

**FILED**  
**DECEMBER 22, 2016**  
**INDIANA UTILITY**  
**REGULATORY COMMISSION**

**44893**  
**VERIFIED DIRECT TESTIMONY**  
**OF**  
**MICHAEL L. HOLTSCRAW**  
**ON BEHALF OF**  
**INDIANAPOLIS POWER & LIGHT COMPANY**

**VERIFIED DIRECT TESTIMONY OF MICHAEL L. HOLTSCLAW  
ON BEHALF OF  
INDIANAPOLIS POWER & LIGHT COMPANY**

1 **Q1. Please state your name, employer and business address.**

2 A1. My name is Michael L. Holtsclaw. I am employed by Indianapolis Power & Light  
3 Company (“IPL” or “Company”), whose business address is One Monument Circle,  
4 Indianapolis, Indiana 46204.

5 **Q2. What is your position with IPL?**

6 A2. I am Director, Transmission & Distribution Engineering.

7 **Q3. Please describe your duties as Director, Transmission & Distribution Engineering.**

8 A3. As the Director of Transmission & Distribution Engineering, I am responsible for the  
9 engineering and design of IPL’s transmission and distribution substations, the  
10 engineering and design of system protection systems, the engineering and design of IPL’s  
11 transmission lines, and for short term and long term transmission and distribution system  
12 planning. I also have responsibility for IPL’s emergency response plans for storm  
13 restoration and system emergencies. I am IPL’s representative on the Midcontinent  
14 Independent System Operator’s (“MISO”) transmission owner’s committee.

15 **Q4. Please summarize your educational and professional qualifications.**

16 A4. I am a graduate of Purdue University with a Bachelor of Science, Electrical Engineering  
17 Technology. I am a registered Professional Engineer in the State of Indiana and the State  
18 of Ohio.

19 **Q5. Please summarize your prior work experience.**

1 A5. I have eight years of experience in Distribution and Transmission system planning,  
2 thirteen years' experience as a Supervisor in underground engineering, two years'  
3 experience as Superintendent of Electrical, three years' experience as Team Leader of  
4 Transmission Operations, seven years as Director, Power Delivery Operations, two years  
5 as Director Engineering & Compliance, and as of the date of the prefiling of this  
6 testimony, three years in my current role as Director, Transmission & Distribution  
7 Engineering.

8 **Q6. Have you previously testified before the Indiana Utility Regulatory Commission**  
9 **(“Commission” or “IURC”) or other regulatory agencies?**

10 A6. Yes. I have filed written testimony before the Commission in Cause No. 44540 on IPL's  
11 transmission system, in Cause No. 43245 on the Seven Factor Test, in Cause No. 42685  
12 regarding IPL's request to transfer functional control of transmission assets to the MISO,  
13 and in consolidated Cause Nos. 44576/44602, regarding IPL's basic rates and the  
14 downtown network investigation.

15 **Q7. What is the purpose of your testimony in this proceeding?**

16 A7. My testimony discusses MISO Transmission Expansion costs that are included in the test  
17 year as non-fuel costs. I discuss and provide an update on storm events during the test  
18 year and qualifying storm events for IPL's Major Storm Damage Restoration Reserve. I  
19 also discuss two of the three significant transmission capital investments as summarized  
20 by IPL Witness Sanchez. I also sponsor the Vegetation Management adjustment shown  
21 on IPL Financial Exhibit IPL-OPER, Schedule OM14. Finally, I update the Commission  
22 on the collaborative process ordered by the Commission in consolidated Cause Nos.  
23 44576/44602.

1 **Q8. Are you sponsoring any exhibits in support of your testimony?**

2 A8. Yes. I am sponsoring IPL Financial Exhibit IPL-OPER, Schedule OM14.

3 **Q9. Were the exhibits or portions of exhibits you are sponsoring prepared or assembled**  
4 **by you or under your direction or supervision?**

5 A9. Yes.

6 **Q10. Did you submit any workpapers?**

7 A10. Yes. A workpaper supporting the above referenced schedule was submitted.

8 **MISO Transmission Expansion Planning (“MTEP”) Costs**

9 **Q11. How many MTEP projects are currently approved for IPL’s transmission system?**

10 A11. There are currently no active MISO MTEP projects located within the IPL transmission  
11 system. There are two MTEP projects that are completed and in service. IPL submitted a  
12 project which was approved as a MTEP project to replace two 345/138 kV auto-  
13 transformers in the Petersburg 345 kV switchyard in 2011. The project is complete, and  
14 the auto-transformers are in service. The second MTEP project that IPL completed was  
15 an upgrade to the IPL Petersburg to AEP Breed 345 kV line and was associated with a  
16 transmission service request filed with MISO by another utility. The MISO study process  
17 determined that each upgrade met the criteria for cost sharing as it provided reliability  
18 benefits to the southern Indiana bulk electric system affecting multiple utility systems.  
19 This upgrade was placed in service in December 2015. MISO is collecting MTEP costs  
20 under Schedule 26 for both of these projects from IPL and other transmission owners,  
21 and remitting them to IPL as MTEP revenues. IPL Witness Cutshaw discusses the  
22 exclusion of these projects from the revenue requirement as non-jurisdictional.

1 **Q12. What is the expected total cost of all MTEPs to be allocated to IPL over the period**  
2 **2017 through 2021?**

3 A12. The total amount of MTEP 2016 project costs allocated to the IPL pursuant to MISO  
4 Schedule 26 is expected to be \$15.9 million between 2017 and 2021. IPL currently  
5 expects to be allocated \$131.0 million in MISO Schedule 26A Multi-value project costs  
6 between 2017 and 2021.

7 **Q13. Is IPL mandated to pay its portion of the MTEP costs?**

8 A13. Yes. As a Transmission Owning member of MISO, IPL is obligated to pay its allocated  
9 portion of the MTEP cost sharing under MISO's Federal Energy Regulatory Commission  
10 Tariff.

11 **Q14. Are the incremental costs recovered through the Regional Transmission**  
12 **Organization ("RTO") Adjustment variable in amount from year to year, variable**  
13 **as to timing, and substantial in individual and aggregate amounts?**

14 A14. Yes. In particular, the non-fuel incremental MTEP costs from MISO, which I will  
15 discuss later in my testimony, vary from year to year depending on the number of MISO  
16 approved projects. The timing of the costs varies based on the construction schedules of  
17 the projects. The amount of the charges has been increasing each year as more projects  
18 are approved by MISO for cost sharing.

19 **Storm Expense**

20 **Q15. Please discuss the declared storm event history relevant to the pro forma**  
21 **adjustment shown in IPL Financial Exhibit IPL-OPR, Schedule OM13 in IPL**  
22 **Witness Cutshaw's testimony.**

1 A15. Level 1 and Level 2 storms are the more common types of declared storm events to occur  
 2 in a year. The table below shows the number of Level 1, 2, 3, and 4 declared events from  
 3 2011 through the end of the test year June 30, 2016. From a historical perspective, 2013  
 4 was a below average storm year in the number of Levels 1 and 2 declared storm events.  
 5 2014 and 2015 were slightly above the 3 and half year and 5 and half year averages.  
 6 2016 is on track to be above average in the number of declared storm events. Since June  
 7 30, 2016 through November 30, 2016 there have been an additional eight Level 1 storms,  
 8 three Level 2 storms, and one Level 3 storm, bringing the 2016 storm totals to twenty  
 9 Level 1, six Level 2, and one Level 3 storm, bringing the total number of declared storm  
 10 events for the year to 27.

11 See Table 1 below for a summary of storm history:

12 Table 1

Storm Level Declaration	2011	2012	2013	2014	2015	2016 YTD through June 30	3.5 Year Average	5.5 Year Average	2016 YTD through November 30
Level 1	15	16	10	17	19	12	14.5	14.8	20
Level 2	4	4	3	2	1	3	2.3	2.8	6
Level 3	0	0	0	1	1	0	0.5	0	1
Level 4	0	0	0	0	0	0	0	0	0
Total	19	20	13	20	21	15	17.3	17.6	27

13 **Q16. Please describe the major storm that occurred during the test year ending June 30,**  
 14 **2016.**

15 A16. There was one major storm during the test year ending June 30, 2016; it was a Level 3  
 16 storm that occurred on July 13, 2015. On Monday, July 13, 2015 at 11:30 A.M. a line of  
 17 severe thunderstorms moved across the City of Indianapolis. The storm contained heavy  
 18 rains, high winds, and intense lightning. The west side of the City was the hardest hit in

1 an area bounded by Girls School Road, White River on the east, 38<sup>th</sup> Street on the north,  
2 and Michigan Street on the south. The storm event affected 105,434 customers and the  
3 restoration effort took 100 hours to complete. Mutual Assistances was brought in to help  
4 with crews from Indiana, Ohio, Tennessee, and Illinois. This was a Level 3 storm event  
5 and there were three Major Event Days associated with the storm event.

### 6 Storm Reserve

7 **Q17. How does IPL determine if a storm qualifies for inclusion in the Major Storm**  
8 **Damage Reserve?**

9 A17. For a storm event to be included in the Major Storm Damage Reserve it must first meet  
10 the criteria for a Major Event Day as defined by Institute of Electrical and Electronics  
11 Engineers (“IEEE”) Standard 1366 and it must be classified as a Level 3 or higher storm  
12 event as defined in the IPL Emergency Response Plan. A Major Event Day is defined as  
13 a day in which the daily System Average Interruption Duration Index (“SAIDI”) exceeds  
14 a threshold value,  $T_{MED}$  which is calculated using the IEEE 1366 methodology. For 2016  
15 IPL’s  $T_{MED}$  is 2.691 minutes. The IPL Emergency Response Plan defines a Level 3  
16 storm as affecting more than 10% but less than 50% of IPL customers, the restoration  
17 effort will include Mutual Assistance from other utilities in addition to IPL crews and  
18 contractors, and the restoration effort may last in excess of 48 hours. A Level 4 Storm is  
19 defined as affecting in excess of 50% of IPL customers, the restoration effort requires  
20 significant Mutual Assistance from other utilities in addition to the IPL crews and  
21 contractors, and the restoration effort will last more than 4-5 days.

1 **Q18. Have there been any qualifying storms charged to the Storm Reserve since the**  
2 **Order in Cause No. 44576 was issued by the Commission?**

3 A18. Yes, there has been one qualifying storm. There was a Level 3 storm on August 26,  
4 2016, which is within the twelve month period following the end of the June 30, 2016 test  
5 year. I will discuss this storm in more detail below and IPL Witness Cutshaw will  
6 discuss the financial treatment of the storm in his testimony.

7 **Q19. Please describe the August 26, 2016 Level 3 storm and why it qualified for the Storm**  
8 **Reserve.**

9 A19. On Friday August 26, 2016 at 8:00 AM, a line of severe thunderstorms moved across  
10 central Indiana. The storms contained heavy rain, lightning, and high winds in excess of  
11 60 MPH. The storm event affected 53,833 customers and the restoration effort took 94  
12 hours to complete. There were customer outages across all of Marion County. The  
13 heaviest damage was concentrated on the east side of Marion County between 75th Street  
14 on the north, 46th Street on the south, Meridian Street on the west, and Post Road on the  
15 east. While the National Weather Service was unable to confirm a tornado, some of the  
16 damage to IPL's infrastructure showed signs of rotation in the winds. Much of the  
17 damage to IPL's poles and lines was from large trees that were uprooted and fell on IPL's  
18 facilities. Many 60 to 80 foot mature trees, well outside to the trimming zone, came  
19 down and caused damage to IPL's facilities. Mutual Assistance crews from Ohio,  
20 Tennessee, and Illinois were brought in to assist. This was a Level 3 storm event as more  
21 than 48,000 customers were affected, the restoration required mutual assistance, and the  
22 restoration exceeded 48 hours. The first two days of this restoration event exceeded the



1 IEEE 1366 threshold for Major Event Days. This storm event met all of the criteria to  
2 qualify for the Storm Reserve.

3 **Significant Transmission Capital Investments**

4 **Q20. Please describe any significant capital investments that IPL has made to its**  
5 **transmission system infrastructure since the last rate case.**

6 A20. IPL has three significant transmission projects that are included in this proceeding. One  
7 was a major upgrade of IPL's Hanna Substation to help increase IPL's power import  
8 capability. Another significant project was the addition of a Static VAR Compensator  
9 ("SVC") at IPL's Southwest Substation. The final project was the addition of the 20 MW  
10 Harding Street Station Battery Energy Storage System ("HSS BESS") that is discussed in  
11 IPL Witness Sadtler's testimony. All three of these significant capital investments are  
12 summarized in IPL Witness Sanchez's testimony.

13 **Q21. What was the reason for these capital investments?**

14 A21. The Hanna Substation upgrades and the Southwest SVC installation were projects done  
15 in conjunction with the retirement of generation units at IPL's Eagle Valley and Harding  
16 Street plants to maintain reliability and provide adequate system voltage control during  
17 the gap year<sup>1</sup> and subsequent years after the Eagle Valley CCGT is online and after the  
18 refueling of the Harding Street Station units 5-7 to natural gas. The 20 MW HSS BESS  
19 project is discussed in IPL Witness Sadtler's testimony.

20 **Q22. Please describe in detail the upgrade project at IPL's Hanna Substation.**

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<sup>1</sup> The gap year is the 12 month period between when Eagle Valley Units 3 through 6 were retired in April 2016 and when the new Eagle Valley CCGT goes in service approximately April 30, 2017. The gap year includes the Summer 2016 and the Winter 2016/2017 peak periods.

1 A22. The Hanna Substation project involved replacing a 275 MVA 345-138 kV auto-  
2 transformer with a 500 MVA 345-138 kV auto-transformer and the addition of three (3)  
3 345 kV breakers and six (6) 138 kV breakers to upgrade the 138 kV bus arrangement to a  
4 full breaker and half scheme. The purpose of this project was to increase IPL's ability to  
5 import power from the 345 kV transmission system and to improve the reliability of  
6 Hanna Substation by preventing the loss of an auto-transformer for an outage to one of  
7 the incoming 345 kV transmission lines. Under the original design, the loss of a 345 kV  
8 line also resulted in the loss of one of the two auto-transformers. With the new design the  
9 two auto-transformers remain in-service for the loss of one 345 kV line, which helps to  
10 maintain maximum power flow from the 345 kV system down to the 138 kV system.

11 **Q23. What was the total cost of the Hanna Substation upgrade project and when was it**  
12 **placed in-service?**

13 A23. The total cost for the Hanna Substation upgrade was \$13.1 million and the project was  
14 placed in-service in July 2015.

15 **Q24. Please describe in detail the Static VAR Compensator project at IPL's Southwest**  
16 **Substation.**

17 A24. The SVC project involved installing a +300/-100 MVAR SVC at IPL's Southwest  
18 Substation. The purpose of an SVC is to provide reactive support to the transmission  
19 system voltage following an event on the transmission system and to minimize the loss of  
20 customer load from the voltage disturbance. The SVC uses solid state thyristors to  
21 switch capacitors and reactors in and out of service in less than 7 cycles or 0.12 seconds  
22 to support the transmission voltage. The SVC installed at Southwest Substation was to  
23 supplement the reactive support previously provided by the Eagle Valley generating units

1 that were retired during the gap year and the anticipated change in dispatch patterns for  
2 the re-fueled Harding Street Station Units 5-7. With the Harding Street units being  
3 refueled to natural gas, studies showed that additional reactive support would be needed  
4 during the times those units were not on-line. Planning studies also showed that the SVC  
5 would provide voltage regulation under normal conditions and improve customer service  
6 through better voltage regulation at the transmission system level.

7 **Q25. What was the total cost of the Southwest SVC project and when was it placed in-**  
8 **service?**

9 A25. The Southwest SVC project cost was \$30.6 million and was placed in-service in May  
10 2016. The Southwest SVC was called upon to react to a transmission system fault on an  
11 adjacent transmission system three days later and it performed as designed to help with  
12 the IPL transmission system voltage recovery after the event. Since then, the SVC has  
13 reacted to more than 15 transmission level events through the end of September 2016.

14 **Vegetation Management**

15 **Q26. Please describe the vegetation management adjustment found on IPL Financial**  
16 **Exhibit IPL-OPER, Schedule OM14.**

17 A26. IPL re-negotiated the contract with its vendor for vegetation management in 2016. The  
18 new contract resulted in a higher cost per mile for production trimming effective April 1,  
19 2016 with increase in each of the following years. This resulted in increased costs to the  
20 Company and that is reflected in the adjustment made to O&M Expenses as shown in IPL  
21 Financial Exhibit IPL-OPER, Schedule OM14. IPL has not changed the trim cycle; it is

1 still a three year cycle. The cost increase was due to higher expenses the vendor was  
2 incurring for labor and other costs.

3 **Collaborative Effort**

4 **Q27. In the Commission Order under Cause No. 44576, the Commission ordered IPL to**  
5 **establish a collaborative. Did the Company comply with that order?**

6 A27. Yes, the Company established the collaborative, which included participants from the  
7 IURC Staff, members of the Office of Utility Consumer Counselor (“OUCC”), the  
8 Citizens Action Coalition (“CAC”), the City of Indianapolis, and the IPL Industrial  
9 group.<sup>2</sup> The first meeting of the Collaborative took place on April 22, 2016, facilitated  
10 by a professional third party facilitator retained by IPL at IPL’s Morris Street facility.  
11 The Collaborative group has met face to face nine times through November 2016 (as well  
12 as numerous off-line conference calls), and is well ahead of the time line established in  
13 the Commission Order.

14 **Q28. Please describe the objective of the Collaborative effort.**

15 A28. The Commission Order established a three-fold objective: (1) ensure that Dr. O’Neill’s  
16 recommendations are implemented in a timely and cost effective manner, including how  
17 best to track, report, and verify IPL’s progress in further improving its Asset  
18 Management process and executing the Central Business District (“CBD”) Underground  
19 Network Asset Lifecycle Plan, (2) collaboratively develop a set of metrics to measure  
20 IPL’s performance over time and in comparison to other utilities in other jurisdictions to

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<sup>2</sup> As noted in IPL’s initial compliance filing in July 2016, Counsel for the IPL Industrial Group participated in the first meeting. They did not participate in subsequent meetings. Counsel for the Industrial Group was, however, a party to all communications exchanged within the Collaborative and among participating Stakeholders.

1 better foster continual improvements, and (3) assure a performance measurement process  
2 that is cost-effective and efficient while expanding upon, and not shift, IPL's focus on the  
3 performance of its entire electric distribution system.

4 **Q29. Is the Collaborative Process meeting the objectives set out by the Commission in its**  
5 **Order in Cause No. 44576?**

6 A29. Yes, in fact, the Company believes that the Collaborative process is, thus far, exceeding  
7 the stated and implied expectations set out in the Commission Order. I believe IPL's  
8 willingness to be open and transparent and the participant's willingness to do the same  
9 has resulted in a positive outcome for the Collaborative. Constructive discussions took  
10 place in the meetings where all parties voiced their positions and differing views were  
11 constructively discussed without confrontations and consensus positions were sought.

12 **Q30. What is your basis for this assessment?**

13 A30. I cite three reasons: First and foremost, the fact that the Collaborative is, in fact, operating  
14 in such a constructive manner can be attributed to the constructive participation exhibited  
15 by IPL, and the openness displayed by all participants in seeking a clearer understanding  
16 of the issues confronting IPL in managing its business.

17 Second, the collaborative process is ahead of the timeline established by the Commission  
18 Order. The July 22<sup>nd</sup> filing called only for a strawman of the oversight process (including  
19 categories of metrics that progress will be measured against and present condition of each  
20 metric). Though labeled a strawman (and certainly subject to refinement over the  
21 ensuring nine months until the final oversight plan is submitted to the Commission), this  
22 initial submittal of the oversight process not only provided the content specified in the

1 Commission Order, it also reflected multiple rounds of comments and feedback from all  
2 participants, moving the Collaborative closer to a level of consensus not normally  
3 achieved in an initial strawman. Further, embedded in the submission, were Appendices  
4 that provided detailed status of the state of IPL's Asset Management Program and its  
5 progress in implementing the Asset Life Cycle Plan for its CBD Underground Network.  
6 The Commission Order established the Collaborative framework contemplated that this  
7 level of transparency would be provided in the October 24<sup>th</sup> filing, as part of an initial  
8 assessment of IPL's Asset Management process. Because IPL provided a draft with the  
9 July filing, the initial assessment of IPL's Asset Management process submitted as part  
10 of the October 24<sup>th</sup> filing was viewed from the different perspectives of the other  
11 Collaborative participants.

12 Third, the format and tone of the meetings themselves have encouraged "real-time" and  
13 meaningful feedback, offering a series of "deep dive" presentations at the behest of the  
14 participants that examined topics such as the CBD inspection and work order process,  
15 capital spending optimization and the customer service operations. The process allowed  
16 sufficient time for all views to be heard and acted upon across a myriad topics and  
17 concerns. In so doing, challenges have been heard and constructively addressed, and  
18 positions stated and validated to the point where the level of collegiality and consensus  
19 envisioned for a collaboration is occurring.

20 Fourth, the Commission Testimonial Staff Response to IPL's October 24, 2016  
21 Compliance Filing (filed November 9, 2016) in Cause No. 44576 speaks favorably of the  
22 Collaborative and states that IPL has achieved "a current level of asset management  
23 process development that is exemplary in the industry." Staff Report, p. 4. The Staff

1 Report characterized the Collaborative process as having a “commendable spirit of open  
2 and honest collaboration” and also noted “the high level of commitment of IPL to the  
3 success of the process, as evidenced by the time commitment of senior executives and  
4 managers, and also the commitment of resources in terms of outside consultants and  
5 internal contributors (including substantial amounts of document production). Staff  
6 Report at 5.<sup>3</sup>

7 IPL agrees with the Staff Report statement that: “We look forward to the continued  
8 progress of the Collaborative in reporting the latest status of IPL’s asset management and  
9 in furthering the process of performance reporting.” Staff Report, at 5.

10 It is IPL’s fervent hope that stakeholder confidence in IPL’s management of its business  
11 has been (and will continue to be) enhanced and that we, collectively, have established a  
12 foundation for a constructive exchange of perspectives if, and when, difficulties arise.

13 **Q31. What are the next steps for the Collaborative?**

14 A31. With the issuance of a draft version of the oversight process on October 24<sup>th</sup> (merely a  
15 fine-tuning of the document submitted on July 22<sup>nd</sup>), the main focus will be on (1)  
16 refining the oversight process, (2) adjusting the monthly reporting of the performance  
17 metrics agreed to by the Collaborative (*e.g.*; possible re-categorization of Tier 1 and 2  
18 metrics defined in the oversight process), and (3) complying with the reporting  
19 requirements specified in the Commission Order. The oversight process calls for a  
20 revisiting of the frequency of the meetings (initially established as monthly), a topic that

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<sup>3</sup> The complete Staff Report as well as IPL’s July and October 2016 compliance filings are available on the Commission’s electronic docket.

1 will be explored in the January 2017 meeting as we transition into more of an operating  
2 regimen.

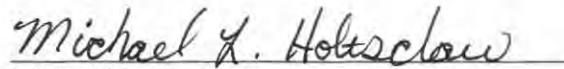
3 **Q32. Does that conclude your verified pre-filed direct testimony?**

4 A32. Yes.



**VERIFICATION**

I, Michael L. Holtsclaw, Director, Transmission & Distribution Engineering for Indianapolis Power & Light Company, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

  
Michael L. Holtsclaw

Dated: December 22, 2016