 2019, Section 10(b)(3) was not. There is nothing, then, to suggest this critical ratepayer protection was undone by the legislature, and we will continue to diligently apply the cost benefit criterion.

Here, IPL has not demonstrated or quantified the incremental benefits associated with the Company's TDSIC Plan. IPL's presentation did not analyze the reliability improvements achieved through the Plan using established methods to measure system reliability such as SAIFI or SAIDI. Instead, the Company repeatedly emphasized that its Plan is focused on "risk reduction", and "maintain[ing] system reliability" rather than enhancing reliability. *IPL Proposed Orde*r at 34-35. IPL, accordingly, argues that its Plan will result in a 36.6% reduction in risk, but this does not address the level of incremental service improvement to be achieved as a result of a planned investment of $1.2 Billion over the next seven (7) years.

This reduction in risk is measured against a "do nothing" scenario. While a "do nothing" scenario may be convenient for the purported purpose of establishing a baseline upon which to estimate alleged benefits of the Plan, it simply does not reflect realistic operations. Even without a TDSIC plan, we would expect IPL to be making system investments in accordance with prudent management practices and its obligation to provide safe, adequate and reliable service. Mr. Bentley, in fact, testified at the hearing that IPL is already making significant, annual, capital investments in its transmission and distribution systems. Further, as Mr. Collins testified, IPL is already taking defined steps such as increased budgets for tree-trimming that will address what IPL described as the leading cause of outages. *Collins Direct* at 10-11. Thus, we cannot view IPL's system in a vacuum for the purposes of measuring risk reduction when we know, inherently, that the Company will already address reliability, safety, and risk reduction through its ongoing investment outside of the proposed Plan.

IPL attempts to monetize the value of the proposed Plan by asserting a net benefit value of $938 million over the course of the next 20 years. IPL's monetization analysis is seriously flawed in that it did not adjust the calculated benefits to the present value. Doing so, by IPL's own calculation, lowers the claimed benefits from $938 million to $242 million — a 74.2% reduction. *Cummings Rebuttal* at 21. Likewise, the view of benefits to be realized over a 20-year horizon, when Plan expenditures will be undertaken during the 7 years of the Plan, represents a mismatch. IPL analyzes the benefits "out of phase" with the incurred costs, raising serious questions about asking today's customers to pay for benefits that will ultimately only be realized by future generations of customers. Indeed, IPL's own analysis shows that the Plan's calculated benefits will not exceed the costs until at least one year after the conclusion of the Plan when "benefits are not burdened by costs." *De Stigter Rebuttal* at 20. But costs will continue to be incurred as IPL

continues investments in its system, continues to collect costs related to the Plan over the life of the improvements made, and the analysis further assumes that there will be no changes to the Projects or costs over the course of the Plan. Thus, IPL has not shown that net benefits will result from the Plan.

IPL fully acknowledges that, even if approved and completed, its proposed Plan will not eliminate risk on the system. There is no guarantee "risky" assets will not fail even if they are replaced. Using IPL's definition where Risk = Likelihood of Failure X Consequences of Failure, the best that can be said is that under IPL's "risk reduction" plan, while the likelihood of failure may be reduced, the "consequences of failure" will remain even if the Plan is fully approved and all the proposed investments are made. In other words, risk remains.

This reality underscores another difficulty with IPL's analysis by opening the door to long-term consequences. Using IPL's analysis, investment would reach a point of diminishing return as more and more capital is invested to produce a smaller and smaller level of risk reduction. IPL's efforts to meet the Section 10(b)(3) requirement by emphasizing risk reduction, are thus misdirected as it is effectively arguing that any investment that reduces risk justifies the expenditure. But that cannot be true. Risk will always remain, and adopting "risk reduction" as a substitute for incremental benefits will, therefore, forever justify further expenditures regardless of the magnitude of costs invested or the progressively smaller service improvements or risk reduction achieved.

We further note that IPL's proposed TDSIC Plan is not consistent with the circumstances of its system. IPL has a strong history of performance in established reliability metrics among peer utilities in Indiana and across the nation. It has touted that fact in Commission proceedings and to the public. *Collins Direct* at 7-10. IPL acknowledges that investments are already being made to maintain, and even improve, that reliability. IPL asserts concern that its reliability metrics are slipping, but now IPL requests approval of $1.2 Billion in capital investment without demonstrating any enhancement to its existing system reliability as a result of that investment.

IPL's proposed TDSIC Plan is on a comparative dollar magnitude to plans approved, pursuant to settlements, for larger and more diverse electric systems with different reliability metrics. We recognize that all utility systems are different and face different challenges so that benchmarking IPL's proposed TDSIC Plan has its limits. This applies to the analysis on the part of Consumer Parties, but also to IPL's analysis which relies heavily on assessing the reasonableness of its Plan against approved plans for other electric utilities without taking into account the circumstances under which those plans were approved — namely as settlements with extensive ratepayer protections.

That said, it is nevertheless, reasonable to consider that IPL's proposed Plan is, financially, comparable to Duke's (the largest investor owned utility in Indiana) and NIPSCO's (the investor owned utility with the largest concentration of heavy industry in Indiana). It is, no matter the challenges imposed by operating in an urban center, difficult to conclude a comparably sized plan

is appropriate. In addition, compared to the base rate increases approved in IPL's two most recent rate cases, $29.6 million and $43.9 million, the TDSIC Plan here calls for an estimated annual revenue requirement of $115.3 million by the final year. That, of course, is assuming a range of factors, including that that no new projects are added over the life of the plan, and that costs do not change. There is no certainty of any of the presumptive conditions that went into IPL's calculations, done primarily to illustrate the Plan will remain below the 2% statutory cap, will remain the same over the course of the Plan. We thus recognize that $115.3 million annual revenue requirement could fluctuate.

Regardless of any fluctuation, this is a significant burden to be imposed on customers. In evaluating that burden, we are mindful that while the TDSIC Statute was enacted in part to encourage investment in utility infrastructure, the General Assembly has also established that it is the policy of the state that while pursuing infrastructure investment, we do so "while protecting the affordability of utility services for present and future generations of Indiana citizens." Indiana Code §8-1-2-0.5.

Faced with a utility that has an established track record of providing reliable service, unconvinced that the risk reduction analysis is an appropriate lens through which to measure the "incremental benefits" of a TDISC plan, and concerned with the consequences for affordability associated with IPL's plan, we find that the Company has not met its burden under Indiana Code §8-1-39-10(b)(3) to demonstrate that the "estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan." We therefore conclude that IPL's TDSIC Plan does not satisfy the cost-justification requirement and, hence, cannot be approved.

In doing so, however, we are not foreclosing the approval of a future TDSIC plan submitted by IPL. The policy of the state is to pursue necessary infrastructure investment and the TDSIC is a tool by which a utility may pursue that policy. Nevertheless, we encourage IPL to consider the contents of this Order, and the positions taken by other parties to this case, before submitting another TDSIC plan for approval. We further encourage IPL to review closely the protections afforded in approved plans and to actively work to integrate, with clarity, those protections prior to any subsequent filing.

In light of the determination that IPL's TDSIC Plan, as proposed, does not meet the cost-justification requirement under Indiana Code §8-1-39-10(b)(3), the Commission need not make findings with respect to the other statutory considerations. In particular, the Commission is not deciding whether particular components of the Plan as presented that were challenged by other parties would be appropriate to include in any revised Plan; whether the cost estimates reflect a reasonable contingency allowance; whether the Plan update process envisioned by IPL complies with the cost increase provisions of Indiana Code §8-1-39-9(g); whether depreciation should be netted when assets are replaced; and whether IPL's other accounting treatment (such as the request to recover initial Year One costs and plan development costs) should be approved.

11. Other Matters.

A. Confidentiality Findings. IPL filed a Motion for Protection and Nondisclosure of Confidential and Proprietary Information on July 24, 2019, which Motion was supported by affidavits showing documents and workpapers to be submitted to the Commission were confidential, proprietary, competitively-sensitive and trade secret information within the scope of Ind. Code §§ 5-14-3-4 and 24-2-3-2. The Presiding Officers issued a Docket Entry on August 7, 2019 finding such information to be preliminarily confidential, after which such information was submitted under seal. There was no disagreement among the parties as to the confidential and proprietary nature of the information submitted under seal in this proceeding. We find all such information is confidential pursuant to Ind. Code §§ 5-14-3-4 and 24-2-3-2, is exempt from public access and disclosure by Indiana law and shall be held confidential and protected from public access and disclosure by the Commission.

B. Administrative Notice of Workpapers. On the third, and last day, of the evidentiary hearing in this Cause, with a single witness left to be subject to cross-examination, IPL moved for the admission of approximately 200 workpapers. The OUCC, Industrial Group, and City of Indianapolis orally objected on the record on the grounds that the request was untimely and would be a prejudicial supplementation of IPL's case. *Tr*. at E-7 to E-8. The Commission took the issue under advisement. *Tr*. at E-6 to E-9. In its post-hearing submissions, IPL repeated arguments made at the hearing that the material should be included as it was not untimely submitted and there would be no prejudice because the material had been available to all parties since IPL filed its case in July, 2019, and further that inclusion was appropriate given prior appellate treatment of TDSIC matters. *Compare Proposed Order* at 37 *with Tr*. at E-9. The OUCC, Industrial Group, City of Indianapolis, now joined by the CAC and ELPC, filed a separate written response to that portion of IPL's proposed order.

The Commission's rules regarding when requests for Administrative Notice such as IPL's should be made. 170 IAC 1-1.1-21(j) clearly and unequivocally states: "A request by a party for administrative notice of a factual matter that should be included in the party's prefiled testimony shall be made at the same time the related evidence is prefiled."

Here IPL clearly intends the workpapers to provide needed evidentiary support for key elements of its proposed TDSIC Plan including the cost estimates, monetization analysis and Risk Modeling. *Proposed Order* at 37. Indeed, in its supporting brief filed with its Proposed Order, IPL stated that its "exhibits and workpapers provide the information necessary for the Commission and the parties to conduct an independent review of the estimated costs." *IPL Brief* at 4. As material providing "necessary" information to allow the Commission to conduct its review of IPL's case, the material contained in the workpapers should have been included in IPL's evidentiary submission. We cannot review it otherwise for purposes of rendering our decision because as workpapers they have no evidentiary value.

We agree, further, with the Consumer Parties, that they would be prejudiced by inclusion of the workpapers in the record at this time. All parties proceeded with the understanding that IPL's TDSIC Plan is comprised of a single document, Attachment BJB-2. To let IPL supplement

the record at this late hour with additional material would deprive the other parties of a reasonable opportunity to challenge IPL's case.

Because IPL's request is untimely and because granting it would deny the other parties due process, we deny IPL's motion for administrative notice.

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

1. IPL's seven year TDSIC Plan is denied for the reasons set forth herein.

2. All other requests made by IPL in this proceeding are denied at this time. All Parties shall have the right to re-litigate any issue should IPL file a new case seeking approval of a revised TDSIC plan.

3. The information filed by IPL in this Cause pursuant to its Motion for Protective Order is deemed confidential pursuant to Indiana Code §§ 5-14-3-4 and Code 24-2-3-2, is exempt from public access and disclosure by Indiana law, and shall be held confidential and protected from public access and disclosure by the Commission.

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

HUSTON, FREEMAN. KREVDA, OBER AND ZIEGNER CONCUR:

APPROVED:

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

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Mary M. Becerra,
Secretary to the Commission