FILED
June 16, 2016
INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

APPLICATION OF INDIANAPOLIS POWER & LIGHT COMPANY FOR APPROVAL OF A FUEL COST CHARGE FOR ELECTRIC SERVICE DURING THE MONTHS OF SEPTEMBER, OCTOBER AND NOVEMBER 2016, IN ACCORDANCE WITH THE PROVISIONS OF I.C. 8-1-2-42 AND CONTINUED USE OF RATEMAKING TREATMENT FOR COSTS OF WIND POWER PURCHASES PURSUANT TO CAUSE NOS. 43485 AND 43740.	)))))))))))	**CAUSE NO. 38703 FAC 112**

PETITIONER'S SUBMISSION OF DIRECT TESTMONY OF
DENNIS DININGER

Indianapolis Power & Light Company ("IPL" or "Petitioner"), by counsel, hereby submits the direct testimony and attachments of Dennis Dininger.

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ATTORNEYS FOR PETITIONER

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the forgoing was served by hand delivery, electronic transmission or United State Mail, first class, postage prepaid on the Office of Utility Consumer Counselor, 115 W. Washington Street, Suite 1500 South, Indianapolis, Indiana 46204, (infomgt@oucc.in.gov) and a copy was served by hand delivery, electronic transmission or United States Mail, first class, postage prepaid, to Gregory T. Guerrettaz, Financial Solutions Group, Inc., 2680 East Main Street, Suite 223, Plainfield, Indiana 46168 (finance@msn.com).

In addition, a courtesy copy was provided by hand delivery, electronic transmission or United States Mail, first class, postage prepaid, to Timothy L. Stewart, Lewis & Kappes, One American Square, Suite 2500, Indianapolis, Indiana 46282, (tstewart@lewis-kappes.com), and a courtesy copy to: ATyler@lewis-kappes.com and ETennant@Lewis-kappes.com.

Dated this 16th day of June, 2016.

Jeffrey M. Peabody

DMS 4029557v1

APPLICANT'S EXHIBIT 3
I.U.R.C. CAUSE NO. 38703-FAC 112

VERIFIED DIRECT TESTIMONY OF DENNIS DININGER
DIRECTOR, COMMERCIAL OPERATIONS

Q1. Please state your name and business address.

A1. Dennis Dininger, One Monument Circle, Indianapolis, Indiana, 46204.

Q2. What is your position with Indianapolis Power & Light Company ("IPL")?

A2. I am Director, Commercial Operations.

Q3. What are your current responsibilities as Director, Commercial Operations?

A3. As Director, Commercial Operations, I am responsible for managing IPL's participation in the Midcontinent Independent System Operator, Inc. ("MISO") energy market and oversight of IPL's strategy and execution for demand bids and generation offers. I am also responsible for the management of the wind power purchase agreements, and procurement of natural gas.

Q4. Please briefly describe your educational and business experience.

A4. I received a Bachelor of Science Degree in Mechanical Engineering from Purdue University and a Masters of Business Administration from Butler University. I have been employed by IPL since 1989, assuming my current role in July 2010. Previously, I held the position of Director, Fuel Supply and Director, System Energy Coordination.

Q5. Have you previously testified before the Commission?

A5. Yes, I have submitted testimony on behalf of IPL in previous fuel adjustment clause ("FAC") proceedings as the Director, Fuel Supply and as Director, System Energy

Coordination. I have also submitted testimony in IPL's request for a Certificate of Public Convenience in Cause No. 44339 and in IPL's basic rates case, Cause No. 44576.

Q6. What is the purpose of your testimony in this proceeding?

A6. My testimony supports IPL's request to recover through the FAC proceeding certain costs incurred by IPL as a result of taking transmission service under the MISO Open Access Transmission and Energy Markets Tariff ("TEMT") to serve its Indiana retail electric customers, and participating in the MISO Day-Ahead and Real-Time Energy and Financial Transmission Rights ("FTR") Markets ("MISO Day 2" or "Day 2") and MISO Energy and Operating Reserves Market ("MISO EOR"). I also describe IPL's inclusion of its wind and natural gas purchases in this FAC and the reasonableness of IPL's fuel costs.

Q7. Are you sponsoring any attachments?

A7. Yes. I am sponsoring the following attachments:

- Attachment DD-1 – Calculation of daily benchmarks
- Attachment DD-2 – Summary of purchased power volumes, costs, the total of hourly purchased power costs above the applicable Purchased Power Daily Benchmarks, and the reasons for purchases at-risk after consideration of MISO economic dispatch
- Confidential Attachment DD-3 – March 17, 2016 Decrement Pricing Calculations
- Confidential Attachment DD-4 – April 19, 2016 Decrement Pricing Calculations

- Confidential Attachment DD-5 – IPL offers for Petersburg generating units, March 1st (no decrement pricing)

- Confidential Attachment DD-6 – IPL offers for Petersburg generating units, March 18, 2016 (first round of decrement pricing)

- Confidential Attachment DD-7 – IPL offers for Petersburg generating units, April 19, 2016 (second round of decrement pricing)

- Attachment DD-8 – Petersburg hourly real-time LMPs and production for the months of February, March, and April of 2016

Q8. Were Attachments DD-1 through DD-8 prepared or assembled by you or under your direction and supervision?

A8. Yes.

Q9. Did you submit any workpapers?

A9. Yes. I am submitting public workpapers in their native format that are the same as or which support Attachments DD-1, DD-2, DD-5, DD-6, DD-7, and DD-8 included with my testimony. These workpapers were prepared or assembled by me or under my direction and supervision.

Q10. Are you generally familiar with the operations of MISO?

A10. Yes, I am.

Q11. Have you reviewed the Commission's June 1, 2005 Order in Cause No. 42685 ("June 1, 2005 Order")?

A11. Yes.

Q12. Have you reviewed the Commission's June 30, 2009 Order in Cause No. 43426 ("Phase II Order")?

A12. Yes.

Q13. Is IPL's proposed recovery of costs for March through May 2016 consistent with your understanding of the Commission's June 1, 2005 Order and Phase II Order?

A13. Yes.

Q14. Are you generally familiar with the costs incurred by IPL as a result of taking transmission service under MISO's TEMT to serve its Indiana retail electric customers?

A14. Yes, I am.

Q15. Briefly describe the MISO costs and revenues that IPL is seeking to recover in this FAC proceeding.

A15. IPL is requesting recovery of projected fuel related MISO costs for the period of September through November 2016. These projected costs include the estimated level of the net effect of revenues and costs associated with delta Locational Marginal Pricing ("LMP"), Day-Ahead and RAC unit commitment, FTRs, Real-Time Marginal Loss Surplus, and Ancillary Services. In addition, IPL is reflecting a true-up of these fuel-related MISO costs and revenues for the period of February through April 2016. Attachment CAF-1, Schedule 6 contains a summary of the determination of actual MISO Components of Fuel Costs, exclusive of purchased power costs for this period.

Q16. In its FAC105 Order, the Commission found that IPL is authorized to defer RT MVP Distribution charges alongside Schedule 26A charges. Has IPL deferred these charges in this FAC proceeding?

A16. Yes. As a result of the FAC105 Order, IPL deferred the charges for RT MVP Distribution alongside Schedule 26A charges for the months of February and March 2016. Due to the order in IPL's basic rates case (Cause No. 44576), as of April 2016, a base amount of RT MVP Distribution and Schedule 26A charges are now included in IPL's base rates and charges, and any over or under-recovery will be reflected in Standard Contract Rider No. 26 (Regional Transmission Organization Adjustment). Because these costs will be considered as part of IPL's RTO Adjustment going forward, they will no longer be addressed in my testimony in IPL's FAC proceedings .

Q17. In its FAC97 Order, the Commission found that IPL is authorized to include charges for Demand Response Resource Uplift Amounts for purposes of review in the FAC proceedings. Has IPL included these charges in this FAC proceeding?

A17. Yes. As a result of the FAC97 Order, IPL has included the charges for Demand Response Resource Uplift Amounts into its cost of fuel in this proceeding.

Q18. In its FAC85 Order, the Commission found that IPL is authorized to include credits or charges for Contingency Reserve Deployment Failure Charge Uplift Amounts for purposes of review in the FAC proceedings. Has IPL included these credits or charges in this FAC proceeding?

A18. Yes. As a result of the FAC85 Order, IPL has included the credits and charges for Contingency Reserve Deployment Failure Charge Uplift Amounts into its cost of fuel in this proceeding.

Q19. Please discuss IPL's experience with MISO's Ancillary Services Market ("ASM").

A19. MISO launched its ASM on January 6, 2009, and to my knowledge the ASM has generally functioned without any major issue. IPL's generators have been following real time signals as directed by MISO with minimal issues. Day Ahead and Real Time market clearing prices for Regulation, Spinning and Supplemental Reserves appear to be at reasonable levels consistent with market conditions. For the periods February through April 2016, the average ASM prices per megawatt hour were as follows:

Month	Regulation	Spinning	Supplemental
February 2016	$0.0182	$0.0192	$0.0080
March 2016	$0.0192	$0.0267	$0.0094
April 2016	$0.0300	$0.0337	$0.0108

Q20. Is IPL requesting recovery of Revenue Sufficiency Guarantee ("RSG") Payments in this FAC proceeding?

A20. Yes.

Q21. Have you reviewed the Commission's June 3, 2009 Order in Cause No. 43664 (the "RSG Order")?

A21. Yes.

Q22. Is IPL's request for recovery of RSG Payments consistent with your understanding of the Commission's RSG Order?

A22. Yes.

Q23. Are you familiar with the term "Contestable RT RSG Charges"?

A23. Yes. In its RSG Order, the Commission approved the following calculation method to be used to determine the RSG Benchmark:

> Each day a "Benchmark" shall be established based upon a generic Gas Turbine ("GT"), using a generic GT heat rate of 12,500 btu/kwh using the day-ahead natural gas prices for the NYMEX Henry Hub, plus a $0.60/mmbtu gas transport charge for a generic gas-fired GT.

("RSG Daily Benchmarks"). Any Revenue Sufficiency Guarantee First Pass Distribution amounts in excess of the RSG Daily Benchmarks are termed "Contestable RT RSG Charges."

Q24. What are the RSG Daily Benchmarks for the period of February through April 2016?

A24. The applicable RSG Daily Benchmarks per MWh for RSG for February through April 2016 are set forth on Attachment DD-1. The RSG Daily Benchmark calculations for February through April 2016 have been done in conformity with the RSG Order.

Q25. Did IPL incur any Contestable RT RSG Charges as that term is defined in the RSG Order during February through April 2016?

A25. Yes. IPL's treatment of these amounts is discussed in the testimony of Witness Forestal. Please note that due to the 2016 Base Rate Order in Cause No. 44576, as of April 2016, a base amount of Contestable RT RSG Charges is now included in IPL's base rates and charges, and any over or under-recovery will be reflected in Standard Contract Rider No. 26 (Regional Transmission Organization Adjustment). Because Contestable RT RSG costs will be considered as part of IPL's RTO Adjustment going forward, they will no longer be addressed in my testimony in IPL's FAC proceedings.

Q26. How does IPL recover the cost of power purchased in the MISO markets?

A26. IPL recovers power costs purchased through the MISO energy market, up to a Daily Benchmark, through the FAC. In Cause No. 43414, the Commission approved a "benchmark" triggering mechanism to assess the reasonableness of purchased power costs ("Purchased Power Order"). Each day, a Benchmark is established based upon a generic Gas Turbine ("GT"), using a generic GT heat rate of 12,500 btu/kWh, using the day ahead natural gas prices for the NYMEX Henry Hub, plus $0.60/mmbtu gas transport charge for a generic gas-fired GT. The Benchmark methodology was approved in Cause No. 43414 on April 23, 2008 ("Purchased Power Daily Benchmark(s)"). As indicated in my direct testimony in Cause No. 44576, IPL continues to follow the guidelines and procedures established in the Purchased Power Order. Purchases made in the course of MISO's economic dispatch regime to meet jurisdictional retail load are a cost of fuel and are fully recoverable in the utility's FAC up to the actual cost or the Purchased Power Daily Benchmark, whichever is lower.

Q27. Are you aware of any new or modified MISO charge types that impact the FAC?

A27. There are no new charge types that impact the true-up period of this filing; however, beginning May 1, 2016 MISO implemented two new charges, DA Ramp Capability Amount and RT Ramp Capability Amount. These charge types represent an Asset Owner's compensation for up and/or down ramp capability in the DA and RT Markets. Ramp capability products are designed to manage net load variations and uncertainties over a defined response time to maintain the real time power balance. Ramp capability is simultaneously co-optimized with energy and ancillary services so the most economical resources are selected to serve load and fulfill reserve and ramp requirements. This ramp product is most like an ancillary services product as it was evaluated and determined a better option than increasing regulation and contingency reserve requirements. The Ramp Capability Distribution charge which funds the Day-Ahead and Real-Time Ramp Capability products, will be uplifted to the existing RT Revenue Neutrality Uplift Amount (RT RNU) balancing mechanism. IPL intends to pass the Day-Ahead and Real-Time Ramp Capability product credits through the quarterly FAC. This creates a mismatch between the Asset Owner payment for the ramp product which is recovered through IPL's quarterly FAC filings, and the RT RNU balancing mechanism which would otherwise be recovered through IPL's annual RTO Adjustment filing. For this reason, IPL intends to include the Ramp Capability uplift from the RT RNU balancing mechanism in future quarterly FAC filings to reflect a proper matching of revenues and expenses.

Q28. What are the Purchased Power Daily Benchmarks for February through April 2016?

A28. During this accounting period the applicable Purchased Power Daily Benchmarks are shown in Attachment DD-1. Please note that the approved methodology for determining the Purchased Power Daily Benchmarks and the RSG Daily Benchmarks is identical.

Q29. Are any purchases from the Hoosier Wind Park and/or Lakefield Wind Park included in this FAC, either in projected or actual fuel costs?

A29. Yes, wind purchases are included in IPL's projected and actual fuel costs. The wind park operators provide IPL with monthly wind production projections. IPL forecasts wind purchase costs using the monthly production projections, contract rates, and a factor to account for the impact of expected levels of MISO real-time curtailments. IPL forecasts wind purchase volumes by reducing the monthly production projections by the expected level of MISO real-time curtailments which is largely based on historical curtailments at each park for the forecast period. Pursuant to the approval received in Cause No. 43485, IPL began receiving power from Hoosier Wind Park on November 1, 2009. For the months of February 2016, March 2016, and April 2016, IPL received 25,406 MWhs, 22,101 MWhs, and 14,659 MWhs, respectively. Pursuant to the approval received in Cause No. 43740, IPL began receiving power from Lakefield Wind Park on October 4, 2011. For the months of February 2016, March 2016, and April 2016, IPL received 57,122 MWhs, 47,711 MWhs, and 65,733 MWhs, respectively. Pursuant to Cause No. 43740, IPL is reflecting credits to jurisdictional fuel costs for the off-system sales profits made possible because of the energy received from the Lakefield Wind Park purchased power agreement.

Q30. Where are these purchases shown in IPL's schedules in this proceeding?

A30. Projected purchases are included in Purchases through MISO on Attachment CAF-1, Schedule 1, Line 6 and Line 20. Actual purchases are included on the same lines of the applicable page of Schedule 5 of this attachment. As directed in the Commission's Order in FAC 99, IPL has provided a breakdown of the transactions identified on these line items.

Q31. Please provide an update regarding the Locational Marginal Prices ("LMPs") at the Lakefield Wind Park and the Hoosier Wind Park.

A31. The Lakefield Wind Park and the Hoosier Wind Park are Dispatchable Intermittent Resources ("DIRs") in the MISO market. A DIR is sent dispatch instructions from MISO by an electronic signal every 5 minutes, similar to the operation of the other generating units. The Lakefield Wind Park and Hoosier Wind Park can ramp quickly, largely avoiding negative LMPs. Curtailed power at the Lakefield Wind Park is billable when certain criteria are met. As discussed in previous FAC proceedings, curtailments at Hoosier Wind Park fall into two categories: Transmission Curtailments and Economic Curtailments. IPL must pay for (i) Transmission Curtailments up to an identified annual quantity threshold and (ii) all Economic Curtailments. The level of curtailment at the Lakefield Wind Park, measured as a percentage of full theoretical production at the Lakefield Wind Park, is approximately the same as the level of curtailments experienced during the time period covered by FAC111 and lower than the level of curtailment experienced one year ago (FAC108). There were no billable curtailments at the Hoosier Wind Park for this FAC period. IPL also offers the Lakefield Wind Park and the Hoosier Wind Park into the day-ahead market to mitigate the impact of negative LMPs in real-time.

Q32. Please explain the operating changes occurring at IPL's Harding Street and Eagle Valley locations.

A32. Harding Street Unit 7 is now converted to burn natural gas (as approved in Cause No. 44540) and is currently being tuned as part of the start-up sequence. The Eagle Valley coal-fired plant is now retired.

Q33. Was total fuel cost divided by sales (F/S) on <u>Attachment CAF-1</u>, Schedule 5, Page 4 of 4, Line 32, higher than forecast during February through April 2016?

A33. No. The weighted average deviation between forecast and actual results in an overestimate of 7.96%. The February 2016, March 2016, and April 2016 deviations between forecast and actual F/S were 12.40%, 7.08%, and 4.19%, respectively. The overestimates for February and March were due to lower actual energy prices than forecast. Reduced market demand for power as a result of mild winter weather, low natural gas prices, and high wind output precipitated low market power prices. IPL's coal-fired units dispatched less under the low market power prices allowing for increased Non-Wind PPA Market Purchases at lower than forecast prices.

Q34. Is IPL seeking to recover any purchased power costs incurred in February through April 2016 that are in excess of the Daily Benchmarks calculated pursuant to the Purchased Power Order?

A34. Yes. IPL incurred a total of $999,317.63 of purchased power costs over the applicable Purchased Power Daily Benchmarks during February through April 2016. IPL makes power purchases when economical or due to unit unavailability. Consistent with the Purchased Power Order, IPL has an opportunity to request recovery of and justify the reasonableness of purchased power costs above the applicable Purchased Power Daily Benchmark. Attachment DD-2 was prepared to aid the Commission in its review of IPL's request. Attachment DD-2 summarizes the purchased power volumes, costs, the total of hourly purchased power costs above the applicable Purchased Power Daily Benchmarks for February through April 2016 and the reasons for the purchases at-risk after consideration of MISO economic dispatch. Utilizing the methodology approved in the Purchased Power Order, $6,291.05 of the purchased power is non-recoverable during this accounting period. Therefore, IPL is seeking to recover $993,026.58 of purchased power costs in excess of the applicable Purchased Power Daily Benchmarks for February through April 2016.

Q35. Do you believe the total purchased power costs incurred in February through April 2016 are reasonable?

A35. Yes.

Q36. Briefly explain the benefits to IPL's customers of IPL's participation in the MISO EOR.

A36. The MISO EOR gives all participants open access to the transmission system and all available resources are centrally dispatched using simultaneous co-optimization. MISO provides a transparent and liquid energy market across its entire footprint. Furthermore, on-going coordination between MISO and adjacent ISO systems increases grid reliability and makes it possible to regionally coordinate transmission expansion. While benefiting from improved grid reliability, the greater benefit for IPL and its customers is the transparent and liquid energy market that brings about an even playing field for all utilities. This allows IPL to make more economic purchases from the open market with the benefits flowing directly to its customers. The EOR provides the same level playing field for ancillary services (regulation and contingency reserves) while also more effectively and economically allocating resources to provide those reserves. In addition, the EOR provides an opportunity to reduce the overall amount of reserves being held by market participants thereby further reducing the cost of providing those reserves to customers.

Q37. Did IPL implement decrement pricing as decribed in Cause No. 38703 - FAC111?

A37. Yes. IPL implemented decrement pricing on March 17, 2016 to mitigate the future costs of coal surplus.

Q38. What is decrement pricing?

A38. Decrement pricing is a process by which the cost of coal is reduced in the offer to the MISO EOR equivalent to the cost of the option required to manage the oversupply. In other words, the price decrement represents the avoided cost associated with implementing a more expensive option to avoid or reduce surplus coal inventories, such as buying out of a coal contract, temporarily storing the coal, or taking some other form of action. To the extent the units are dispatched, coal coming to the station is consumed, other potential costs are avoided, and customers ultimately benefit.

Q39. Please describe the mechanics of the decrement pricing approach.

A39. Each month, IPL evaluates its coal oversupply state and the cost and projected impact of each option available to mitigate the oversupply – stacking the options from least cost to highest cost. The avoided cost of the most expensive option required to mitigate the projected oversupply is the new decrement price for the following month. In the event that the MISO EOR dispatches the IPL coal units at a greater frequency than a forecast without the use of decrement pricing, the cost of that option can be avoided. Unless the IPL coal units are the marginal units in MISO, decrement pricing will always produce a lower cost result over the long run than implementing that option, which benefits the customer. In the event that decrement pricing does not produce the increased burn required to avoid that option, IPL will then be forced to implement the option on the remaining oversupply. In that event, the combination of decrement pricing, the implementation of that option, and market power purchases will then be the low cost outcome. Lower cost options will be implemented before the higher cost options and can work in parallel with decrement pricing. In other words, decrement pricing is an additional tool that is used to help manage fuel costs.

Q40. What are the inputs to the decrement pricing calculation?

A40. The inputs into the decrement pricing calculation include the options available to manage coal inventory levels. Mr. Grimmer discusses these options in his testimony and presents a detailed "stack" of options in Petitioner's Confidential Attachment NG-1.

Q41. What decrement price did IPL use in March and April 2016?

A41. IPL has prepared Confidential Attachments DD-3 and DD-4, which document the forecast of IPL's oversupply and the marginal option used in IPL's offers beginning on March 17, 2016 and April 19, 2016 respectively. These Attachments supporting the coal decrement pricing were developed based on discussions with and input from the OUCC. To assist the OUCC in understanding the mechanics of how the decrement pricing is applied to IPL's offers, Confidential Attachments DD-5, DD-6, and DD-7 are presented which contain IPL's offers for the Petersburg generating units before decrement pricing (Confidential Attachment DD-5), for the first month of decrement pricing (Confidential Attachment DD-6), and for the second month of decrement pricing (Confidential Attachment DD-7). Attachment DD-8 contains the hourly real-time LMPs and production at Petersburg for the months of February, March, and April 2016. An examination of the offer prices and the real-time LMPs at Petersburg will clearly show that the Petersburg units are more attractive to the MISO market under decrement pricing, increasing their unit commitment and dispatch frequency which in turn increases the coal burn economically (considering the future oversupply mitigation options facing IPL). The Petersburg units loaded earlier in the day and ran at full load during more hours of the day. The increased coal burn has reduced the coal inventory, thereby avoiding costs to manage an offsite coal inventory.

Q42. Does the 2016 forecast include decrement pricing?

A42. Yes.

Q43. Does IPL know how long will decrement pricing be utilized?

A43. No. Decrement pricing will be one of many options implemented to manage the coal inventory surplus. All options will work together to bring the inventories back into target levels. Addtionally, in the event that forecasted MISO market prices for power increase, the forecasted dispatch of IPL coal units without decrement pricing will increase, reducing the projected surplus. As the surplus subsides, the higher cost options will be avoided and lower cost options will be used to set the decrement pricing amount. The lower decrement pricing amounts may slow IPL's progress toward its target inventories.

Q44. Will IPL continue to update its testimony regarding its coal inventory in future FAC proceedings?

A44. Yes.

Q45. Has the new battery energy storage at Harding Street been placed in service?

A45. The battery was placed into service on May 20, 2016. The energy use will be included in future FAC proceedings on line 10 of Schedule 5 of Attachment CAF-1 ("Energy Losses and Company Use"). The cost of the energy use will be included in line 23 of Schedule 5 of Attachment CAF-1 ("MISO Components of Cost of Fuel"). The operation of the battery was not considered in the forecast for September through November 2016. In future FAC filings, the forecast of battery energy storage energy use will be included on line 10 of Schedule 1.

Q46. In Cause No. 38703 FAC 111, you testified that you would provide an update regarding the workpapers provided to the Indiana Office of Utility Consumer Counselor ("OUCC"). Did IPL discuss this issue with the OUCC?

A46. Yes. As a result of those discussions, IPL agreed to provide confidential workpapers for the audit days selected by the OUCC auditor supporting the stacking order used to price Off-System Sales ("OSS"). These confidential workpapers are included in the audit packet and are labled "OUCC COST STACK FAC 112 AUDIT DAYS". The workpapers list the OSS volumes, the generating unit production costs, and the portion of OSS assigned to each unit for each hour.

Q47. Are reasonable fees associated with the Alliance for Cooperative Energy Services ("ACES") agreement included in this filing?

A47. Yes. In accordance with the agreement, ACES tracks IPL's REC inventory, recommends new markets and trades, and negotiates deals. ACES is an Indiana headquartered energy management company that has significant experience in the REC market. IPL sold RECs during the period including February, March, and April 2016 and in compliance with the Commission's order in FAC110, IPL applied fees incurred under the ACES agreement through the date of the last sale. The services provided through the ACES agreement allow IPL to efficiently manage RECs and limits brokerage fees for REC sales.

Q48. What is your opinion as to whether IPL acquires a reliable supply of fuel and generates and purchases power so as to achieve the lowest fuel cost reasonably possible?

A48. In my opinion, we have made every reasonable effort to acquire fuel and generate or purchase power or both so as to provide electricity to our retail customers at the lowest fuel cost reasonably possible.

Q49. Does this conclude your prefiled direct testimony?

A49. Yes, it does.

Verification

I affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

Dated this 16th day of June, 2016.

Dennis Dininger

Dennis Dininger

INDIANAPOLIS POWER & LIGHT COMPANY

Calculation of Daily Benchmark

NYMEX Henry Hub Day Ahead Natural Gas Price

Day	Daily Average $/MMBtu	Transport Charges $/MMBtu	Proxy Gas Price $/MMBtu	Heat Rate BTU/KWH	Daily Benchmark $/MWH
1-Feb-16	2.2517	0.600	2.8517	12,500	35.65
2-Feb-16	2.1838	0.600	2.7838	12,500	34.80
3-Feb-16	2.0351	0.600	2.6351	12,500	32.94
4-Feb-16	2.0591	0.600	2.6591	12,500	33.24
5-Feb-16	2.0485	0.600	2.6485	12,500	33.11
6-Feb-16	2.0866	0.600	2.6866	12,500	33.58
7-Feb-16	2.0866	0.600	2.6866	12,500	33.58
8-Feb-16	2.0866	0.600	2.6866	12,500	33.58
9-Feb-16	2.2242	0.600	2.8242	12,500	35.30
10-Feb-16	2.1670	0.600	2.7670	12,500	34.59
11-Feb-16	2.1280	0.600	2.7280	12,500	34.10
12-Feb-16	2.1219	0.600	2.7219	12,500	34.02
13-Feb-16	2.0669	0.600	2.6669	12,500	33.34
14-Feb-16	2.0669	0.600	2.6669	12,500	33.34
15-Feb-16	2.0669	0.600	2.6669	12,500	33.34
16-Feb-16	2.0669	0.600	2.6669	12,500	33.34
17-Feb-16	1.9187	0.600	2.5187	12,500	31.48
18-Feb-16	1.9125	0.600	2.5125	12,500	31.41
19-Feb-16	1.8736	0.600	2.4736	12,500	30.92
20-Feb-16	1.8083	0.600	2.4083	12,500	30.10
21-Feb-16	1.8083	0.600	2.4083	12,500	30.10
22-Feb-16	1.8083	0.600	2.4083	12,500	30.10
23-Feb-16	1.8415	0.600	2.4415	12,500	30.52
24-Feb-16	1.8280	0.600	2.4280	12,500	30.35
25-Feb-16	1.7931	0.600	2.3931	12,500	29.91
26-Feb-16	1.7652	0.600	2.3652	12,500	29.57
27-Feb-16	1.6648	0.600	2.2648	12,500	28.31
28-Feb-16	1.6648	0.600	2.2648	12,500	28.31
29-Feb-16	1.6648	0.600	2.2648	12,500	28.31

Day	Daily Average $/MMBtu	Transport Charges $/MMBtu	Proxy Gas Price $/MMBtu	Heat Rate BTU/KWH	Daily Benchmark $/MWH
1-Mar-16	1.6164	0.600	2.2164	12,500	27.71
2-Mar-16	1.5675	0.600	2.1675	12,500	27.09
3-Mar-16	1.5857	0.600	2.1857	12,500	27.32
4-Mar-16	1.5566	0.600	2.1566	12,500	26.96
5-Mar-16	1.4927	0.600	2.0927	12,500	26.16
6-Mar-16	1.4927	0.600	2.0927	12,500	26.16
7-Mar-16	1.4927	0.600	2.0927	12,500	26.16
8-Mar-16	1.5222	0.600	2.1222	12,500	26.53
9-Mar-16	1.5489	0.600	2.1489	12,500	26.86
10-Mar-16	1.5734	0.600	2.1734	12,500	27.17
11-Mar-16	1.6963	0.600	2.2963	12,500	28.70
12-Mar-16	1.7225	0.600	2.3225	12,500	29.03
13-Mar-16	1.7225	0.600	2.3225	12,500	29.03
14-Mar-16	1.7225	0.600	2.3225	12,500	29.03
15-Mar-16	1.6835	0.600	2.2835	12,500	28.54
16-Mar-16	1.7772	0.600	2.3772	12,500	29.72
17-Mar-16	1.7361	0.600	2.3361	12,500	29.20
18-Mar-16	1.8190	0.600	2.4190	12,500	30.24
19-Mar-16	1.8382	0.600	2.4382	12,500	30.48
20-Mar-16	1.8382	0.600	2.4382	12,500	30.48
21-Mar-16	1.8382	0.600	2.4382	12,500	30.48
22-Mar-16	1.7608	0.600	2.3608	12,500	29.51
23-Mar-16	1.7546	0.600	2.3546	12,500	29.43
24-Mar-16	1.7994	0.600	2.3994	12,500	29.99
25-Mar-16	1.7249	0.600	2.3249	12,500	29.06
26-Mar-16	1.7249	0.600	2.3249	12,500	29.06
27-Mar-16	1.7249	0.600	2.3249	12,500	29.06
28-Mar-16	1.7249	0.600	2.3249	12,500	29.06
29-Mar-16	1.7333	0.600	2.3333	12,500	29.17
30-Mar-16	1.7694	0.600	2.3694	12,500	29.62
31-Mar-16	1.8361	0.600	2.4361	12,500	30.45

Day	Daily Average $/MMBtu	Transport Charges $/MMBtu	Proxy Gas Price $/MMBtu	Heat Rate BTU/KWH	Daily Benchmark $/MWH
1-Apr-16	1.9393	0.600	2.5393	12,500	31.74
2-Apr-16	1.8744	0.600	2.4744	12,500	30.93
3-Apr-16	1.8744	0.600	2.4744	12,500	30.93
4-Apr-16	1.8744	0.600	2.4744	12,500	30.93
5-Apr-16	1.9433	0.600	2.5433	12,500	31.79
6-Apr-16	1.9049	0.600	2.5049	12,500	31.31
7-Apr-16	1.8611	0.600	2.4611	12,500	30.76
8-Apr-16	1.9352	0.600	2.5352	12,500	31.69
9-Apr-16	1.9841	0.600	2.5841	12,500	32.30
10-Apr-16	1.9841	0.600	2.5841	12,500	32.30
11-Apr-16	1.9841	0.600	2.5841	12,500	32.30
12-Apr-16	1.8795	0.600	2.4795	12,500	30.99
13-Apr-16	1.9418	0.600	2.5418	12,500	31.77
14-Apr-16	1.9805	0.600	2.5805	12,500	32.26
15-Apr-16	1.9217	0.600	2.5217	12,500	31.52
16-Apr-16	1.7175	0.600	2.3175	12,500	28.97
17-Apr-16	1.7175	0.600	2.3175	12,500	28.97
18-Apr-16	1.7175	0.600	2.3175	12,500	28.97
19-Apr-16	1.7660	0.600	2.3660	12,500	29.58
20-Apr-16	1.8996	0.600	2.4996	12,500	31.25
21-Apr-16	2.0155	0.600	2.6155	12,500	32.69
22-Apr-16	1.9390	0.600	2.5390	12,500	31.74
23-Apr-16	1.8993	0.600	2.4993	12,500	31.24
24-Apr-16	1.8993	0.600	2.4993	12,500	31.24
25-Apr-16	1.8993	0.600	2.4993	12,500	31.24
26-Apr-16	1.9778	0.600	2.5778	12,500	32.22
27-Apr-16	1.8765	0.600	2.4765	12,500	30.96
28-Apr-16	1.8808	0.600	2.4808	12,500	31.01
29-Apr-16	1.8926	0.600	2.4926	12,500	31.16
30-Apr-16	1.8926	0.600	2.4926	12,500	31.16

INDIANAPOLIS POWER & LIGHT COMPANY
Purchased Power Above Daily Benchmark

	Operating Day	Total Cost of Hourly Purchases[1]	MWH Above the Daily Benchmark	Amount Above Daily Benchmark	IURC Order 43414 Methodology: Hourly Purchased Power Costs At-Risk After Consideration of MISO Economic Dispatch — MW	Amount	Reasons	IURC Order 43414 Methodology: Non-Recoverable Balance Above Daily Benchmark — MW	Amount
1	2/1/2016	$ 68,917	1,630	$ 10,807	-	$ -		-	$ -
2	2/2/2016	$ 50,738	1,409	$ 1,705	-	$ -		-	$ -
3	2/3/2016	$ 123,665	3,481	$ 9,001	-	$ -		-	$ -
4	2/4/2016	$ 179,301	4,911	$ 16,059	503	$ 1,784	Economic Purchases due to Unit Outages and Derates	31	$ 128
5	2/5/2016	$ 177,116	4,460	$ 29,446	739	$ 7,804	Economic Purchases due to Unit Outages and Derates	-	$ -
6	2/6/2016	$ 94,416	2,490	$ 10,802	-	$ -		-	$ -
7	2/8/2016	$ 102,830	2,716	$ 11,627	-	$ -		-	$ -
8	2/9/2016	$ 186,712	4,714	$ 20,307	1,135	$ 5,107	Economic Purchases due to Unit Outages and Derates	170	$ 766
9	2/10/2016	$ 248,511	6,107	$ 37,270	533	$ 2,523	Economic Purchases due to Unit Derates	75	$ 350
10	2/11/2016	$ 107,043	2,575	$ 19,235	392	$ 5,061	Economic Purchases due to Unit Outages and Derates	59	$ 759
11	2/12/2014	$ 36,701	899	$ 6,117	-	$ -		-	$ -
12	2/14/2016	$ 197,385	4,137	$ 59,457	294	$ 2,061	Economic Purchases due to Unit Derates	44	$ 309
13	2/15/2016	$ 23,992	691	$ 954	123	$ 170	Economic Purchases due to Unit Derates	18	$ 25
14	2/16/2016	$ 37,935	1,127	$ 361	-	$ -		-	$ -
15	2/17/2016	$ 115,327	3,476	$ 5,902	1,574	$ 2,194	Economic Purchases due to Unit Outages and Derates	23	$ 20
16	2/18/2016	$ 83,523	2,525	$ 4,212	-	$ -		-	$ -
17	2/22/2016	$ 33,382	969	$ 4,215	-	$ -		-	$ -
18	2/24/2016	$ 153,069	3,165	$ 57,012	44	$ 1,448	Economic Purchases due to Unit Outages and Derates	6	$ 208
19	2/25/2016	$ 87,525	2,666	$ 7,785	-	$ -		-	$ -
20	2/26/2016	$ 92,014	2,544	$ 16,788	-	$ -		-	$ -
21	2/28/2016	$ 45,513	1,487	$ 3,416	-	$ -		-	$ -
22	2/29/2016	$ 128,208	3,908	$ 17,573	-	$ -		-	$ -
	Feb Total		62,087	$ 350,050	5,337	$ 28,153		427	$ 2,566
23	3/1/2016	$ 240,952	7,119	$ 43,684	2,658	$ 16,045	Economic Purchases due to Unit Outages and Derates	399	$ 2,407
24	3/2/2016	$ 347,348	9,381	$ 93,217	487	$ 1,052	Economic Purchases due to Unit Outages and Derates	45	$ 151
25	3/3/2016	$ 220,475	6,985	$ 29,645	20	$ 155	Economic Purchases due to Unit Derates	3	$ 23
26	3/4/2016	$ 293,393	9,054	$ 49,297	-	$ -		-	$ -
27	3/5/2016	$ 78,076	2,794	$ 4,985	-	$ -		-	$ -
28	3/6/2016	$ 43,507	1,435	$ 5,967	-	$ -		-	$ -
29	3/7/2016	$ 162,728	5,147	$ 28,082	-	$ -		-	$ -
30	3/8/2016	$ 25,977	867	$ 2,976	-	$ -		-	$ -
31	3/9/2016	$ 51,115	1,630	$ 7,333	-	$ -		-	$ -
32	3/10/2016	$ 8,974	304	$ 714	-	$ -		-	$ -
33	3/14/2016	$ 94,090	2,620	$ 18,031	-	$ -		-	$ -
34	3/15/2016	$ 126,321	4,059	$ 10,477	-	$ -		-	$ -
35	3/16/2016	$ 21,216	624	$ 2,671	-	$ -		-	$ -
36	3/17/2016	$ 16,724	543	$ 868	-	$ -		-	$ -
37	3/18/2016	$ 9,730	308	$ 416	-	$ -		-	$ -
38	3/28/2016	$ 6,244	204	$ 316	-	$ -		-	$ -
39	3/29/2016	$ 6,104	187	$ 649	-	$ -		-	$ -
40	3/30/2016	$ 14,950	498	$ 199	-	$ -		-	$ -
	Mar Total		53,759	$ 299,529	3,165	$ 17,252		446	$ 2,581
41	4/1/2016	$ 127,710	3,462	$ 17,826	-	$ -		-	$ -
42	4/2/2016	$ 26,980	695	$ 5,484	-	$ -		-	$ -
43	4/3/2016	$ 640	16	$ 145	-	$ -		-	$ -
44	4/4/2016	$ 21,074	579	$ 3,166	-	$ -		-	$ -
45	4/5/2016	$ 19,525	304	$ 9,861	-	$ -		-	$ -
46	4/6/2016	$ 32,232	814	$ 6,745	-	$ -		-	$ -
47	4/7/2016	$ 58,571	1,472	$ 13,293	-	$ -		-	$ -
48	4/8/2016	$ 60,783	1,227	$ 21,900	-	$ -		-	$ -
49	4/9/2016	$ 29,322	779	$ 4,160	-	$ -		-	$ -
50	4/10/2016	$ 129,641	3,453	$ 18,109	653	$ 3,479	Economic Purchases due to Unit Outages and Derates	-	$ -
51	4/11/2016	$ 143,660	3,621	$ 26,702	464	$ 2,716	Economic Purchases due to Unit Outages and Derates	-	$ -
52	4/12/2016	$ 201,179	4,859	$ 50,598	1,719	$ 21,789	Economic Purchases due to Unit Outages and Derates	-	$ -
53	4/13/2016	$ 164,264	4,155	$ 32,260	1,499	$ 12,833	Economic Purchases due to Unit Outages and Derates	-	$ -
54	4/14/2016	$ 89,818	2,414	$ 11,943	719	$ 4,334	Economic Purchases due to Unit Outages and Derates	-	$ -
55	4/15/2016	$ 240,026	6,673	$ 29,693	3,811	$ 18,512	Economic Purchases due to Unit Outages	-	$ -
56	4/16/2016	$ 32,543	972	$ 4,384	79	$ 356	Economic Purchases due to Unit Outages	-	$ -
57	4/17/2016	$ 48,211	1,488	$ 5,104	330	$ 1,132	Economic Purchases due to Unit Derates	50	$ 170
58	4/18/2016	$ 256,041	7,704	$ 32,856	2,462	$ 10,753	Economic Purchases due to Unit Outages and Derates	128	$ 637
59	4/19/2016	$ 123,184	3,688	$ 14,093	9	$ 7	Economic Purchases due to Unit Derates	1	$ 1
60	4/20/2016	$ 87,295	1,889	$ 28,263	-	$ -		-	$ -
61	4/21/2016	$ 39,144	1,150	$ 1,551	-	$ -		-	$ -
62	4/24/2016	$ 5,154	144	$ 655	-	$ -		-	$ -
63	4/25/2016	$ 6,040	171	$ 698	-	$ -		-	$ -
64	4/26/2016	$ 83,769	2,327	$ 8,793	475	$ 2,237	Economic Purchases due to Unit Outages and Derates	71	$ 336
65	4/28/2016	$ 21,498	675	$ 566	-	$ -		-	$ -
66	4/29/2016	$ 18,934	579	$ 892	-	$ -		-	$ -
	Apr Total		55,310	$ 349,739	12,220	$ 78,148		250	$ 1,144
	Grand Total			$ 999,318		$ 123,553			$ 6,291

[1]This column is the total cost of purchased power for those hours during the operating day when the price was above the benchmark.

CONFIDENTIAL Attachment DD-3

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CONFIDENTIAL Attachment DD-4

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CONFIDENTIAL Attachment DD-5

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CONFIDENTIAL Attachment DD-6

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CONFIDENTIAL Attachment DD-7

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Attachment DD-8

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