

44893

VERIFIED DIRECT TESTIMONY

OF

DENNIS C. DININGER

ON BEHALF OF

INDIANAPOLIS POWER AND LIGHT COMPANY

INCLUDING IPL WITNESS DCD ATTACHMENT 1

**VERIFIED DIRECT TESTIMONY OF DENNIS C. DININGER
ON BEHALF OF
INDIANAPOLIS POWER and LIGHT COMPANY**

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

2 A1. My name is Dennis Dininger. I am employed by Indianapolis Power and Light Company
3 (“IPL” or the “Company”), One Monument Circle, Indianapolis, Indiana, 46204.

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

5 A2. I am Director, Commercial Operations.

6 **Q3. Please describe your duties as Director, Commercial Operations.**

7 A3. As Director, Commercial Operations, I am responsible for managing IPL’s participation
8 in the Midcontinent Independent System Operator, Inc. (“MISO”) energy markets and for
9 oversight of IPL’s strategy for and execution of demand bids and generation offers. I am
10 also responsible for the procurement and contract administration of natural gas and
11 purchase power agreements. I am responsible for the management of IPL’s emission
12 allowances as the Designated Representative for the general account under the U.S.
13 Environmental Protection Agency’s (“EPA”) Acid Rain and Clean Air Interstate Rule
14 (“CAIR”) programs.

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

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

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

2 A5. Prior to accepting my current position in 2010, I was responsible for IPL's fuel supply as
3 Director, Fuel Supply. Beginning in 1994 as an administrator in Fuel Supply, I
4 progressed through the various roles. Previous to Fuel Supply, I was involved in various
5 engineering and economic studies within Power Supply including IPL's decision how to
6 comply with the Clean Air Act of 1990.

7 **Q6. Have you previously testified before this Commission?**

8 A6. Yes, I have submitted testimony on behalf of IPL in previous Fuel Cost Adjustment
9 ("FAC") proceedings as the Director, Fuel Supply and as Director, System Energy
10 Coordination, and as a witness in Cause No. 39347, Cause No. 44339 and Cause No.
11 44576.

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

13 A7. My testimony supports the level of off system sales margins embedded in retail rates on a
14 pro forma basis as shown in IPL Financial Exhibit IPL-OPER, Schedule REV6, and the
15 level of electric capacity sales embedded in retail rates on a pro forma basis as shown
16 in IPL Financial Exhibit IPL-OPER, Schedule REV9. My testimony explains IPL's
17 participation in the MISO markets and its related benefits and costs (fuel and non-fuel
18 costs). My testimony also supports the pro forma adjustment to capacity and off system
19 sales production costs shown in IPL Financial Exhibit IPL-OPER, Schedules OM3 and
20 OM4 and the pro forma adjustment to retail fuel and purchased power cost shown in IPL
21 Financial Exhibit IPL-OPER, Schedule OM2. The pro forma adjustments are
22 summarized on lines 2 through 4 of IPL Financial Exhibit IPL-OPER, Schedule OM1. I

1 also address IPL's continuance of the Purchase Power Benchmark process as used in
2 FAC proceedings.

3 **Q8. Are you sponsoring any exhibits or attachments?**

4 A8. Yes, I support the above referenced schedules. I also support IPL Witness DCD
5 Attachment 1, which contains the annual historical OSS margins from the past five years
6 (2011 – 2015), the OSS margins experienced during the test year by month, and the
7 forecasted OSS margins for the pro forma year.

8 **Q9. Did you submit any workpapers?**

9 A9. Yes. I support the workpapers supporting the above referenced schedules and IPL
10 Witness DCD Attachment 1, in electronic format where appropriate.

11 **OFF SYSTEM SALES MARGINS**

12 **Q10. Please define off system sales ("OSS").**

13 A10. IPL makes an off system sale of power when the amount of IPL generation for an hour
14 exceeds the amount of system power consumed by its retail customers. IPL generation is
15 the sum of the power produced by IPL-owned generation¹, the power produced by the
16 Lakefield Wind Project ("LWP"), and the power produced by the Hoosier Wind Project
17 ("HWP"). The amount of system power consumed by IPL's retail customers is the
18 amount of IPL-owned generation plus the net flow through all of IPL control area tie-
19 lines less transmission losses (as determined by MISO).

20 **Q11. What are OSS margins?**

¹ IPL Witness Scott describes the IPL-owned generation in his direct testimony.

1 A11. The margin from OSS is the difference between the revenue from OSS and the sum of
2 fuel and production cost from the unit(s) involved in the sale. For an hourly OSS, the
3 IPL generating units are sorted by highest fuel and production cost to lowest fuel and
4 production cost which establishes a “stack” of units for that hour. The OSS volumes are
5 allocated to the highest cost unit first and then down the stack based on each unit’s
6 incremental generation until the OSS volumes are satisfied. The sales price at each
7 resulting generator is then multiplied by its generation and summed to realize the OSS
8 revenue. The incremental fuel and production cost from the same group of units is
9 calculated and subtracted from the OSS revenue to calculate the OSS margin.

10 **Q12. Does IPL play an active role in its control of OSS margin outcomes?**

11 A12. Yes, while the market price for power and fuel are out of IPL’s control, IPL plays an
12 active role in the MISO Energy and Operating Reserves Market. In this respect, IPL is
13 similar to the other investor-owned Indiana electric utilities that are members of regional
14 transmission organizations and have an OSS margin adjustment mechanism. IPL could
15 also make bilateral transactions for energy sales but chooses to work within the MISO
16 system which it believes currently produces the best result for IPL and its customers.

17 IPL operates and maintains its units to maximize market opportunities and makes offers
18 structured to minimize fuel and purchase power costs. The unit commitment and unit
19 dispatch characteristics of IPL’s offers are determined by IPL and are inputs into MISO’s
20 Security-Constrained Unit Commitment (“SCUC”) and Security-Constrained Economic
21 Dispatch (“SCED”) computer programs. IPL can vary these inputs for each hour of each
22 day. Other market participants submit their best offers and the market decides (through
23 the SCED and SCUC programs) how the units dispatch. While OSS margins are

1 impacted by SCUC and SCED, the inputs to those programs are the responsibility and
2 control of IPL. For instance, MISO's commitment period used by SCUC is only 24
3 hours. Due to the time and large amount of fuel oil required to start one of IPL's large
4 coal-fired units, it is not economic to run these units for one day (commitment period). If
5 IPL offered its full costs to start the large units, MISO would rarely commit the units over
6 a single commitment period. IPL self-commits its large units based on the expected
7 economics over multiple commitment periods, not just a single MISO commitment
8 period. The outcome of the MISO SCUC and SCED programs are impacted by IPL's
9 operations. In other words, while IPL's actions contribute to whether there is the
10 opportunity for off-system sales, the amount of OSS margin is heavily dependent on
11 market prices for power and fuel, which are outside our control.

12 **Q13. What is the test year level of OSS revenue?**

13 A13. The level of OSS revenue in the test year is \$10.102 million, which includes \$7.271
14 million not attributed to LWP and \$2.831 million attributed to LWP. After reflecting the
15 impact of the current OSS Margin Sharing Adjustment, \$0.687 million, the level of OSS
16 revenue in the test year is \$10.789 million. These values are shown on IPL Financial
17 Exhibit IPL-OPER, Schedule REV6, line 1, columns 1 through 4. OSS revenue,
18 including that attributed to LWP production, is summed from workpapers for the FAC
19 filings over the test year, which have been submitted as workpapers in support
20 of Financial Exhibit IPL-OPER, Schedule REV6.

21 **Q14. What is the level of fuel and production cost for the test year?**

22 A14. The level of fuel cost attributable to OSS in the test year is \$8.108 million. Of this
23 amount, \$2.538 million is fuel cost attributed to production of LWP. These values are

1 shown on IPL Financial Exhibit IPL-OPER, Schedule REV6, line 2, columns 4 and 2,
2 respectively. The level of production cost attributable to OSS in the test year is \$1.778
3 million. Of this amount, \$0.536 million is production cost attributed to production of
4 LWP. These values are shown on IPL Financial Exhibit IPL-OPER, Schedule REV6,
5 line 3, columns 4 and 2, respectively. Fuel and production cost for OSS, including that
6 attributed to LWP production, are summed from workpapers for the FAC filings over the
7 test year, which have been submitted as workpapers in support of Financial Exhibit IPL-
8 OPER, Schedule REV6.

9 **Q15. Are OSS margins that are the result of the LWP a special case?**

10 A15. Yes. Per the Commission's Order in Cause No. 43740, the OSS margins made possible
11 because of the energy received from LWP are credited to IPL jurisdictional fuel costs
12 through the FAC which reduces the cost of fuel for retail customers. IPL continued this
13 treatment in Cause No. 44576 and intends to continue this practice. This credit is
14 referred to as the Lakefield Purchase Power Agreement ("PPA") Adjustment. The
15 Lakefield PPA Adjustment for the test year was (-\$0.243) million which was calculated
16 by subtracting the fuel cost of \$2.538 million and the production cost of \$0.536 million
17 from the revenue attributable to the production of LWP of \$2.831 million. The OSS
18 margin attributable to LWP production was negative. The test year was characterized by
19 low MISO market prices compared to previous years mostly driven by falling natural gas
20 prices which began in February of 2015 and continued through May of 2016. Seventy
21 percent of the LWP generation occurred during hours when the day-ahead locational
22 marginal price ("LMP") was less than IPL's production cost. Approximately two-thirds

1 of those hours were in the overnight and early morning hours when IPL's retail load is at
2 minimum levels.

3 **Q16. What is the test year level of OSS margins not attributable to the production of**
4 **LWP?**

5 A16. As shown on line 7 on IPL Financial Exhibit IPL-OPER, Schedule REV6, the level of
6 OSS margins during the test year not attributable to LWP was \$0.459 million. This value
7 is calculated by subtracting the fuel cost of \$5.570 million and the production cost of
8 \$1.242 million from the OSS revenue of \$7.271 million. After adding the current OSS
9 Margin Sharing Adjustment of \$0.687 million (see Column 3 of IPL Financial Exhibit
10 IPL-OPER, Schedule REV6), the total OSS margin during the test year, not attributable
11 to LWP was \$1.146 million.

12 **Q17. Are the test year OSS margins not attributable to the production of LWP**
13 **representative of IPL's expectations regarding forward looking OSS margins?**

14 A17. No. The test year was characterized by low MISO market prices compared to previous
15 years mostly driven by falling natural gas prices, the fall in prices which began in
16 February of 2015 and continued through May of 2016. IPL also had major outages at
17 Harding Street to convert the steam units to natural gas and retired the Eagle Valley coal
18 plant in April of 2016. The Eagle Valley ("EV") Combined Cycle Gas Turbine
19 ("CCGT") scheduled to be placed in service approximately on April 30, 2017 is expected
20 to provide additional economic generation in the future, increasing IPL's potential for
21 OSS. Because of the changes to IPL's system, it is challenging to forecast OSS margins,
22 but IPL reasonably expects forward looking OSS margins to be greater than the test year
23 level and the current benchmark once the CCGT becomes commercially available.

1 **Q18. Please summarize IPL's historical OSS margins.**

2 A18. IPL Witness DCD Attachment 1 shows a historical look at the OSS energy, revenue, and
3 margin annually from 2011 through 2015 and monthly for the test year. The amount of
4 OSS energy sold (not attributable to LWP) ranged from a low of 260,057 MWh over the
5 test year to a high of 2,095,461 MWh in year 2014. OSS margins not attributable to
6 LWP ranged from \$0.477 million to \$19.991 million, and the annual average over the
7 period 2011 - 2015 was \$9.942 million. The range of OSS margins around the average
8 over the 5-year period is nearly +/-100%.

9 **Q19. Please expand on how IPL's operating conditions going forward will cause OSS**
10 **margins to differ from historical averages.**

11 A19. Prior to 2016, IPL ran five large coal units as baseload units (Harding Street Unit 7 and
12 the four units at Petersburg), five coal units at intermediate levels (Harding Street Units 5
13 and 6 and Eagle Valley Units 4, 5, and 6), and six units as peakers. In 2015, IPL
14 converted Harding Street Units 5 and 6 from coal to gas. In 2016, IPL converted Harding
15 Street Unit 7 from coal to gas and retired the Eagle Valley coal units. Harding Street
16 Units 5, 6, and 7 are expected to run as intermediate units in the future. The Eagle Valley
17 CCGT will be added to IPL's generation fleet approximately on April 30, 2017. The
18 CCGT will be the most efficient unit in IPL's fleet and is expected to run at baseload
19 levels at forecasted gas and power prices. The addition of the CCGT as baseload and the
20 addition of the refueled Harding Street Unit 7 to the intermediate category (replacing the
21 Eagle Valley coal units) are expected to increase IPL's potential for OSS. IPL Witness
22 DCD Attachment 1 shows the forecast of OSS for the pro forma year of July 2016
23 through June 2017. The amount of OSS energy sold (not attributable to LWP) is

1 forecasted at 2.4 million MWh, and the OSS margins not attributable to LWP is
2 forecasted at \$27.2 million.

3 **Q20. How does IPL propose to treat OSS margin in this case?**

4 A20. IPL proposes to continue the current level of OSS margin in base rates of \$6.324 million
5 which is a level higher than the test year. As explained by IPL Witness Cutshaw, IPL
6 proposes to modify the OSS rider adjustment so that the customer receives 100% of OSS
7 margins greater than \$0. Because all OSS margins are credited to the customer, the level
8 of OSS margins in base rates has no impact on the customer. This proposed level of
9 \$6.324 million is shown on line 9 of IPL Financial Exhibit IPL-OPER, Schedule
10 REV6. A pro forma adjustment of \$5.178 million to the test year level of \$1.146 million
11 is necessary to reflect the \$6.324 million level of OSS margin that IPL proposes to reflect
12 in revenue requirements. See IPL Financial Exhibit IPL-OPER, Schedule REV6, line 8
13 for the pro forma adjustment to OSS margins.

14 **Q21. Why is this level reasonable and on what basis does IPL propose this adjustment?**

15 A21. The level of \$6.324 million was established in IPL's previous rate case (Cause No.
16 44576). It is reasonable to maintain \$6.324 million as the level of OSS margins in IPL's
17 revenue requirement because IPL is proposing that the margins above and below this
18 amount will flow 100% to customers through the OSS Margin Adjustment. IPL Witness
19 Cutshaw discusses the OSS Margin Adjustment mechanism in more detail. OSS margins
20 are volatile and change over time based on the interaction of market forces in the
21 competitive wholesale market. Additionally, OSS margins are affected by changes in the
22 underlying components, such as natural gas, coal, EPA regulations, and emission
23 allowances, as well as by factors that impact usage, such as weather and general

1 economic conditions. Finally, market prices drive OSS margins and are beyond IPL's
2 control. Changes in market prices impact the commitment and dispatch of IPL units in
3 the MISO market.

4 **Q22. What adjustment is necessary to the test year OSS revenue in order to reflect the**
5 **proposed level of OSS margin of \$6.324 million?**

6 A22. A pro forma decrease of \$4.465 million to the test year OSS revenue of \$10.789 million
7 is necessary to reflect the \$6.324 million level of OSS margin that IPL proposes to reflect
8 in revenue requirements. See IPL Financial Exhibit IPL-OPER, Schedule REV6, line 15
9 for this adjustment. The adjustment of (\$4.465) million consists of the removal or
10 reclassification of the following: the OSS fuel cost of (\$8.108) million, the OSS
11 production cost of (\$1.778) million, the Lakefield PPA Adjustment of \$0.243 million,
12 and the pro forma adjustment of \$5.178 million to OSS margin. These components are
13 shown in IPL Financial Exhibit IPL-OPER, Schedule REV6, lines 11 through 14. The
14 proforma adjustment to OSS fuel cost of \$8.108 million is also shown on line 27 of IPL
15 Financial Exhibit IPL-OPER, Schedule OM2. The proforma adjustment to OSS power
16 production costs of \$1.778 million is also shown on line 3 of IPL Financial Exhibit IPL-
17 OPER, Schedule OM4.

18 **IPL's PARTICIPATION IN MISO**

19 **Q23. Please briefly describe MISO.**

20 A23. MISO is a non-profit, member-based Regional Transmission Organization ("RTO").
21 MISO performs the North American Electric Reliability Corporation ("NERC") roles of
22 Reliability Coordinator and Balancing Authority for IPL utilizing an extensive network

1 model of the MISO interconnected reliability region which includes IPL and surrounding
2 systems. MISO conducts an annual Resource Adequacy Process and also manages one of
3 the world's largest energy and operating reserves markets using security-constrained
4 economic dispatch of generation. The Energy and Operating Reserves Market includes a
5 Day-Ahead Market, a Real-Time Market, and a Financial Transmission Rights ("FTR")
6 Market. These markets are operated and settled separately. MISO's charges to provide
7 services are recovered pursuant to its Federal Energy Regulatory Commission ("FERC")
8 tariff.

9 **Q24. Please provide a general overview of the MISO Resource Adequacy Process.**

10 A24. As a Load Serving Entity ("LSE") in MISO, IPL is obligated to have sufficient Capacity
11 Resources to cover its forecasted peak demand plus its Planning Reserve Margin
12 Requirement. Capacity Resources consist of Generation Resources (electrical generating
13 units), energy storage, and Demand Response Resources (loads that can be dispatched to
14 reduce demand). MISO calculates the Planning Reserve Margin Requirement based on
15 MISO's forecast of its peak demand by resource zone considering the following: planned
16 maintenance or forced outages of generating equipment, deratings in the capability of
17 Generation Resources, energy storage, and Demand Response Resources, system effects
18 due to reasonably anticipated variations in weather, and variations in customer demands
19 or forecast demand uncertainty. MISO conducts Loss of Load Expectation ("LOLE")
20 studies each year to make an annual determination what the Planning Reserve Margin
21 needs to be in order to attain compliance with NERC reliability standards. If IPL does
22 not have sufficient Capacity Resources to cover its forecasted peak demand and Planning
23 Reserve Margin, IPL may acquire additional capacity through bilateral transactions with

1 other Market Participants or by bidding on capacity in MISO's annual Voluntary
2 Capacity Auction. If IPL does have sufficient Capacity Resources to cover its forecasted
3 peak demand and Planning Reserve Margin, IPL may sell its additional capacity through
4 bilateral transactions with other Market Participants or may offer its additional capacity
5 in MISO's Voluntary Capacity Auction.

6 **Q25. Please provide a general overview of IPL's participation in the MISO energy**
7 **market.**

8 A25. IPL participates in the MISO Energy and Operating Reserve Market (the "MISO
9 Market"). IPL offers the electricity produced by its generation facilities and buys the
10 electricity necessary to serve its retail customers from the MISO Market on a day-ahead
11 and real-time basis. The day-ahead market is a forward market in which energy and
12 operating reserve are cleared on a simultaneously co-optimized basis for each hour of the
13 next operating day using Security-Constrained Unit Commitment ("SCUC") and
14 Security-Constrained Economic Dispatch ("SCED") computer programs to satisfy the
15 energy demand bids and operating reserve requirements of the day-ahead energy and
16 operating reserve market. The results of the day-ahead energy and operating reserve
17 market clearing include hourly LMP values for energy demand and supply, hourly market
18 clearing price ("MCP") values for regulating reserve, spinning reserve and supplemental
19 reserve supply, hourly energy demand schedules, hourly energy supply schedules for
20 each resource, and hourly regulating reserve, spinning reserve and supplemental reserve
21 supply schedules for each qualified resource. The real-time market is a physical market
22 in which energy and operating reserve are cleared on a simultaneously co-optimized basis
23 every five minutes using SCED to satisfy the forecasted energy demand and operating

1 reserve requirements of the real-time market based on actual system operating conditions,
2 as described by MISO's state estimator. The results of the real-time market clearing
3 include five-minute ex-ante LMPs for energy demand and supply, five-minute ex-ante
4 MCP values for regulating reserve, spinning reserve and supplemental reserve supply,
5 and five-minute dispatch targets for each resource for energy, regulating reserve,
6 spinning reserve and supplemental reserve. The real-time market dispatch is supported
7 by a Reliability Assessment Commitment ("RAC") process to ensure sufficient capacity
8 is on line to meet real-time operating conditions.

9 **Q26. What are the benefits of participating in the MISO Market?**

10 A26. The MISO Market gives all participants open access to the transmission system and all
11 available resources are centrally dispatched using simultaneous co-optimization. MISO
12 provides a transparent and liquid energy market across its entire footprint. Furthermore,
13 on-going coordination between MISO and adjacent ISO systems increases grid reliability
14 and makes it possible to regionally coordinate transmission expansion. The MISO
15 Market allows IPL to make economic purchases from the open market when IPL's cost of
16 generation is higher with the benefits flowing directly to its customers. In addition, the
17 MISO Market provides an opportunity to reduce the overall amount of reserves being
18 held by market participants thereby further reducing the cost of providing those reserves
19 to customers.

20 **Q27. What are the costs of participating in the MISO?**

21 A27. Charges from MISO are presented to IPL on settlement statements. Settlement
22 statements include charges/credits resulting from IPL's participation in the Resource
23 Adequacy Process and the MISO Market. Revenues from IPL generation are netted

1 against charges/credits to IPL load. Settlement statement charges are categorized as fuel
2 and non-fuel. IPL's recovery of fuel and non-fuel costs is discussed in the testimony of
3 IPL Witness Holtsclaw and IPL Witness Cutshaw.

4 CAPACITY COSTS

5 **Q28. How does IPL propose to recover the charges/credits for capacity?**

6 A28. IPL proposes to continue to recognize incremental changes in the charges and credits for
7 the net cost and benefit of IPL's participation in MISO's Resource Adequacy Process and
8 the cost and benefit of bilateral capacity transactions through the Capacity ("CAP") Cost
9 Recovery Adjustment, as discussed by IPL Witness Cutshaw.

10 **Q29. What level of Capacity Cost or Credit is IPL proposing for the CAP Adjustment**
11 **"Base"?**

12 A29. IPL is proposing a credit value of \$8.5 million reflecting a capacity sale. The credit value
13 represents IPL's expected sale of capacity in the MISO Planning Year of 2017 – 2018,
14 which commences June 1, 2017, and applies a factor of 90% to reflect the uncertainty
15 surrounding EV CCGT generator testing and demand response program capabilities. The
16 credit is reflected in the proposed retail revenue requirement used to establish basic rates.
17 The capacity sales value of \$8.5 million is shown on line 1 of IPL Financial Exhibit IPL-
18 OPER, Schedule REV9. The pro forma adjustment to the level of capacity sales is shown
19 on line 3 of IPL Financial Exhibit IPL-OPER, Schedule REV9 and reflects 100% of the
20 expected net capacity sales revenue through the CAP Rider. IPL Witness Cutshaw
21 discusses the CAP Rider adjustment mechanism proposed by IPL. The level of capacity
22 costs in the test year was \$1,702,000 and is shown on line 2 of IPL Financial Exhibit IPL-

1 A32. The pro forma dispatch yields the normalized value for generator fuel cost and purchased
2 power cost. This value is shown in IPL Financial Exhibit IPL-OPER, Schedule OM2 on
3 line 20, “Pro forma total retail electric cost of fuel”. The proposed base cost of fuel per
4 kWh is \$0.032603 based on 13,392,603 MWh of pro forma retail sales (IPL Financial
5 Exhibit IPL-OPER, Schedule OM2, lines 29 and 9). This represents an increase of 3.4%
6 from the base cost of fuel approved in Cause No. 44576.

7 **Q33. What adjustments to the test year values for generator fuel cost and purchased**
8 **power cost are necessary based on the pro forma system dispatch?**

9 A33. IPL Financial Exhibit IPL-OPER, Schedule OM2, line 21, shows the test year value for
10 generator fuel cost and purchased power cost. The resulting adjustment based on the pro
11 forma system dispatch is shown on line 22.

12 **PURCHASE POWER BENCHMARK UNDER THE FAC**

13 **Q34. Please provide an overview of the Purchase Power Benchmark process.**

14 A34. In its April 23, 2008 Order in Cause No. 43414 (“Purchased Power Order”), the
15 Commission approved a “Benchmark” triggering mechanism for the judgment of the
16 reasonableness of purchased power costs. The Purchased Power Order and the
17 Benchmark approved therein benefit all stakeholders in the summary FAC process by
18 providing uniformity, predictability, efficiency and stability in the review and treatment
19 of purchased power costs. Each day, a Benchmark is established based upon a generic
20 Gas Turbine (“GT”), using a generic GT heat rate of 12,500 Btu/kWh and the day ahead
21 natural gas price plus \$0.60/mmBtu gas transport charge for a generic gas-fired GT (the
22 “Purchased Power Daily Benchmark”). Purchases made in the course of the MISO’s

1 economic dispatch regime to meet jurisdictional retail load are a cost of fuel and are
2 recoverable in the utility's FAC up to the actual cost or the Purchased Power Daily
3 Benchmark, whichever is lower. Purchases above the Benchmark are subject to
4 additional evaluation.

5 **Q35. Do you propose any changes to the Purchase Power Benchmark process?**

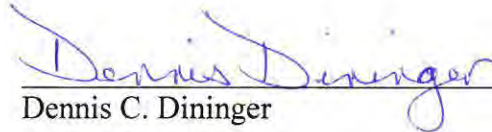
6 A35. No. IPL proposes to follow the guidelines and procedures established in the Purchased
7 Power Order.

8 **Q36. Does this conclude your verified pre-filed direct testimony?**

9 A36. Yes.

VERIFICATION

I, Dennis C. Dinger, Director, Commercial Operations 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.


Dennis C. Dinger

Dated: December 22, 2016

**Indianapolis Power & Light Company
Off System Sales Margin**

Historical: Years 2011 through 2015

Sales through MISO						Sales attributed to LWP production				
MWh Sold	Fuel Costs	Production Costs	Total Revenues	OSS Margin		MWh Sold	Fuel Costs	Production Costs	Total Revenues	OSS Margin Attributed to LWP (& credited to retail fuel cost)
(1)	(2)	(3)	(4)	(4)-(3)-(2)		(5)	(6)	(7)	(8)	(8)-(7)-(6)
2015	470,077	\$ 10,295,042	\$ 1,925,683	\$ 13,669,957	\$ 1,449,232	218,786	\$ 4,645,299	\$ 778,089	\$ 5,638,661	\$ 215,273
2014	2,095,461	\$ 46,697,485	\$ 6,004,405	\$ 72,693,117	\$ 19,991,227	302,073	\$ 6,438,728	\$ 748,359	\$ 10,523,374	\$ 3,336,287
2013	1,727,710	\$ 39,371,904	\$ 3,756,144	\$ 54,354,156	\$ 11,226,108	276,646	\$ 5,839,202	\$ 574,837	\$ 8,349,097	\$ 1,935,058
2012	1,103,359	\$ 24,102,023	\$ 1,935,729	\$ 32,361,539	\$ 6,323,787	205,381	\$ 4,197,172	\$ 376,544	\$ 5,473,881	\$ 900,165
2011	1,342,875	\$ 27,939,512	\$ 2,564,254	\$ 41,224,489	\$ 10,720,723	75,057	\$ 1,475,422	\$ 135,392	\$ 1,959,086	\$ 348,272
5-year Average:					\$					

Test Year: July 2015 through June 2016

Sales through MISO						Sales attributed to LWP production				
MWh Sold	Fuel Costs	Production Costs	Total Revenues	OSS Margin		MWh Sold	Fuel Costs	Production Costs	Total Revenues	OSS Margin Attributed to LWP (& credited to retail fuel cost)
(1)	(2)	(3)	(4)	(4)-(3)-(2)		(5)	(6)	(7)	(8)	(8)-(7)-(6)
June 2016	34,715	\$ 760,535	\$ 121,318	\$ 1,081,817	\$ 199,964	11,515	\$ 241,046	\$ 40,660	\$ 328,412	\$ 46,706
May 2016	17,421	\$ 361,942	\$ 85,946	\$ 415,254	\$ (32,634)	9,807	\$ 201,840	\$ 39,930	\$ 206,839	\$ (34,931)
April 2016	2,801	\$ 58,900	\$ 10,705	\$ 81,232	\$ 11,627	9,318	\$ 197,119	\$ 35,262	\$ 224,613	\$ (7,768)
March 2016	25,061	\$ 521,903	\$ 120,036	\$ 486,599	\$ (155,340)	14,342	\$ 296,814	\$ 61,067	\$ 273,083	\$ (84,798)
February 2016	-	\$ -	\$ -	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -
January 2016	8	\$ 219	\$ 25	\$ 124	\$ (120)	245	\$ 5,931	\$ 945	\$ 6,297	\$ (579)
December 2015	6,533	\$ 138,680	\$ 31,824	\$ 178,347	\$ 7,843	7,321	\$ 152,171	\$ 33,483	\$ 185,509	\$ (145)
November 2015	69,191	\$ 1,462,576	\$ 313,485	\$ 1,839,147	\$ 63,086	30,020	\$ 608,966	\$ 114,931	\$ 746,868	\$ 22,971
October 2015	24,531	\$ 521,046	\$ 122,447	\$ 633,319	\$ (10,174)	15,012	\$ 311,369	\$ 73,768	\$ 245,360	\$ (139,777)
September 2015	28,079	\$ 614,480	\$ 145,145	\$ 1,107,386	\$ 347,761	4,067	\$ 84,618	\$ 21,466	\$ 137,870	\$ 31,786
August 2015	22,439	\$ 484,500	\$ 126,358	\$ 564,329	\$ (46,529)	12,296	\$ 254,752	\$ 65,887	\$ 245,395	\$ (75,244)
July 2015	29,278	\$ 645,341	\$ 164,923	\$ 902,177	\$ 91,913	8,558	\$ 183,818	\$ 47,997	\$ 230,773	\$ (1,042)
Test Year Totals:	260,057	\$ 5,570,122	\$ 1,242,212	\$ 7,289,731	\$ 477,397	122,501	\$ 2,538,444	\$ 535,396	\$ 2,831,019	\$ (242,821)

Proforma Year: July 2016 - June 2017 with EV CCGT entire year

Sales through MISO						Sales attributed to LWP production				
MWh Sold	Fuel Costs	Production Costs	Total Revenues	OSS Margin		MWh Sold	Fuel Costs	Production Costs	Total Revenues	OSS Margin Attributed to LWP (& credited to retail fuel cost)
(1)	(2)	(3)	(4)	(4)-(3)-(2)		(5)	(6)	(7)	(8)	(8)-(7)-(6)
Jul-16 thru Jun-17	2,404,406	\$ 53,266,078	\$ 7,023,882	\$ 87,475,308	\$ 27,185,348	241,142	\$ 5,277,372	\$ 709,648	\$ 8,635,363	\$ 2,648,343