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**

INDIANAPOLIS POWER & LIGHT COMPANY'S
SUBMISSION OF ITS PROPOSED ORDER

Petitioner, Indianapolis Power & Light Company ("IPL", "Petitioner" or "Company"), by counsel, hereby submits the attached Proposed Order.

Respectfully submitted,

Teresa Morton Nyhart (Atty. No. 14044-49)
Jeffrey M. Peabody (Atty. No. 28000-53)
Lauren M. Box (Atty. No. 32521-49)
BARNES & THORNBURG LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Nyhart Phone: (317) 231-7716
Peabody Phone: (317) 231-6465
Box Phone: (317) 231-7289
Fax: (317) 231-7433
Nyhart Email: tnyhart@btlaw.com
Peabody Email: jpeabody@btlaw.com
Box Email: lauren.box@btlaw.com

ATTORNEYS FOR PETITIONER INDIANAPOLIS POWER & LIGHT COMPANY

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing was served upon the following via electronic email, hand delivery or First Class, or United States Mail, postage prepaid this 27th day of November, 2019 to:

Jeffrey Reed
Indiana Office of Utility Consumer Counselor
Office of Utility Consumer Counselor
115 West Washington Street, Suite 1500 South
Indianapolis, Indiana 46204
infomgt@oucc.in.gov
jreed@oucc.in.gov

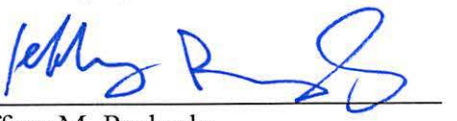
Joseph P. Rompala
Todd A. Richardson
LEWIS & KAPPES, P.C.
One American Square, Suite 2500
Indianapolis, IN 46282-0003
JRompala@Lewis-Kappes.com
TRichardson@lewis-kappes.com

Courtesy copy to:
ETennant@lewis-kappes.com
Atyler@lewis-kappes.com

Anne E. Becker
Bette J. Dodd
Lewis & Kappes, P.C.
One American Square, Ste. 2500
Indianapolis, Indiana 46282
ABecker@Lewis-Kappes.com
BDodd@Lewis-Kappes.com

Jennifer A. Washburn
Margo Tucker
Citizens Action Coalition
1915 West 18th Street, Suite C
Indianapolis, Indiana 46202
jwashburn@citact.org
mtucker@citact.org

Nikhil Vijaykar, Staff Attorney
Adrienne Dunham, Legal Assistant
Environmental Law & Policy Center
35 E. Wacker Drive, Suite 1600
Chicago, Illinois 60601
nvijaykar@elpc.org
adunham@elpc.org



Jeffrey M. Peabody

Teresa Morton Nyhart (Atty. No. 14044-49)
Jeffrey M. Peabody (Atty. No. 28000-53)
Lauren M. Box (Atty. No. 32521-49)
Barnes & Thornburg LLP
11 South Meridian Street
Indianapolis, Indiana 46204
Nyhart Phone: (317) 231-7716
Peabody Phone: (317-231-6465
Box Phone: (317) 231-7289
Fax: (317) 231-7433
Nyhart Email: tnyhart@btlaw.com
Peabody Email: jpeabody@btlaw.com
Box Email: lauren.box@btlaw.com

ATTORNEYS FOR PETITIONER
INDIANAPOLIS POWER & LIGHT COMPANY

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, attachments and 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. 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. <u>OUCC Evidence</u>.

A. <u>Accounting and Ratemaking</u>. Wes R. Blakley, Senior Utility Analyst with the OUCC, testified he had concerns that IPL would recover a portion of its federal income taxes twice if IPL includes federal income taxes in its 20% deferred TDSIC requirement and federal income taxes get applied to the deferral again when these costs are included in IPL's next base rates case. Blakley at 3. He recommended the federal income taxes that have been included in the 20% TDSIC deferral not be grossed up for taxes again in IPL's next rate case. *Id*. Mr. Blakley further testified he had concerns regarding IPL's proposal to amortize and recover its TDSIC plan development costs over a three-year period, because those costs should be amortized over the life of the assets. *Id*. at 4. He recommended the amortization of IPL's $2.3 million Plan Development Costs be over the life of the asset according to its particular plant account, not an accelerated amount of 3 years. *Id*. at 6. Mr. Blakley also recommended that IPL be required to recognize the

[2] See Ind. Code § 8-1-39-14.

retirement of replaced assets as a reduction in deprecation expenses in its TDSIC tracker. *Id*. at 5-6.

6. Industrial Group Evidence.

A. TDSIC Plan. Brian C. Collins, Principal, Brubaker & Associates, Inc., testified that based on repeated assertions made by the Company, IPL already has a very reliable electric system and has taken recent steps to improve its system reliability. Collins at 2-3, 7-11. In his view, these improvements to reliability should reduce the need for aggressive spending to achieve smaller increments of reliability benefits. *Id*. at 3. Mr. Collins contended that IPL has not demonstrated that there is a pressing need to make the aggressive spending necessary to complete $1.2 billion of work in the next seven years. *Id.* at 20. He also testified IPL's proposed Plan appears out of proportion with other TDSIC Plans approved by the Commission. *Id*. at 3, 12. He recommended the Commission either deny the relief sought by IPL, or else condition approval on IPL submitting a revised plan that spreads the proposed expenditures over a longer period of time such as two TDSIC periods instead of one. *Id*. at 3-4, 20. He testified a $600 million plan 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 other approved TDSIC plans for larger electric utilities in Indiana, would permit immediate attention to the highest priority work yielding the greatest benefits to reliability, and would have a more reasonable impact on IPL's rate base and customer rates through the time of the next rate case. *Id*. at 4, 20.

Mr. Collins testified that risk analysis is certainly an appropriate planning tool, but effective planning should also include an assessment of experience and identification of system components that IPL knows to be poor-performing. *Id.* at 18. Pointing to IU and IU Health, Mr. Collins raised a concern that ongoing issues at customer locations with a history of service disruptions are not adequately addressed in the IPL planning process. *Id.* at 3, 18.

B. Best Estimate. Mr. Collins stated that the cost estimates used to determine the costs of the investments contained in the TDSIC Plan could reduce the level of benefits. Collins at 15. He said the cost estimates put forward by IPL for five of the seven years reflect cost variability of 50% and include large contingency allowances. *Id.* at 3, 15. He added that as IPL proposes to "update" its estimates in future tracker proceedings, there is considerable risk that the ultimate cost of the plan will end up being substantially greater than the $1.2 billion estimated by IPL in this proceeding. *Id.* at 3. He stated that once those estimates are endorsed as part of the TDSIC plan approval, IPL will have assured rate recovery up to the estimates, including the contingency portion, and its incentive to maintain cost discipline within those bounds will be relaxed. *Id.* at 15. He contended that where costs are preapproved for recovery in rates, the Commission should exercise restraint in allowing contingencies in estimates. *Id.*

C. Plan Benefits. Mr. Collins testified that a utility like IPL is expected to provide reasonably adequate service and facilities, and can and should make the necessary and appropriate investments to keep its system in sound working condition so that it can continue to

deliver reliable service. *Id.* at 19.[3] He said $1.2 billion is a large amount of investment that is going to be recovered from customer rates for many years to come. *Id*. Mr. Collins added that it is important to ensure that IPL's investment is prudent and cost-justified in light of the incremental benefits that ratepayers can reasonably expect to derive. *Id*. He said the spending level proposed by IPL is greatly excessive to achieve incremental benefits to what IPL has repeatedly represented as being already highly reliable service. *Id.* He contended the monetized benefits analysis IPL presented understates the costs and overstates the monetized benefits. *Id*. at 3, 12-15. He contended that IPL presented only nominal dollar figures, without any adjustment to determine a net present value ("NPV") of the benefits. He said therefore, the Company's presentation does not account for the time value of money. *Id.* at 13. He added that the computation is only relative to a "do nothing" alternative and that is not the relevant comparison, because even in the absence of an approved TDSIC plan, a reasonable and prudent utility would not "do nothing". *Id*. at 13-14. Mr. Collins contended that the "do nothing" alternative thus greatly overstates the consequences of system failures, and the more appropriate comparison would be sound and prudent utility system investments with ongoing equipment repairs and replacements. *Id.* at 14. He added that the analysis presented by IPL does not compare the asserted benefits of the proposed $1.2 billion plan to a plan with a less aggressive level of spending over the next seven years, and therefore does not demonstrate that the proposed $1.2 billion investment would yield sufficient incremental benefits compared to a more moderate and less expensive plan. *Id*. He stated that the analysis does not account for the risk of cost increases and possibility of additional projects. *Id.*[4] He added that the "break-even point" shown in the monetization analysis does not occur until after the seven year plan period and this burdens present ratepayers in the near term with substantial costs that may not be cost-justified for 20 years, raising further concerns of inter-generational equity. *Id*.

Mr. Collins commented that the economic analysis presented by Mr. Kinghorn analyzes the economic impact of the proposed investments, including the direct spending by IPL and associated ripple effect. Collins at 17. He said the analysis does not assess the downside impact on IPL ratepayers who must fund the TDSIC plan through rates. *Id*. at 3, 17. He contended the relevant cost-benefit analysis focuses on ratepayers and the benefits to those paying the costs, not externalities that treat costs preapproved for recovery through rates as a form of economic stimulus funding. *Id.*

D. <u>Annual Updates</u>. Mr. Collins stated that the TDSIC Statute calls for "specific justification" by the utility and "specific approval" by the Commission before costs in excess of approved estimates may be recovered in rates. Collins at 16. He said the description of the proposed update process at pages 15 to 16 of the testimony of IPL Witness Shields states only that IPL intends to provide simply an "explanation" for increases in cost estimates, as opposed to "specific justification." *Id.* He added that in the context of a mechanism involving preapproval of

[3] Mr. Collins did not explain why he considered it appropriate to contest in this proceeding the Indiana policy underlying the TDSIC Statute. We remind intervenors that the Commission is a creature of statute and in this proceeding our task is to implement Section 10 of the TDSIC Statute, not rewrite it.

[4] In 2019, the General Assembly amended the TDSIC statute to allow a utility to seek approval of new projects. Ind. Code § 8-1-39-9(b). The General Assembly directed how the Commission is to proceed with any such requests. Ind. Code § 8-1-39-12(d). As no request under Section 9(b) is pending in this Cause, we decline to speculate on the potential future exercise of these statutory provisions.

costs based on estimates, it is important that the statutory safeguards not be eroded by a process of increasing estimates through tracker updates without a showing of specific justification. *Id.*

E. Accounting and Ratemaking. Mr. Collins testified that over its last two rate cases in the past five years, IPL added a large amount of rate base and with its proposal in the instant case, IPL will add even more rate base to be recovered in rates. Collins at 3-5. He said that as a result, IPL's proposal will have a serious impact on rates, both during the plan period and in IPL's next rate case. *Id*. at 3, 6-7. He added that IPL has not proposed to make any adjustment to eliminate the return on replaced assets from rates. *Id.* at 16. He said it also appears that IPL does not propose to track cost savings that it may realize through the planned investments. *Id*.[5] Mr. Collins testified that IPL's rate impact analysis assumes that the return on equity approved in its last rate case will also apply to its TDSIC tracker, but the return approved in the last rate case reflects the risk of a utility without a TDSIC plan and the preapproval sought in this proceeding greatly reduces IPL's risk profile. *Id.* He stated that these concerns tend to aggravate the rate impact, which is already problematic in light of the magnitude of the proposed investments. *Id*.

7. City of Indianapolis Evidence.

A. TDSIC Plan Development and Projects. Dennis Stephens, Senior Technical Consultant, Wired Group, testified 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 contended that this is not standard industry practice. Stephens at 3. Mr. Stephens' testimony described what he viewed as deficiencies in the age-based approach. *Id.* at 3, 8-17. Mr. Stephens said 1) the use of age-based failure predictions to justify prospective asset replacements is not standard industry practice; 2) asset age is a poor predictor of asset failure; and 3) IPL's future asset failure rate assumptions, which it calls survivor curves, have no basis in historical asset failure rates. *Id.* at 24, also 8-17. He said the survivor curves, and associated failure rate predictions, are therefore based entirely on assumptions. *Id.* at 24, also 10-11. Mr. Stephens recommended the Commission reject the five components of the Plan IPL developed using the age-based approach to asset replacement selection. *Id*. at 3, 24.

Mr. Stephens identified the asset types typically replaced prospectively using standard industry practices and the commonly-employed tests which constitute standard industry practice for the identification of assets for prospective replacement. *Id*. at 13-17. 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,

[5] Mr. Collins did not contend that this is required by the TDSIC Statute. Nor did he claim that the general rate case IPL will be required to file during the term of the plan will not adequately capture any such savings. Ind. Code § 8-1-39-9. The Commission's task is not to revise Indiana's statutory framework. Thus we shall focus on implementation of Section 10 of the TDSIC Statute and not on revising it.

exceptionally reliable service at reasonable rates through compliance with standard industry practices, he sees no rationale for departing from standard industry practices in IPL's TDSIC Plan. *Id.*

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. He said he has observed utilities taking the automation potential of ADMS investments to an extreme but he was unable to determine if any of the situations he was concerned about apply to IPL. *Id.* at 20. He said the takeaway is that IPL should prioritize the valuable components of central control 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.[6] 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 said, IPL includes no "benefit-cost" analysis of its CBD network investment in its TDSIC Plan and 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 the Tap Reliability Improvement Projects, Meter Replacement, Static Wire Performance Improvement, and Substation Design Upgrade components of IPL's Plan should be rejected. *Id*. at 22-23, 24-25.

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

C. <u>Plan Benefits</u>. Paul J. Alvarez, President, Wired Group, presented perspectives on IPL's proposed TDSIC Plan "benefit-cost" analysis.[7] 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 and presented an analysis using the

[6] Notably, Mr. Stephens did not first establish that the street light agreement involves pole replacement.

[7] The intervenor references to "cost-benefit" analysis refer to the monetization of benefits analysis presented by IPL. See TDSIC Plan Section 3.2; also Appendix 8.11 Burns & McDonnell Risk Reduction Benefit Monetization Report.

ICE calculator showing that IPL needed to achieve 42% improvements in both SAIDI[8] and SAIFI[9] in order to deliver $1.079 billion in reliability-related customer value over 20 years. *Id*. at 3, 5-9, 13. He claimed IPL overstates the estimated customer savings benefits both in terms of reliability-related benefits and other economic benefits. *Id.* at 4, 9-11. He said, the reliability improvements required to deliver $1.5 billion in reliability value that IPL estimates will be impossible to achieve. *Id.* at 4, 8-13.

He further testified that without knowing what the Tap Reliability Improvement projects are, it is impossible to estimate the reliability improvements the tap projects will deliver. *Id.* at 6. Mr. Alvarez contended that IPL's analysis also overstates the economic benefits from sources other than reliability improvements. *Id*. at 10-11. He said 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.* at 10. Mr. Alvarez supported this contention with an IPL discovery response included as Attachment PJA-4. *Id.* at 10, n. 11. This discovery response explained that the City had mischaracterized the nature of the identified benefits. It said the calculated nominal benefits reflect repair savings, *i.e.* the avoided cost for not having to complete repairs. The identified benefits do not reflect cost savings stemming from employee reductions because the freed up labor resources will be used for other IPL work. Attachment PJA-4.

Mr. Alvarez 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 investment plan. Alvarez at 11-12.

Finally, Mr. Alvarez testified IPL's benefit-cost analysis understated the costs of its TDSIC Plan because 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.

Based on these observations, Mr. Alvarez concluded that the costs of IPL's TDSIC Plan to customers will significantly exceed the benefits. *Id*. at 14. He recommended the Commission reject IPL's TDSIC Plan on the basis that customer costs will significantly exceed the benefits. *Id*.

8. <u>CAC-ELPC Evidence</u>.

A. <u>Other Matters</u>. Kerwin L. Olson, Executive Director, CAC, discussed the fact that IPL is not offering customers the ability to opt-out of a smart meter installation. Olson at 3-6. Mr. Olson described the difference between Automatic Metering Reading ("AMR") and Advanced Meter Infrastructure ("AMI") and testified that concerns have been raised across the country around health impacts, consumer and data privacy, safety, and increased cyber-security risks potentially associated with the installation and utilization of smart meters. *Id.* at 3-4. Mr. Olson recommended the Commission direct IPL: 1) to file an AMI opt-out tariff affording customers the option to elect not to have a smart meter installed until and unless the Commission

[8] System Average Interruption Duration Index.

[9] System Average Interruption Frequency Index.

or legislature have adopted policies and rules protecting customers' rights related to the use of AMI and associated data; and 2) to update its Terms and Conditions to reflect the data which will be collected through AMI and customers' rights relating to the usage of the data. *Id.* at 6. Mr. Olson also recommended the Commission commence a rule-making to update statewide consumer protections relating to smart meters' advanced capabilities. *Id.*

Ronny Sandoval, President, ROS Energy Strategies, LLC, recommended the Commission require IPL to: 1) initiate an Integrated Distribution Planning ("IDP") process; 2) provide a concrete plan to better leverage the benefits of AMI; and 3) track and report year-over-year performance metrics associated with its TDSIC investments, beyond costs, on an annual basis. Sandoval at 6-27.

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[10] 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. 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

[10] Institute of Electrical and Electronics Engineers.

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][11] represents a modernization effort that supports microprocessor relay protection type schemes, and

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

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.

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. Plan Benefits.

1. Monetization Analysis. 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.

A. Statutory Framework. Ind. Code § 8-1-39-10 permits a public utility to petition the Commission for approval of the public utility's plan for eligible transmission, distribution, and storage improvements. Ind. Code § 8-1-39-7.8 requires that the plan be for a period of at least five (5) years and not more than seven (7) years.[12] We refer to this as the "TDSIC Plan" or "Plan."

Ind. Code § 8-1-39-10(b) states that after notice and hearing, and not more than 210 days after the petition is filed, the Commission shall issue an order that includes the following:

(1) A finding of the best estimate of the cost of the eligible improvements included in the plan;

(2) A determination whether public convenience and necessity require or will require the eligible improvements included in the plan; and

(3) A determination whether the estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan.

"If the commission determines that the public utility's TDSIC Plan is reasonable, the commission shall approve the plan and authorize TDSIC treatment for the eligible transmission, distribution, and storage improvements included in the plan." *Id.*

Ind. Code § 8-1-39-2(a) states:

As used in the statute, "eligible transmission, distribution, and storage system improvements" means new or replacement electric or gas transmission, distribution, or storage utility projects that:

(1) a public utility undertakes for purposes of safety, reliability, system modernization, or economic development, including the extension of gas to rural areas;

(2) were not included in the public utility's rate base in its most recent general rate case; and

(3) either were (A) described in the public utility's TDSIC plan and approved by the commission under section 10 [IC 8-1-39-10] of this chapter and authorized for TDSIC treatment; (B) described in the public utility's update to the public utility's TDSIC plan under section 9 [IC 8-1-39-9] of this chapter and authorized for TDSIC

[12] Ind. Code § 8-1-39-7.8 was added as a new section to the TDSIC Statute with the 2019 amendment to the statute. *See* 2019 Indiana General Assembly, House Enrolled Act No. 1470.

treatment by the commission; or (C) approved as a targeted economic development project under section 11 [IC 8-1-39-11] of this chapter.

A 2019 amendment to the TDSIC Statute clarified that the term "eligible transmission, distribution, and storage system improvements" includes: "(1) projects that do not include specific locations or an exact number of inspections, repairs, or replacements, including inspection based projects such as pole or pipe inspection projects, and pole or pipe replacement projects; and (2) projects involving advanced technology investments to support the modernization of a transmission, distribution, or storage system, such as advanced metering infrastructure, information technology systems, or distributed energy resource management systems." Ind. Code § 8-1-39-2(b).

Therefore, we will first review IPL's seven year Plan and then determine whether the projects outlined meet the definition of "eligible transmission, distribution, and storage system improvements". We will then turn to the requirements of Section 10(b).

B. IPL's Seven (7) Year TDSIC Plan. The initial question we must answer is whether IPL's proposed TDSIC Plan is a "plan" as required by Section 10(a). Ind. Code § 8-1-39-8 defines "TDSIC plan" or "plan" to mean a public utility's "plan for eligible transmission, distribution, and storage system improvements over the course of a period of: (1) at least five (5) years; and (2) not more than seven (7) years. IPL has provided a set of projects to be undertaken over a period of seven years for purposes of safety, reliability, system modernization or economic development. IPL has described the overall plan and has provided detailed descriptions of each of the thirteen proposed Projects. IPL used third party consultants to analyze risk of its energy delivery system and to quantify how the proposed plan would reduce that risk over time and otherwise meet the objectives of the TDSIC Statute. The Merriam-Webster Dictionary defines a plan as "a set of actions that have been thought of as a way to do or achieve something."[13] No party provided any evidence that IPL's seven year Plan does not meet the requirements of Section 10(a). Based on the evidence presented, the Commission finds that IPL provided a plan that meets the requirements of Section 10(a).

C. "Eligible Improvements." As stated above, Ind. Code § 8-1-39-2 defines eligible transmission, distribution, and storage system improvements as projects undertaken for purposes of safety, reliability, system modernization, or economic development. The IPL TDSIC Plan consists of thirteen Projects to replace, rebuild, upgrade, redesign and modernize a wide range of IPL's aging T&D system assets in two thematic areas: *Age and Condition*, and *Deliverability*. Bentley Direct at 6; IPL TDSIC Plan at 9, 12-13; Shields Direct at 6-8. Each of the proposed Projects is described in IPL's TDSIC Plan. IPL TDSIC Plan, at 12, 28-86; also Appendix 8.7. 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. This evidence explains that the improvements are being undertaken by IPL for purposes of safety, reliability, system modernization or economic development. IPL TDSIC Plan at 15-16, 28-86; Shields Direct at 4-5. IPL also showed that the proposed improvements were not included in IPL's rate base in its most recent general rate case. Rogers Direct at 3, 5.

[13] https://www.merriam-webster.com/dictionary/plan

The witnesses for the other parties did not challenge the TDSIC Plan on the basis that the projects are not "eligible improvements" as that term is defined in Section 2 of the TDSIC Plan.

Accordingly, based on the evidence, we find the Projects described in IPL's TDSIC Plan align with the TDSIC Statute and the Projects are being undertaken by IPL for the purpose of safety, reliability, system modernization, and support of economic development. We further find and conclude that the proposed projects are "eligible improvements" as defined in Ind. Code § 8-1-39-2.

D. Best Estimate of the Cost of the Eligible Improvements. Section 10(b)(1) requires that the Commission order on a TDSIC Plan must include "[a] finding of the best estimate of the cost of the proposed eligible improvements included in the plan."

1. IPL. IPL's TDSIC Plan proposes seven years of defined investment, totaling $1.2 billion. IPL TDSIC Plan at 9. Approximately $1.015 billion (83.3%) of the estimated Plan cost addresses the many risks posed by aging assets. *Id.* at 9, 12. Approximately $203.5 million (16.7%) of the estimated Plan cost addresses Deliverability projects, such as adding new technologies for advanced distribution management, adding new substations, and creating system and operating efficiencies through automation, control functions and other advanced infrastructure. *Id.* at 9, 12-13.

IPL also broke out the cost by transmission and distribution, showing that approximately $213.7 million of the total cost estimate is transmission cost; the remaining $1,004.7 million is distribution cost. *Id.* at 12. Appendix 8.7 to the IPL TDSIC Plan provided year by year Project details, including cost estimates in a sortable list and an associated summary of the Plan's cost by FERC account. Shields Direct at 2.

IPL developed cost estimates for the projects included in the proposed seven year TDSIC Plan using the AACE Cost Classification System. IPL TDSIC Plan, Section 4; Shields Direct at 2-3, 9-10; Williams Direct at 5-6. As a general matter, IPL presented 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. Bentley Direct at 4. IPL's confidential workpapers included electronic spreadsheets underlying the sortable list. IPL's confidential workpapers also included the detailed cost estimates for the TDSIC Plan projects. Shields Direct at 3. Examples of the Class 2, 3 and 4 cost estimates were provided in IPL TDSIC Plan Appendices 8.8 through 9.10.

As shown in Table 4.2 of the IPL TDSIC Plan, AACE Class 2 estimates were developed for eight of the Projects for Year 1 and Year 2 of the Plan. *See also* Shields Direct at 10. Class 3 estimates were developed for XLPE Cable Replacement, Pole Replacements, Steel Tower Life Extension and Distribution Automation Projects using unitized costs. Class 3 estimates were utilized because these project types are low complexity and high-volume projects. *Id.* at 11. Also, the scope of the work is known at a broad level and variation in the scope of work does not drive significant changes in project costs. IPL TDSIC Plan at 26; also Shields Direct at 10-11.

For the remaining years of the Plan (Years 3-7), AACE Class 4 estimates were used due to limited scope definition and potential cost fluctuations. Shields Direct at 11. The Class 4 estimates were developed by using unitized costs. *Id;* IPL TDSIC Plan at 26. IPL explained that estimating

cost of projects in the later years of the Plan with Class 4 estimates is appropriate due to the uncertainty of future costs and limited scope defined. IPL incorporated the results of the labor costs from the bid events for Class 2 estimates into the Class 4 estimates where applicable. IPL TDSIC Plan at 26; also Shields Direct at 11-12.

Mr. Shields explained that the exception to this is the TRIP estimates, which are based on AACE Class 4 estimates beginning in Year 2. Shields Direct at 11. TRIP is an "inspect and mitigate" project that is focused on improving reliability to identified sections of the distribution system. *Id.* The specific sections and the scope of work will be determined annually based on previous year's outage data. *Id.* For this reason, the TRIP projects have Class 2 estimates for the Year 1 of the Plan and Class 4 estimates for Years 3-7 of the Plan. *Id.* at 11-12.

IPL engaged Black &Veatch to conduct a review of its proposed TDSIC Plan capital cost estimates and the process used to develop them. Shields Direct at 12; IPL TDSIC Plan at 27-28; also Appendix 8.6; Williams Direct at 3-8. Black & Veatch's review shows that the IPL cost estimates and cost estimating process are reasonable and consistent with AACE guideline classification. The level of detail IPL used to estimate T&D project cost estimates in its TDSIC Plan is consistent with common practice within the industry. IPL TDSIC Plan at 27.

The Burns & McDonnell Report shows that the alternative aged-based plan (LOF 4 and LOF 5) would require more investment, compared to the risk based plan. De Stigter Direct at 12-16, including Figure 3 at 15. This analysis also shows that the age based alternatives invest capital less efficiently whereas the risk-based plan has the highest risk reduction per dollar invested. *Id.*

Further, as part of the annual update process, IPL plans to provide the actual costs of the Projects completed in the prior year and update cost estimates of the Projects for the following year. The ongoing, updated cost estimates will refine the cost estimates of future projects as they are engineered. For the Projects where work is based on inspection and mitigation IPL will provide an update on the facilities targeted for improvements and cost estimates for this work. Shields Direct at 15-16.

2. Industrial Group. Mr. Collins raised a concern that the cost estimates put forward by IPL for five of the seven years reflect cost variability of 50% and include large contingency allowances. Collins at 3, 15. He said there is considerable risk that the ultimate cost of the plan will end up being substantially greater than the $1.2 billion estimated by IPL in this proceeding. Shields at 3. He stated that once those estimates are endorsed as part of the TDSIC plan approval, IPL will have assured rate recovery up to the estimates, including the contingency portion, and its incentive to maintain cost discipline within those bounds will be relaxed. *Id.* at 15. He contended that where costs are preapproved for recovery in rates, the Commission should exercise restraint in allowing contingencies in estimates. *Id.*

3. IPL Rebuttal. Mr. Shields and Mr. Williams 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 "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. *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.

4. Commission Discussion and Findings. The TDSIC Statute requires a finding of the "best estimate." In evaluating the best estimate of the Plan, we note that IPL identified specific projects and cost estimates for each year of its seven year Plan. Further, IPL had Black & Veatch perform an independent review of its cost estimates and cost estimating techniques, and Black & Veatch concluded that IPL's cost estimates and cost estimating process are reasonable. We find IPL's estimates are sufficiently detailed and reasonably based on AACE Cost Classification System. Including contingency in the cost estimate is consistent with the AACE system and industry practice and IPL has shown that the level of contingency reflected in its cost estimates is reasonable. Also, including contingency in estimating project costs prudently recognizes that unknown issues can arise in the implementation of any construction project. Given these considerations, we find the exclusion of contingency from the cost estimate would be unreasonable and would not establish the "best estimate" as required by the TDSIC Statute.

While we have encouraged utilities to improve the level of accuracy and completeness of their cost estimates prior to seeking Commission pre-approval for a project, we recognize that the circumstances of a project dictate the appropriate range of accuracy and the estimate of a project that is six or seven years in the future will not have the same accuracy as a first-year project. Additionally, Mr. Collins did not oppose the use of the AACE Cost Classification System; nor did he contend that Class 2 estimates should have been prepared for all projects for all years. Rather, he raised a concern that the cost estimates could change and thus the ultimate cost of the plan could be greater than the estimate presented by IPL in this Cause. While this is possible, it is also possible that the ultimate cost of the plan could be less than or equal to IPL's estimate. Furthermore, IPL has demonstrated that its plan implementation is designed to focus on the efficient and effective management of the TDSIC Plan. Shields Direct at 13. Thus, we find Mr. Collins' concern is not grounds to reject IPL's best cost estimate.

Section 10 of the TDSIC Statute requires the Commission order to include a "finding of the best estimate" of the cost of the proposed improvements. At this juncture, the Commission is not tasked with reviewing actual project costs. Furthermore, the Section 10 "finding" requirement allows the projects to move forward but it is not the final word on the subject. Section 12(c) provides that in the annual TDSIC filing made under Section 9, if the Commission "determines that the petition satisfies the requirements of this chapter and the capital expenditures and TDSIC costs are reasonable, the Commission shall approve the petition, including: (1) capital expenditures; (2) timely recovery of TDSIC costs . . . ." And after approval, Section 9(g) provides that "[a]ctual capital expenditures and TDSIC costs that exceed the approved capital expenditures and TDSIC costs require specific justification by the public utility and specific approval by the commission before being authorized for recovery in customer rates." We find these sections provide a means for concerns about changes in the "best estimates" to be addressed by the Commission. We also note that Section 14 of the TDSIC Statute safeguards the TDSIC impact.

Based on the evidence presented, we find the record demonstrates that the estimated cost of IPL's TDSIC Plan rests on a sound factual and analytical foundation and is reasonable.

Accordingly, we find the best estimate of the cost of the eligible improvements included in the Plan is the estimate provided by IPL. Therefore, we find that this statutory criterion is satisfied.

E. Public Convenience and Necessity. Ind. Code § 8-1-39-10(b)(2) requires that an order on a TDSIC Plan must include "[a] determination whether public convenience and necessity require or will require the eligible improvements included in the plan." The public convenience and necessity criterion is common in public utility matters and generally concerns whether the proposal is fitted or suited to the public need. Put another way, we consider whether there is a reasonable and apparent need for the Plan Projects in light of the policy objectives underlying the TDSIC Statute.

IPL Witness Bentley discussed the need for and benefits of the TDSIC Plan projects. These matters were further articulated in the IPL TDSIC Plan, the attached appendices, and in the testimony of other IPL witnesses.

While IPL's customers have benefitted from a reliable system, the record reflects that IPL has experienced recent degradation the past couple of years of approximately 10-20% increase in its IEEE SAIDI reliability performance. Bentley Rebuttal at 2. Based on IPL's robust asset management system and asset health information, IPL expects that performance to continue to degrade unless IPL is able to make additional investments in its T&D system. *Id.* at 2-3. Put another way, additional investment is necessary to reduce risk of asset failure and the associated consequences, maintain the system's reliability and to modernize service. Bentley Direct at 12; Bentley Rebuttal at 3.

The main text of IPL's TDSIC Plan, Mr. De Stigter's direct testimony, and Appendix 8.3 are very clear that the identification, prioritization, and justification of assets and projects is risk-based. The Burns & McDonnell Report is titled "IPL TDSIC Asset Risk and Investment Assessment Report." While these materials show that age data is a component to calculate LOF, they also clearly establish that age is not the only component. City of Indianapolis Witness Stephens disregards the asset condition, health information, and criticality or consequence data utilized in the Burns & McDonnell approach. See De Stigter Rebuttal at 6-7.

We disagree with Mr. Stephens' and Mr. Alvarez's contentions that the IPL Plan is "age-based" or focused on improving reliability performance. These assertions do not capture the asset management program IPL has in place and they overlook the work this Commission has done in this area. The record reflects that expanding upon the work done in response to the Order of the Commission dated March 16, 2016 (Cause No. 44576), specifically related to IPL's asset management process, IPL applied a risk-based approach in developing a significant portion of the proposed capital investment portfolio that defines the TDSIC Plan. Though reliability constitutes one key element of risk, IPL considered other areas of risk in identifying projects; namely, Safety, Environmental, Regulatory, Financial and Operations. Viewing reliability through the asset risk lens connotes emphasis on maintaining IPL's historically strong reliability performance and this is a necessary foundation to any future improvement in total system reliability. *See* Cummings at 5.

Mr. Stephens' testimony disregards the asset condition, health information, and criticality or consequence data utilized in the Burns & McDonnell approach. De Stigter Rebuttal at 7.

Furthermore, as explained by Mr. De Stigter, survivor curves themselves are a representation of mortality characteristics of an asset population based on historically observed retirements. Utilities, including IPL, regularly update the survivor curves used in the depreciation study based on updates to the property accounting records, which include additions and retirements. While there are many reasons for retiring assets, a main cause is asset failure. Given this, the survivor curves within IPL depreciation study do reflect historical asset failures. Therefore, we reject Mr. Stephens' contention (p. 10) that the Burns & McDonnell survivor curves are based entirely on assumptions or otherwise constitute grounds to reject the Burns & McDonnell analysis or the IPL Plan.

We find substantial record evidence shows that IPL has used a risk-informed prioritization process that scored and ranked projects. The Risk Model estimated the reduction in the likelihood of failure as well as the consequences of asset failure and prioritized projects so as to deploy capital in a way that maximizes risk reduction benefit per dollar invested. This prioritization helps maximize customer "bang for the buck."

Many of the TDSIC Projects are designed to improve the safe and reliable functioning through the planned replacement and modernization of aging electric system components, which, if not undertaken, would likely result in more frequent or extended outages for customers or otherwise impair the resiliency of the system. Certain parts of the TDSIC Plan are designed to harden IPL's energy delivery system and minimize emergency restoration. We find updating and modernizing IPL's energy delivery system infrastructure is reasonably necessary to bring these systems up to date and prepare them for current and future demands.

We also find that infrastructure needs vary from utility to utility. Consequently, we disagree with Intervenor's suggestion that IPL's TDSIC infrastructure plans can or should be dictated by other utilities, with different needs and settled plans negotiated at an earlier time under an earlier version of the TDSIC Statute. Furthermore, the Indianapolis area represents a comparably large population center with a wide range of customer categories and corresponding expectations for safe and reliable service, particularly given the potentially higher consequences of any service interruption in this densely populated economic center.

Therefore, we find substantial evidence in this Cause shows that the Projects included in IPL's TDSIC Plan will serve the public convenience and necessity in various ways. IPL's Plan reduces risk of asset failure, maintains or improves reliability, improves the customer experience, supports the economy and protects overall public safety. We further find IPL's TDSIC Plan is suited to the public need; the projects are necessary and appropriate for IPL to continue to provide reasonably adequate service and facilities. We further find IPL's request conforms to Indiana law, is consistent with good public policy and serves the public interest. Therefore, we find and conclude that the public convenience and necessity requires or will require the eligible improvements included in the IPL TDSIC Plan.

F. <u>Incremental Benefits Attributable to the TDSIC Plan</u>. Ind. Code § 8-1-39-10(b)(3) requires that an order on a petition for approval of a TDSIC Plan must include "[a] determination whether the estimated costs of the eligible improvements included in the plan are justified by incremental benefits attributable to the plan."

As an initial matter, we note that this section refers to estimated "costs", not "TDSIC costs" as that term is defined Ind. Code § 8-1-39-7. Because the legislature has specifically defined "TDSIC costs" and used this term elsewhere in the statute, the omission of the term "TDSIC costs" in Section 10(b)(3) supports the conclusion that the word "costs" in Section 10(b)(3) does not mean "TDSIC costs". Thus, the plain statutory language does not support Mr. Stephens' contention that "carrying costs" reflected in retail rates should be considered in this Section 10(b)(3) criterion.[14]

We also note that Section 10(b)(3) directs the Commission to consider whether the improvement costs "are justified by" incremental benefits of the plan. The statutory language does not say the plan benefits must be equal to or in excess of the project costs. Rather, the legislature required the Commission to determine whether the costs of the improvements "are justified by" incremental benefits attributable to the Plan.

Here, the record shows significant incremental benefits attributable to the Plan. The evidence presented shows that IPL has considerable aging infrastructure on its electric transmission and distribution system. IPL's seven year Plan addresses needed replacements in a systematic and prioritized manner. The IPL TDSIC Plan project narratives identify benefits that are aligned with the objectives of the TDSIC Statute (*i.e.,* safety, reliability, system modernization, economic development). The Plan is reasonably expected to allow IPL to realize construction efficiencies through the planned replacement assets that would not be possible in emergent conditions.

IPL engaged Burns & McDonnell and Black & Veatch to perform and validate a quantitative risk assessment of these assets. This evidence shows that IPL's TDSIC Plan will significantly reduce total T&D system asset risk, with the Burns & McDonnell Risk Model showing a system risk reduction of approximately 36.6 percent over the seven year Plan period. Bentley Direct at 10; Appendix 8.3 at 16. While the Intervenor witnesses argued the "do nothing modeling scenario" may overstate the benefit, they did not claim the scenario eliminated it. Furthermore, Mr. De Stigter and Mr. Williams showed this scenario analysis is reasonable. Accordingly, we find the analysis demonstrates that IPL will maintain a reasonable level of risk on its T&D system after investing in the seven year Plan projects.

The record also shows that IPL quantified, from the customer experience perspective, the value of avoiding service outages associated with asset failure. IPL's analysis did not attempt to quantify all project benefits but was addressed to the projects that lend themselves to monetization. This supplemental monetization analysis showed that the projects analyzed, when viewed as part of a total portfolio, will provide a net benefit that exceeds the cost of the eligible improvements whether considered on a nominal or a present value basis. Cummings at 21. This remains so even if when the so-called "carrying charges" presented by Mr. Alvarez are taken into consideration. *Id.* at 24-25; IPL CX 5. Mr. Alvarez's analysis was not based on the same DOE ICE model that IPL used. TR. at C-81, 89, 92-93; also IPL CX 7-8, 12. The record evidence demonstrates that the IPL Plan is proposed to reduce risk of asset failure and maintain service reliability. As IPL is not

[14] As noted below, this is a moot point, because the project costs are justified by the incremental benefits of the Plan even with Mr. Stephens' additional costs taken into consideration.

seeking to move its system reliability from one level to another level, the ICE model Mr. Alvarez relied on is inapposite and does not capture the value of avoided customer interruption costs.

Based on the evidence presented, we find IPL has sufficiently prioritized and optimized Plan provided incremental benefits. We appropriately have considered both the qualitative and quantitative benefits and find the incremental benefits of the Plan are substantial. Accordingly, we further find and conclude that the estimated costs of the IPL TDSIC Plan improvements are justified by the incremental benefits attributable to the Plan.

G. IPL's TDSIC Plan is Reasonable. Substantial record evidence demonstrates that the prevalence of aging infrastructure requires a systematic approach and IPL's TDSIC investments are reasonably required to improve and modernize IPL's energy delivery system. The TDSIC Plan projects focus specifically on replacing or rebuilding aging T&D assets, as well as building a modernized grid to serve IPL's customers. As discussed above, IPL's TDSIC Plan satisfies the TDSIC Statute criteria. The TDSIC Plan is reasonably designed to incrementally maintain or improve: safety; IPL's ability to serve its customers; the reliability and resiliency of IPL's energy delivery system; and IPL's response to unplanned system events. Also, the Plan will modernize IPL's system and this also supports economic development. The record establishes that IPL's Plan is based on a logical approach and sound analysis that presents the best estimate of the cost of the investments. The record reflects that the conditions urged by Intervenors are flawed and/or unnecessary and we therefore decline to impose them. *E.g.,* Shields Rebuttal at 14-21. Substantial evidence shows the Plan is reasonably designed to yield substantial benefits to IPL's customers. Accordingly, based upon our review of the evidence of record, and the foregoing considerations of each component of Ind. Code § 8-1-39-10, we find that IPL's seven year TDSIC Plan is reasonable and the IPL Plan is approved. Therefore, in accordance with Ind. Code § 8-1-39-10(b) we hereby authorize TDSIC treatment for the improvements described in the IPL TDSIC Plan, including costs incurred commencing August 1, 2019 as discussed by Mr. Bentley. Bentley Direct at 10.

H. Plan Development Costs. To demonstrate compliance with the TDSIC Statute, IPL was required to perform risk modeling and planning, as well as prepare evidence showing the Section 10(b) criteria are satisfied. IPL hired independent consultants to support this effort including Burns & McDonnell, Black & Veatch and the Indiana Business Research Center. The total amount of these reasonably-incurred Plan development and case support costs is approximately $2.3 million. As stated above, IPL seeks Commission approval to defer and recover these costs over a three-year period through the IPL TDSIC Rider to be filed in 2020 under Section 9. No party presented evidence challenging the amount or recovery of IPL's Plan Development Costs. While OUCC witness Blakley proposed the recovery of these costs should be extended over the life the assets, Mr. Rogers clarified that these costs relate to the overall preparation and activities involved with developing and presenting the Plan for approval by the Commission. These costs are not fully identifiable to specific capital projects. Rogers Rebuttal at 9. Mr. Rogers testified that three-year period also has the benefit of reducing the amount of carrying costs on the deferral and explained that if these costs were recovered over a longer period of time, carrying costs would be more substantial. Accordingly, we decline to lengthen the proposed amortization. We further find and conclude that IPL's proposal is reasonable and is approved.

I. Accounting and Ratemaking. As summarized above, IPL requests Commission approval to defer TDSIC Plan costs until they are recovered through the TDSIC Rider or included in basic rates. Rogers Direct at 6-7. Mr. Rogers testified IPL also seeks 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*. No party presented evidence challenging this requested relief. We find IPL's proposals are reasonable and they are approved.

11. Other Matters. The record reflects various matters outside the scope of Section 10.

A. Process to Update the TDSIC Plan. Ind. Code § 8-1-39-9(b) provides that a utility shall update its TDSIC Plan at least annually and IPL has indicated that it intends to make an annual filing, described what it contemplates providing in its annual updated and has indicated it plans to confer with stakeholders on the format and content of the annual update process prior to its initial filing and will also work with stakeholders to refine the contents of the update filing over time as necessary and appropriate. Shields Direct at 16. While Mr. Collins raised a concern that the requirements of Section 9(g) should not be eroded, Mr. Shields testified that the Company was not seeking to do so. Accordingly, it is unnecessary to make any findings on this concern in this Section 10 proceeding.

B. Other Accounting and Ratemaking. As clarified by Mr. Rogers IPL does not seek any approval of ratemaking under Section 9 of the TDSIC Statute. As summarized above, Mr. Rogers indicated that if the TDSIC Plan is approved, the Company plans to make its first filing under Section 9 in the second quarter of 2020. Rogers Direct at 9. Mr. Rogers explained that IPL will provide the OUCC and interested intervenors with the proposed filing package (consisting of the accounting schedules used to develop and calculate the TDSIC Rider factor) prior to making the first TDSIC Rider filing with the Commission. He added that IPL is also willing to meet with the OUCC and interested intervenors to review the accounting schedules at that time.

To place IPL's TDSIC Plan in context vis-à-vis Ind. Code § 8-1-39-14, Mr. Rogers presented a calculation showing the estimated aggregate increase in IPL's total retail revenues attributed to the TDSIC Rider for each year of the seven year plan. Rogers Direct at 9-10. The estimates of the revenue requirements show that the increase to revenue requirement is less than the 2% annual statutory limit. Mr. Rogers also clarified that IPL is not seeking a determination of rates in this proceeding.

Mr. Blakley and Mr. Collins challenged certain aspects of Mr. Rogers' calculation and raised other concerns related to ratemaking. Yet, neither witness demonstrated that Mr. Rogers overall estimate was unreliable for the purpose it was offered. For example, Mr. Collins criticized Mr. Rogers for using the return on equity authorized in the Company's most recent base rate case.

Yet, while Mr. Collins indicated the authorized return should be lower, he did not present a quantified analysis or otherwise identify what return on equity should have been used by Mr. Rogers for this estimate.

Similarly, Mr. Blakley raised a concern that IPL should not recover income taxes on the same earnings twice when the 20% deferred regulatory asset is included in IPL's next general rate case. Mr. Rogers demonstrated that IPL does not seek to do so and explained IPL's view that its accounting on this issue is consistent with both IPL's understanding of the proper tax accounting and IPL practice in other cases. During cross-examination, Mr. Rogers explained that the ultimate impact on rates of IPL's approach is the same whether IPL or the OUCC's approach is used. TR. at [X].[15]

Therefore, we find the criticisms of Mr. Rogers' estimate lack merit and do not warrant the rejection of Mr. Rogers' calculation. While the Commission appreciates the estimate being provided in this proceeding, we further find it is premature to reach further ratemaking conclusions under Section 9.

Similarly, Mr. Blakley also recommended that IPL be required to recognize the retirement of replaced assets as a reduction in depreciation expense in its TDSIC tracker. Blakley at 2, 6. Mr. Rogers pointed out that the Commission had previously rejected this recommendation and the Commission's determination was upheld by the Indiana Court of Appeals. Rogers Rebuttal at 10-11. Mr. Collins stated that it does not appear that IPL proposes to make any adjustment to eliminate the return on replaced assets from rates, with the consequence that for asset replacements IPL will, until the next rate case, recover return on the new asset through the rate adjustment mechanism and also continue to recover return on the removed asset in base rates. Mr. Rogers explained that Mr. Collins is correct that IPL does not propose an adjustment to base rates to eliminate the return on replaced assets and he explained that this approach is consistent with the Commission's and Court of Appeals' previous decisions on this issue. *Id.* Also, as OUCC Witness Blakley explained (page 5): "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." Rogers Rebuttal at 11.

Finally, Mr. Shields reasonably responded to Mr. Collins' concern regarding O&M. Shields Rebuttal at 21.

As noted above, IPL is not seeking approval of rates in this proceeding. We are persuaded that Mr. Rogers has approached these issues for purposes of his estimate in a manner that is both reasonable and consistent with the Commission's previous decision. To the extent the OUCC or other party proposes the Commission change its previous decision in a future IPL Section 9 filing, we will consider the issue at that time. However, we note that the Commission's previous decision on this contested issues should not be ignored. Re-litigating the same question repeatedly is not consistent with principles of administrative or judicial economy. Accordingly, any proposal that

[15] This transcript reference is not available as of 11/27/19.

the Commission depart from our previous decision should be supported by substantial evidence of probative value demonstrating why a change is warranted.

C. AMI Opt-Out. While Mr. Olson recommended the Commission direct IPL to file an AMI opt-out tariff affording customers the option to elect not to have a smart meter installed, Mr. Olson failed to establish there is a problem in IPL's service area warranting this relief. The record reflects that IPL began installing smart meters almost 20 years ago and is currently in the process of deploying the next generation of automated meters. As of October 1, 2019, IPL has installed over 180,000 AMI meters, including 174,000 for residential customers, and has received very few customer complaints or concerns regarding this automation. Bentley Rebuttal at 5. Requiring an opt-out program would impose costs and burden and interfere with the operational benefits of this technology. *Id*. at 6-7. 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.* Finally, Mr. Bentley explained that the general concerns over radio frequency exposure are not new, have been studied by a wide variety of health organizations over the years and smart meters have not been directly associated with damage to human DNA. *Id.* at 6. 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. This technology can also help create a more efficient, more reliable, and better quality of service for customers. *Id.*at 7. Accordingly, we decline to adopt Mr. Olson's recommendation. Finally, we further find that Mr. Olson's other recommendations are beyond the scope of this proceeding, and decline to address them herein.

D. IDP, Leveraged Benefits of AMI, Performance Metrics and Reporting Requirements. Mr. Sandoval also made recommendations outside the scope of this Section 10 proceeding, including recommendations that the Commission require IPL to: 1) initiate an IDP process; 2) provide a concrete plan to better leverage the benefits of AMI; and 3) track and report year-over-year performance metrics associated with its TDSIC investments, beyond costs, on an annual basis. We decline to adopt these recommendations. We view these matters as beyond the scope of this proceeding and not warranted by any decision in this Cause.

As noted by Mr. Bentley, the Commission is already engaged by the legislature in 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 9-12. The transition to IDP is not something that needs be addressed within the context of the TDSIC case, and imposing new and unique IDP requirements on IPL now when the Commission is considering statewide requirements is inappropriate. *Id.* at 12.

Although Mr. Sandoval presented recommendations regarding performance metrics and reporting, he does not reasonably articulate why his proposed metrics should be tracked and he fails to consider the resource and cost considerations of such efforts. 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. *Id.* at 13. Moreover, the IDP and performance-based

regulation issues of interest to Mr. Sandoval are not limited to IPL but affect other utilities as well. The Commission has generally convened rulemakings or other generic proceedings to assess matters affecting the utility industry at large. Therefore, we find it unnecessary to adopt Mr. Sandoval's recommendations in this Cause.

E. 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.

F. Administrative Notice of Workpapers. As shown on the Commission's docket and IPL's testimony, IPL submitted both public and confidential workpapers in this proceeding. These workpapers were provided to all parties. The submission of such workpapers is consistent with the Commission's practice to have workpapers supporting technical evidence and calculations submitted in electronic format. During cross-examination these parties asked questions regarding the cost estimate, monetization analysis and Risk Model details. IPL requested the Commission take administrative notice of the workpapers filed by the Company in this docket so as to avoid any confusion as to the extensive details submitted in support of the Company's filing. The OUCC and certain intervenors objected to IPL's request and the Presiding Officers took it under advisement. Having considered the matter, we are puzzled by the objection to this request for administrative notice. There is no surprise because the Commission and the parties have previously received these workpapers. Thus we disagree that granting IPL's request somehow allows IPL to unreasonably supplement the Company's filing. Furthermore, the Commission rules recognize the Commission's authority to take administrative notice of relevant documents previously filed with the Commission. 170 IAC 1-1.1-21(h). Given that the Commission's previous orders under the TDSIC Statute have been appealed numerous times, we find it is reasonable to take administrative notice of the workpapers filed by IPL in this docket.[16] Doing so avoids the potential for confusion and argument regarding the nature and extent of the technical evidence in this proceeding.

[16] *See Citizens Action Coalition of Indiana, Inc. v. Duke Energy Indiana, Inc.*, 44 N.E.3d 98 (Ind. Ct. App. 2015) (remanding case to Commission where Commission relied on prior orders that were not administratively noticed).

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

1. IPL's seven year TDSIC Plan is reasonable and is hereby approved.

2. TDSIC treatment is hereby authorized for the improvements included in the approved IPL TDSIC Plan.

3. IPL is authorized to implement the accounting necessary for the authorized TDSIC treatment.

4. IPL's request for authority to defer its Plan Development Costs for recovery via IPL's future TDSIC Rider over a three year amortization process is approved.

5. IPL's request for accounting authority to defer its TDSIC costs, including the cost incurred commencing August 1, 2019, and record post in service AFUDC (both debt and equity) and depreciation and property taxes expense associated with the Projects until such costs are recovered through the TDSIC Rider or included in basic rates is approved.

6. IPL's proposals to utilize the applicable depreciation rates for transmission and distribution assets approved in Cause No. 45029 and to recover depreciation expense prospectively are approved.

7. IPL's proposal to file its Plan updates on an annual basis is approved.

8. 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.

9. 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