STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE VERIFIED PETITION OF INDIANAPOLIS POWER & LIGHT FOR APPROVAL OF DEMAND SIDE MANAGEMENT (DSM) PLAN, INCLUDING ENERGY EFFICIENCY (EE) PROGRAMS, AND ASSOCIATED ACCOUNTING AND RATEMAKING TREATMENT, INCLUDING TIMELY RECOVERY THROUGH IPL'S EXISTING STANDARD CONTRACT RIDER NO. 22 OF ASSOCIATED COSTS INCLUDING PROGRAM OPERATING COSTS, NET LOST REVENUE, AND FINANCIAL INCENTIVES.	)	**CAUSE NO. ________**

PETITIONER'S SUBMISSION OF DIRECT TESTIMONY OF KIMBERLY ALIFF

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

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the forgoing was served by electronic transmission on the following:

Indiana Office of Utility Consumer Counselor
115 W. Washington Street, Suite 1500 South
Indianapolis, Indiana 46204
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Dated this 17th day of May, 2017

Jeffrey M. Peabody

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Attorneys for Indianapolis Power & Light Company

Petitioner's Exhibit 4

VERIFIED DIRECT TESTIMONY

OF

KIMBERLY ALIFF

ON BEHALF OF

INDIANAPOLIS POWER & LIGHT COMPANY

SPONSORING PETITIONER'S ATTACHMENTS KA-1 THROUGH KA-6

VERIFIED DIRECT TESTIMONY OF KIMBERLY ALIFF

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

A1. My name is Kimberly Aliff. I am employed by Indianapolis Power & Light Company ("IPL" or "Company"), whose business address is One Monument Circle, Indianapolis, Indiana 46204.

Q2. What is your position with IPL?

A2. I am a Senior Regulatory Analyst in Regulatory Affairs.

Q3. What are your duties and responsibilities as Senior Regulatory Analyst?

A3. I am involved with the planning, development and analysis of Demand Side Management ("DSM") Programs, as well as tracking and reporting program results. I am a representative member of IPL's DSM Oversight Board. I am also responsible for directing the filings supporting changes in the DSM cost recovery factors, the fuel cost adjustment factors and other rate recovery mechanisms.

Q4. What is your work experience with IPL?

A4. I have been an employee of IPL since April 25, 2005. During my tenure with the Company, I have worked in various accounting staff roles as well as Research Analyst and my current position of Senior Regulatory Analyst in Regulatory Affairs.

Q5. Please summarize your education and professional qualifications.

A5. I hold a Bachelor of Science Degree in Accounting and Computer Information Systems from Indiana University and a Master of Business Administration from the University of Indianapolis. I have also attended workshops, seminars, and conferences pertaining to planning, implementation, and evaluation of DSM programs.

Q6. Have you previously testified before this Commission?

A6. Yes, I have previously testified before the Commission regarding accounting and ratemaking treatment for IPL's Electric Vehicle Sharing Program in Cause No. 44478. I have also testified regarding cost recovery and cost allocation for IPL's 2014 DSM Plan in Cause No. 44328, IPL's 2015-2016 DSM Plan in Cause No. 44497 and in Cause No. 44792 extending IPL's 2015-2016 DSM Programs through 2017. I have been a witness in several of the Company's prior semi-annual Demand Side Management Adjustment (Cause No. 43623-DSM-XX) proceedings beginning with DSM-10.

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

A7. The purpose of my testimony is to (1) describe the impact of the 2018-2020 DSM Plan on the approved cost recovery mechanism utilized in the Company's semi-annual filings (Cause No. 43623-DSM-X), including the allocation of cost recovery among the customer classes; (2) describe IPL's proposal to earn a financial incentive using a shared savings methodology ("shared savings") and how IPL proposes to account for the financial incentive in the Fuel Adjustment Clause ("FAC") earnings test; (3) discuss the calculation of lost revenues and how IPL proposes to account for the proposed lost revenue recovery in the FAC earnings test; (4) describe the bill impacts associated with implementation of the 2018-2020 DSM Plan; and (5) identify the Company's proposed clarifications to the text of Standard Contract Rider No. 22 ("Rider 22").

Q8. What attachments are you sponsoring in this proceeding?

A8. I am sponsoring the following attachments:

<u>Petitioner's Attachment KA-1</u>	Cost Allocation Basis by Program to reflect the 2018-2020 DSM Plan

Petitioner's Attachment KA-2	Calculation of Shared Savings Financial Incentives for 2018-2020
Petitioner's Attachment KA-3	Derivation of Lost Revenue Margin Rates
Petitioner's Attachment KA-4	Determination of Projected DSM Lost Revenues for the 2018-2020 Plan Years
Petitioner's Attachment KA-5	Determination of Impact of DSM Adjustment – Standard Contract Rider No. 22 for the 2018-2020 DSM Plan
Petitioner's Attachment KA-6	Redline and Clean Standard Contract Rider No. 22

Q9. Did you submit any workpapers?

A9. Yes. I submitted electronic versions of the spreadsheets underlying my attachments.

I. Cost Recovery

Q10. Is IPL proposing any changes to its cost recovery mechanism from what is currently in place?

A10. IPL is seeking a cost recovery mechanism similar to what has been previously authorized by the Commission most recently in Cause No. 44792, with the addition of the contemporary recovery of a financial incentive in the form of shared savings. IPL prosposes to use the forecast and reconciliation method currently approved for program operating costs and lost revenues. IPL proposes to continue to prepare semi-annual filings under Rider 22 which match the billing periods of the rider. The semi-annual periods of January to June and July to December will continue to be used.

Q11. Please summarize the accounting and ratemaking treatment that is currently in place.

A11. IPL currently prepares semi-annual filings under Rider 22 to recover forecasted direct and indirect program operating costs and lost revenues associated with the DSM Plan over six-month periods. Program operating costs are forecast on a semi-annual basis and reconciled to actual expenditures in a subsequent semi-annual filing. Lost revenues are also forecast on a semi-annual basis using estimated program participation obtained from the DSM implementation vendors for the forecast period. Lost revenues are then reconciled to actual participation in a subsequent semi-annual filing and trued up to Evaluation, Measurement and Verification("EM&V") results upon completion of annual EM&V.

Q12. Have you prepared an attachment which shows the cost allocation basis of the 2018-2020 DSM Plan?

A12. Yes. <u>Petitioner's Attachment KA-1</u> presents the cost allocation basis to the customer classes for each component of the 2018-2020 DSM Plan. As reflected in IPL's recent basic rates and charges case in Cause No. 44576, lighting customers are now included in IPL's rate adjustment mechanisms. Accordingly, a portion of DSM costs will be allocated to rate codes APL and MU-1 for both Residential and C&I programs.

The Residential allocation factors are calculated for two classes – Residential (RS, CW) and Residential Lighting (APL, MU1). These factors are based on each class' share of the twelve monthly average system peaks used to allocate production plant, operating expenses and depreciation expenses from the Company's cost of service study as approved in IPL's most recent basic rates and charges case in Cause No. 44576.

C&I allocation factors are calculated for Small C&I, Large C&I and C&I Lighting (APL, MU1) classes. These allocation factors are also based on each class' share of the twelve monthly average system peaks from Cause No. 44576, excluding those customers who have chosen to opt out of participation in IPL's DSM programs. As of January 1, 2017, there were 115 customers, representing about 2,860 GWhs of energy usage annually that have opted out of participation in IPL's DSM programs.

Q13. What process will IPL use to record and segregate the 2018-2020 DSM Plan costs for each component of the program?

A13. Expenditures for each component of the proposed plan will continue to be recorded in the Company's accounting system using individual project numbers, in conjunction with account numbers, to separate costs for accounting and reporting purposes. The Company's work management and timekeeping systems will facilitate this segregation for labor, materials, and other expenses incurred to implement the individual programs. IPL's accounting process requires an estimate of services received during the month to be recorded when an invoice has not been received by the closing date of the books for the same month. Due to the lag experienced in program implementation vendor invoicing, this means that the cost recovery for the 2018-2020 DSM Plan costs will include costs for program implementation (including program incentives through the Business Prescriptive or Custom programs) during 2020 but not invoiced or paid until early 2021.

II. Shared Savings Financial Incentive

Q14. Please describe the shared savings financial incentive ("shared savings") mechanism IPL is requesting.

A14. As a component of its 2018-2020 DSM Plan, IPL is proposing the financial incentive mechanism previously in place and approved in Cause No. 44497. This mechanism is referred to as shared savings. As shown in Petitioner's Attachment KA-2, the proposed shared savings is calculated as 15% of the net present value of Utility Cost Test ("UCT") net benefits.[1] The net benefits of the UCT equates to the difference between the costs avoided by DSM programs and the costs incurred by the utility to deliver the programs. The forecast shared savings associated with the proposed DSM Plan are also shown in Petitioner's Attachment KA-2. IPL proposes to reflect shared savings in Rider 22 on a forecast basis subject to true-up as explained below.

Q15. Does the regulatory framework allow shared savings?

A15. Yes. Consistent with Ind. Code § 8-1-8.5-10(o) if the Commission finds IPL's DSM Plan to be reasonable, then the utility is entitled to receive a reasonable financial incentive that encourages implementation of cost effective energy efficiency programs. Additionally, the Commission's DSM rules recognize the need for financial incentives; for example, 170 IAC 4-8-7(a) specifically refers to an incentive mechanism based on "a percentage share of the net benefit attributable to a demand-side management program." Shared savings can be used as an incentive for the implementation of cost effective DSM programs by sharing the measurable net benefits of DSM programs between customers and the utility. The shared savings mechanism is further discussed by IPL Witness Allen.

Q16. Is IPL proposing to earn shared savings on all programs in the 2018-2020 DSM Plan?

[1] The UCT net benefits calculation is discussed by IPL Witness Miller and presented on Attachment EM-1.

A16. No. Consistent with the shared savings incentive calculation approved in Cause No. 44497, IPL is proposing to earn a financial incentive on all programs with a UCT greater than 1.0 except for the Income Qualified Weatherization ("IQW") program. IPL does not propose to earn shared savings on the IQW program.

Q17. Will there be a true-up process of the shared savings forecast based upon actual program performance?

A17. Yes. The shared savings true-up calculation will be based on actual (ex-post) net savings and will be trued-up in a subsequent Rider 22 filing after the annual EM&V is completed (as described by IPL Witness Miller).

Q18. How will the "earnings test" within IPL's FAC account for shared savings?

A18. Consistent with treatment of financial incentives approved in the 43623, 43960, 44328, and 44497 Orders, IPL proposes the shared savings reflected in IPL's billing for retail service under Rider 22, including any reconciled amount of over/under recovery, will continue to be included in the FAC earnings test, consistent with the treatment of lost revenues.

III. <u>Lost Revenues</u>

Q19. How were the projected lost revenues for the 2018-2020 DSM Plan determined?

A19. Estimates of the kWh consumption and kW demand reductions per participant and the number of participants for each program were determined from the analysis prepared by IPL Witnesses Elliot and Miller. For programs where historical participation was reported by rate code, estimated participants were allocated between the individual rate codes based upon the historical participation. For other programs, estimated participants were allocated based upon the ratio of the annual historical kWh consumption within their rate class. Allocated participants by rate were then multiplied by the estimated kWh consumption and kW demand reductions by participant to determine the total kWh consumption and kW demand amounts by rate within each program and then totaled by rate. For the 2018-2020 DSM Plan estimates, these amounts for each individual rate were then multiplied by the lost revenue margin rates per kWh and kW as presented in the Cause No. 44576 Compliance Filing (dated March 23, 2016) and reflected on Petitioner's Attachment KA-3.

Q20. Have you prepared an attachment which shows the calculation of lost revenues for the 2018-2020 Plan years?

A20. Yes. Petitioner's Attachment KA-4 reflects an estimate of the lost revenue for the 2018-2020 plan years. This attachment also shows the legacy lost revenues from delivery of programs related to IPL's Commission approved 2015-2016 and 2017 DSM Plans.

Q21. Do the estimates of kWh consumption and kW demand reductions per participant utilized in the lost revenues calculation reflect an adjustment to account for free ridership?

A21. Yes. The estimates of kWh consumption and kW demand reductions tie directly to the net kWh and net kW in the 2018-2020 DSM Implementation Plan (Petitioner's Attachment ZE-1), which have been adjusted to reflect the net to gross ratio for each program to account for free ridership.

Q22. Are lost revenues a real and calculable cost of implementing DSM programs?

A22. Yes. As also discussed by IPL Witness Allen, the participation in DSM programs by customers reduces kWh consumption and kW demand which results in reduced revenue collections for utilities (such as IPL) which are only partially offset by a reduction in base fuel and variable O&M costs. The lost revenue margin rates shown on <u>Petitioner's Attachment KA-3</u> begin with IPL's approved rate block for each rate schedule at which customers' marginal energy consumption or demand occurs (determining the impact to IPL's revenues) and are adjusted to remove the base cost of fuel, variable O&M expenses, and applicable Indiana Utility Receipts Tax (determining the expenses IPL avoids by not generating the electricity that would have otherwise been consumed). The result is the decrease to operating margin (a financial penalty) that IPL experiences as a result of implementing energy efficiency programs. This impact to operating margin continues until the earlier of the end of the energy efficiency measure life, or the effective date of rates established in accordance with a new basic rates and charges case order.

Q23. Has IPL historically projected the recovery of DSM program costs including lost revenues?

A23. Yes. IPL has been projecting DSM program costs for contemporary recovery since 2010, effective with the Order in Cause No. 43623. In Cause No. 44497, the Commission authorized IPL to defer lost revenues beginning January 1, 2015, for subsequent recovery in its DSM proceedings after IPL's basic rates and charges case. IPL has included projected lost revenues for cost recovery since DSM-13 (effective July 1, 2016).

Q24. How will the "earnings test" within IPL's FAC account for lost revenue recovery?

A24. The DSM lost revenues reflected in IPL's billing for retail service under Rider 22, including any reconciled amount of over/under recovery, will continue to be included in the FAC earnings test. This treatment is consistent with that currently approved for lost revenues and shared savings.

Q25. Have you prepared examples to show the specific calculation to determine the impact of Rider 22 for calendar years 2018-2020?

A25. Yes. Petitioner's Attachment KA-5 provides examples that use forecasted annual costs (including shared savings and lost revenues) and forecasted kWh sales in order to approximate an annual average DSM Adjustment Factor for each customer class for the 2018-2020 DSM Plan. However, as noted above, the DSM Adjustment factor will be calculated and included in the Company's semi-annual filings using six months of projected costs and forecasted kWh sales (adjusted for opt outs). The estimated overall annual impacts reflect recovery of the projected expenditures, shared savings and lost revenues related to the 2018-2020 DSM Plan as proposed in this proceeding taking into account the effect of opt out customers on the allocation factors.

Q26. What effect will the proposed 2018-2020 DSM Plan related costs have on an average residential customer using 1,000 kWh per month?

A26. Based on the calculated factors on Petitioner's Attachment KA-5, the overall average monthly impact, relative to basic rates and charges, is shown in the table below:

Table KA-1

Estimated Bill Impact including legacy lost revenues				
	DSM-15 Factor	Forecast 2018 Factor	Forecast 2019 Factor	Forecast 2020 Factor
Base Rates	$97.42	$97.42	$97.42	$97.42
DSM factor	$3.86	$4.86	$4.57	$4.45
Bill including factor	$101.28	$102.28	$101.99	$101.87
Change relative to Base Rates	3.96%	4.99%	4.69%	4.56%
Change relative to prior factor		0.99%	-0.29%	-0.12%

Q27. Please discuss the text clarifications in Rider 22 that the Company proposes in this case.

A27. As shown in Petitioner's Attachment KA-6, Rider 22 has been revised to reflect the term "program operating cost." This clarification is made to avoid confusion with the broader term "program costs" defined in Section 10. Second, Rider 22 has been revised to clarify that cost recovery through Rider 22 includes financial incentives and other DSM costs approved for recovery by the Commission. Finally, the language was revised to clarify that estimated DSM Adjustment amounts, not just "program costs," would be reconciled.

Q28. Does this conclude your prepared direct testimony?

A28. Yes, at this time.

VERIFICATION

I, Kimberly Aliff, Senior Regulatory Analyst 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.

Kimberly Aliff

Kimberly Aliff
Dated: May 17, 2017

Indianapolis Power & Light Company
Cost Allocation Basis by Program
net of opt-out customers

	Cost Allocation Basis	RS, CW Residential	SS, SH, OES UW, CW Small C&I	SL, PL, PH, HL Large C&I	APL MU1 Lighting
Residential DSM Programs					
Appliance Recycling	Allocated between Residential & Lighting based on allocation factors approved in base rate order in Cause No. 44576	99.96%			0.04%
Community Based Lighting		99.96%			0.04%
Demand Response		99.96%			0.04%
Income Qualified Weatherization		99.96%			0.04%
Lighting & Appliances		99.96%			0.04%
Multifamily		99.96%			0.04%
Peer Comparison Reports		99.96%			0.04%
School Education		99.96%			0.04%
Whole Home		99.96%			0.04%
Indirect Costs		99.96%			0.04%
Business DSM Programs					
Custom	Allocated between Small C&I, Large C&I & Lighting based on allocation factors approved in base rate case order in Cause No. 44576 (net of opt-outs).		31.33%	68.16%	0.51%
Demand Response			31.33%	68.16%	0.51%
Prescriptive			31.33%	68.16%	0.51%
Small Business Direct Install			31.33%	68.16%	0.51%
Indirect Costs			31.33%	68.16%	0.51%

Indianapolis Power & Light Company
2018-2020 DSM Plan
Calculation of Shared Savings Financial Incentive

IURC Cause No.
Petitioner's Attachment KA-2

Program	2018 NPV Utility Cost Test Net Benefit	2018 15% Shared Savings	2019 NPV Utility Cost Test Net Benefit	2019 15% Shared Savings	2020 NPV Utility Cost Test Net Benefit	2020 15% Shared Savings
Residential						
Appliance Recycling	$ 1,113,559	$ 167,034	$ 1,147,458	$ 172,119	$ 1,129,600	$ 169,440
Community Based Lighting	$ 1,231,342	$ 184,701	$ 1,362,873	$ 204,431	$ 259,553	$ 38,933
Demand Response	$ 8,050,435	$ 1,207,565	$ 5,663,572	$ 849,536	$ 5,683,020	$ 852,453
Income Qualified Weatherization	NA	NA	NA	NA	NA	NA
Lighting & Appliances	$ 5,267,396	$ 790,109	$ 5,452,315	$ 817,847	$ 1,761,884	$ 264,283
Multifamily	$ 1,493,790	$ 224,069	$ 1,676,380	$ 251,457	$ 1,103,773	$ 165,566
Peer Comparison	$ 525,808	$ 78,871	$ 729,649	$ 109,447	$ 830,824	$ 124,624
School Education	$ 1,754,792	$ 263,219	$ 1,850,772	$ 277,616	$ 1,308,543	$ 196,282
Whole Home	$ 1,196,637	$ 179,496	$ 1,458,044	$ 218,707	$ 1,176,700	$ 176,505
Subtotal	$ 20,633,759	$ 3,095,064	$ 19,341,064	$ 2,901,160	$ 13,253,898	$ 1,988,085
LESS: NPV Indirect Costs	$ (827,500)	$ (124,125)	$ (778,677)	$ (116,802)	$ (732,735)	$ (109,910)
Total Residential Shared Savings	$ 19,806,259	$ 2,970,939	$ 18,562,387	$ 2,784,358	$ 12,521,163	$ 1,878,174
Business						
Custom	$ 6,187,121	$ 928,068	$ 6,411,721	$ 961,758	$ 5,899,291	$ 884,894
Demand Response	NA	NA	NA	NA	NA	NA
Prescriptive	$ 18,307,679	$ 2,746,152	$ 18,469,688	$ 2,770,453	$ 11,289,196	$ 1,693,379
Small Business Direct Install	$ 1,329,191	$ 199,379	$ 1,363,045	$ 204,457	$ 531,196	$ 79,679
Subtotal	$ 25,823,992	$ 3,873,599	$ 26,244,454	$ 3,936,668	$ 17,719,683	$ 2,657,953
LESS: NPV Indirect Costs	$ (827,500)	$ (124,125)	$ (778,677)	$ (116,802)	$ (732,735)	$ (109,910)
Total Business Shared Savings	$ 24,996,492	$ 3,749,474	$ 25,465,777	$ 3,819,867	$ 16,986,948	$ 2,548,042
Grand Totals	$ 44,802,750	$ 6,720,413	$ 44,028,164	$ 6,604,225	$ 29,508,112	$ 4,426,217

INDIANAPOLIS POWER & LIGHT COMPANY
DERIVATION OF LOST REVENUE MARGIN RATES
Effective April 1, 2016

Rate Schedule	(1) Charge	(2) Units	(3) Applicable Block	(4) Cause No. 44576 Basic Rates	(5) Less Base Fuel Costs	(6) Margin Rates (4) + (5)	(7) Less Variable O&M	(8) Less Base Fuel & Variable O&M IURT (a)	(9) Lost Revenue Margin Rates (6)+(7)+(8)
Residential									
Rate RS: Residential Service (Non-space heating and water heating)	Energy	kWh	Tailblock	$0.069951	($0.031520)	$0.038431	($0.001429)	($0.000502)	$0.036500
Rate RC: Residential w/ Electric Water Heating	Energy	kWh	Tailblock	$0.057348	($0.031520)	$0.025828	($0.001429)	($0.000502)	$0.023897
Rate RH: Residential w/ Electric Space Heating	Energy	kWh	Tailblock	$0.057348	($0.031520)	$0.025828	($0.001429)	($0.000502)	$0.023897
Rate ES: Residential Service (Non-space heating and water heating)	Energy	kWh	Tailblock	$0.062956	($0.031520)	$0.031436	($0.001429)	($0.000502)	$0.029505
Rate EC: Residential w/ Electric Water Heating	Energy	kWh	Tailblock	$0.051613	($0.031520)	$0.020093	($0.001429)	($0.000502)	$0.018162
Rate EH: Residential w/ Electric Space Heating	Energy	kWh	Tailblock	$0.051613	($0.031520)	$0.020093	($0.001429)	($0.000502)	$0.018162
Small Commercial & Industrial									
Rate SS: Secondary Service (Small)	Energy	kWh	First Block	$0.095094	($0.031520)	$0.063574	($0.001429)	($0.000502)	$0.061643
Rate SH: Secondary Service - Electric Space Conditioning	Energy	kWh	Tailblock	$0.077605	($0.031520)	$0.046085	($0.001429)	($0.000502)	$0.044154
Large Commercial & Industrial									
Rate SL: Seconary Service (Large)	Energy	kWh	Uniform Rate	$0.035112	($0.031520)	$0.003592	($0.001429)	($0.000502)	$0.001661
	Demand	kW	Tailblock	$17.10		$17.10			$17.10
Rate PL: Primary Service (Large)	Energy	kWh	Uniform Rate	$0.034047	($0.031520)	$0.002527	($0.001429)	($0.000502)	$0.000596
	Demand	kW	Tailblock	$18.20		$18.20			$18.20
Rate PH: Process Heating	Energy	kWh	Tailblock	$0.058311	($0.031520)	$0.026791	($0.001429)	($0.000502)	$0.024860
Rate HL-1: Primary Distribution Voltage	Energy	kWh	Uniform Rate	$0.045502	($0.031520)	$0.013982	($0.001429)	($0.000502)	$0.012051
	Demand	kW	Tailblock	$12.05		$12.05			$12.05
Rate HL-2: Subtransmission Voltage	Energy	kWh	Uniform Rate	$0.046626	($0.031520)	$0.015106	($0.001429)	($0.000502)	$0.013175
	Demand	kW	Tailblock	$11.50		$11.50			$11.50
Rate HL-3: Transmission Voltage	Energy	kWh	Uniform Rate	$0.044908	($0.031520)	$0.013388	($0.001429)	($0.000502)	$0.011457
	Demand	kW	Tailblock	$11.07		$11.07			$11.07

(a) [(Col. 5 + Col. 7) / 0.9850] - (Col. 5 + Col. 7)   0.9850 = (1-(1.4% IURT Rate / (1-6.375% SIT Rate)))

Indianapolis Power & Light Company
Projected DSM Plan Lost Revenues
2018-2020 Plan Years

IURC Cause No.
Petitioner's Attachment KA-4

			2018			2019			2020			TOTAL
Rate Code - Residential	Lost Margin Rate		Savings (kWh)		Lost Revenue	Savings (kWh)		Lost Revenue	Savings (kWh)		Lost Revenue	Lost Revenue
RS	$0.036500		22,213,144		$ 810,780	23,014,372		$ 840,025	20,612,795		$ 752,367	$ 2,403,172
RC	$0.023897		3,757,348		$ 89,789	3,892,737		$ 93,025	3,484,782		$ 83,276	$ 266,090
RH	$0.023897		22,747,563		$ 543,599	23,221,109		$ 554,915	20,708,270		$ 494,866	$ 1,593,380
ES	$0.029505		45,818		$ 1,352	47,516		$ 1,402	42,573		$ 1,256	$ 4,010
EC	$0.0181620		13,580		$ 247	14,124		$ 257	12,718		$ 231	$ 735
EH	$0.0181620		71,473		$ 1,298	74,266		$ 1,349	66,824		$ 1,214	$ 3,861
Total Incremental					$ 1,447,065			$ 1,490,973			$ 1,333,210	$ 4,271,248
Legacy Lost Revenue 2015-2017					$ 2,705,103			$ 468,227			$ 468,227	$ 3,641,558
2018 Persisting Lost Revenue					$ -			$ 984,400			$ 984,400	$ 1,968,800
2019 Persisting Lost Revenue					$ -			$ -			$ 1,020,429	$ 1,020,429
TOTAL Residential Lost Revenue					$ 4,152,168			$ 2,943,600			$ 3,806,266	$ 10,902,035

			2018			2019			2020			TOTAL
Rate Code - C&I	Lost Margin Rate (kWh)	Lost Margin Rate (kW)	Savings (kWh)	Savings (kW)	Lost Revenue	Savings (kWh)	Savings (kW)	Lost Revenue	Savings (kWh)	Savings (kW)	Lost Revenue	Lost Revenue
SS	$ 0.061643	N/A	8,180,134	0	$ 504,248	6,561,189	0	$ 404,451	4,969,629	0	$ 306,343	$ 1,215,042
SH	$ 0.044154	N/A	2,282,649	0	$ 100,788	1,740,783	0	$ 76,863	1,568,686	0	$ 69,264	$ 246,914
SL	$ 0.001661	$17.10	15,083,407	36,441	$ 648,190	11,915,969	29,079	$ 517,035	9,674,172	20,222	$ 361,865	$ 1,527,090
PL	$ 0.000596	$18.20	2,929,274	6,753	$ 124,651	2,241,837	5,155	$ 95,149	2,006,592	3,835	$ 70,995	$ 290,794
PH	$ 0.024860	$0.00	3,609	5	$ 90	2,927	4	$ 73	2,191	3	$ 54	$ 217
HL1	$ 0.012051	$12.05	2,943,660	592	$ 42,610	2,175,561	510	$ 32,366	2,148,584	319	$ 29,740	$ 104,716
HL2	$ 0.013175	$11.50	0	0	$ -	0	0	$ -	0	0	$ -	$ -
HL3	$ 0.011457	$11.07	0	0	$ -	0	0	$ -	0	0	$ -	$ -
Total Incremental					$ 1,420,577			$ 1,125,936			$ 838,261	$ 3,384,774
Legacy Lost Revenue 2015-2017					$ 7,705,066			$ 1,308,803			$ 1,308,803	$ 10,322,672
2018 Persisting Lost Revenue					$ -			$ 2,369,382			$ 2,369,382	$ 4,738,763
2019 Persisting Lost Revenue					$ -			$ -			$ 2,079,363	$ 2,079,363
TOTAL C&I Lost Revenue					$ 9,125,643			$ 4,804,121			$ 6,595,808	$ 20,525,571

Indianapolis Power & Light Company
Determination of Impact of Standard Contract Rider No. 22
for the 2018-2020 DSM Plan

Line			2018			
			RS, CW	SS, SH, OES UW, CW	SL, PL PH, HL	APL MU1
Line		Projected Expenditures	Residential	Small C&I	Large C&I	Lighting
1	Residential DSM Programs					
2	Appliance Recycling	$741,032	$740,736			$296
3	Community Based Lighting	$886,206	$885,852			$354
4	Demand Response	$3,449,024	$3,447,644			$1,380
5	Income Qualified Weatherization	$1,796,283	$1,795,564			$719
6	Lighting & Appliances	$1,451,536	$1,450,955			$581
7	Multifamily	$2,162,507	$2,161,642			$865
8	Peer Comparison	$1,466,814	$1,466,227			$587
9	School Education	$765,616	$765,310			$306
10	Whole Home	$3,654,230	$3,652,768			$1,462
11	Indirect Costs	$827,500	$827,169			$331
12	Lost Revenue related to 2018 measures	$1,447,065	$1,446,486			$579
13	Shared Savings	$2,970,939	$2,969,751			$1,188
14	Total Residential	$21,618,751	$21,610,104			$8,648
15	Business DSM Programs					
16	Custom	$2,530,059		$792,667	$1,724,488	$12,903
17	Demand Response	$155,600		$48,749	$106,057	$794
18	Prescriptive	$4,628,766		$1,450,192	$3,154,967	$23,607
19	Small Business Direct Install	$942,496		$295,284	$642,406	$4,807
20	Indirect Costs	$827,500		$259,256	$564,024	$4,220
21	Lost Revenue related to 2018 measures	$1,420,577		$445,067	$968,265	$7,245
22	Shared Savings	$3,749,474		$1,174,710	$2,555,641	$19,122
23	Total Business	$14,254,472		$4,465,925	$9,715,848	$72,698
24	Total DSM Program Costs	$35,873,223	$21,610,104	$4,465,925	$9,715,848	$81,346
	Legacy Lost Revenues 2015-2017	$10,410,169	$2,704,021	$2,413,997	$5,251,773	$40,378
25	Total Costs including Legacy Lost Revenues	$ 46,283,392	$ 24,314,125	$ 6,879,922	$ 14,967,621	$ 121,724
26	/ Estimated Sales (MWh)	10,883,548.4	5,077,775.3	1,809,611.7	3,891,765.4	104,396.0
	RATE IMPACTS					
27	DSM Adjustment Factor (Mills per kWh) excluding legacy lost revenues		4.256	2.468	2.497	0.779
28	DSM Adjustment Factor (Mills per kWh) including legacy lost revenues		4.788	3.802	3.846	1.166
29 30	DSM Adjustment Factor (Mills per kWh) Adjusted for Utility Receipts Tax		4.861	3.859	3.904	1.184

Indianapolis Power & Light Company
Determination of Impact of Standard Contract Rider No. 22
for the 2018-2020 DSM Plan

Line		2019 Projected Expenditures	RS, CW Residential	SS, SH, OES UW, CW Small C&I	SL, PL PH, HL Large C&I	APL MU1 Lighting
1	Residential DSM Programs					
2	Appliance Recycling	$742,623	$742,326			$297
3	Community Based Lighting	$842,613	$842,276			$337
4	Demand Response	$3,591,243	$3,589,807			$1,436
5	Income Qualified Weatherization	$1,730,803	$1,730,110			$692
6	Lighting & Appliances	$1,373,588	$1,373,039			$549
7	Multifamily	$2,108,419	$2,107,576			$843
8	Peer Comparison	$1,466,814	$1,466,227			$587
9	School Education	$783,518	$783,205			$313
10	Whole Home	$3,598,047	$3,596,608			$1,439
11	Indirect Costs	$827,500	$827,169			$331
12	Lost Revenue related to 2019 measures	$1,490,973	$1,490,377			$596
13	Lost Revenue related to 2018 measures	$984,400	$984,006			$394
14	Shared Savings	$2,784,358	$2,783,244			$1,114
15	Total Residential	$22,324,899	$22,315,970			$8,928
16	Business DSM Programs					
17	Custom	$2,587,709		$810,729	$1,763,782	$13,197
18	Demand Response	$155,600		$48,749	$106,057	$794
19	Prescriptive	$4,678,482		$1,465,768	$3,188,853	$23,860
20	Small Business Direct Install	$964,185		$302,079	$657,189	$4,917
21	Indirect Costs	$827,500		$259,256	$564,024	$4,220
22	Lost Revenue related to 2019 measures	$1,125,936		$352,756	$767,438	$5,742
23	Lost Revenue related to 2018 measures	$2,369,382				
25	Shared Savings	$3,819,867		$1,196,764	$2,603,621	$19,481
26	Total Business	$16,528,661		$4,436,101	$9,650,964	$72,211
27	Total DSM Program Costs	$38,853,560	$22,315,970	$4,436,101	$9,650,964	$81,139
	Legacy Lost Revenues 2015-2017	$1,777,030	$468,040	$410,048	$892,080	$6,862
28	Total Costs including Legacy Lost Revenues	$ 38,261,204	$ 22,784,010	$ 4,846,149	$ 10,543,044	$ 88,001
29	/ Estimated Sales (MWh)	10,844,053.2	5,066,558.7	1,798,642.4	3,875,112.3	103,739.8
	RATE IMPACTS					
30	DSM Adjustment Factor (Mills per kWh) excluding legacy lost revenues		4.405	2.466	2.490	0.782
28	DSM Adjustment Factor (Mills per kWh) including legacy lost revenues		4.497	2.694	2.721	0.848
29 30	DSM Adjustment Factor (Mills per kWh) Adjusted for Utility Receipts Tax		4.565	2.735	2.762	0.861

Indianapolis Power & Light Company
Determination of Impact of Standard Contract Rider No. 22
for the 2018-2020 DSM Plan

Line		Projected Expenditures	2020 RS, CW Residential	SS, SH, OES UW, CW Small C&I	SL, PL PH, HL Large C&I	APL MU1 Lighting
1	Residential DSM Programs					
2	Appliance Recycling	$757,096	$756,793			$303
3	Community Based Lighting	$445,249	$445,071			$178
4	Demand Response	$3,722,554	$3,721,065			$1,489
5	Income Qualified Weatherization	$1,741,330	$1,740,633			$697
6	Lighting & Appliances	$1,015,222	$1,014,816			$406
7	Multifamily	$2,128,545	$2,127,694			$851
8	Peer Comparison	$1,466,814	$1,466,227			$587
9	School Education	$852,761	$852,420			$341
10	Whole Home	$3,627,003	$3,625,552			$1,451
11	Indirect Costs	$827,500	$827,169			$331
12	Lost Revenue related to 2020 measures	$1,333,210	$1,332,677			$533
13	Lost Revenue related to 2019 measures	$1,020,429	$1,020,021			$408
14	Lost Revenue related to 2018 measures	$984,400	$984,006			$394
15	Shared Savings	$1,878,174	$1,877,423			$751
14	Total Residential	$21,800,286	$21,791,567			$8,720
15	Business DSM Programs					
16	Custom	$2,644,612		$828,557	$1,802,567	$13,488
17	Demand Response	$155,600		$48,749	$106,057	$794
18	Prescriptive	$4,525,891		$1,417,962	$3,084,847	$23,082
19	Small Business Direct Install	$933,996		$292,621	$636,612	$4,763
20	Indirect Costs	$827,500		$259,256	$564,024	$4,220
21	Lost Revenue related to 2020 measures	$838,261		$262,627	$571,359	$4,275
22	Lost Revenue related to 2019 measures	$2,079,363		$651,464	$1,417,294	$10,605
23	Lost Revenue related to 2018 measures	$2,369,382		$742,327	$1,614,971	$12,084
24	Shared Savings	$2,548,042		$798,302	$1,736,745	$12,995
25	Total Business	$16,922,647		$5,301,865	$11,534,476	$86,306
26	Total DSM Program Costs	$38,722,933	$21,791,567	$5,301,865	$11,534,476	$95,026
27	Legacy Lost Revenues 2015-2019	$1,777,030	$468,040	$ 410,048	$ 892,080	$ 6,862
28	Total Costs including Legacy Lost Revenues	$ 40,499,964	$22,259,607	$ 5,711,913	$ 12,426,556	$ 101,888
29	/ Estimated Sales (MWh)	10,850,671.5	5,081,651.7	1,795,523.5	3,870,448.1	103,048.2
	RATE IMPACTS					
30	DSM Adjustment Factor (Mills per kWh) excluding legacy lost revenues		4.288	2.953	2.980	0.922
31	DSM Adjustment Factor (Mills per kWh) including legacy lost revenues		4.380	3.181	3.211	0.989
32 33	DSM Adjustment Factor (Mills per kWh) Adjusted for Utility Receipts Tax		4.446	3.229	3.259	1.004

STANDARD CONTRACT RIDER NO. 22
DEMAND-SIDE MANAGEMENT ADJUSTMENT
(Applicable to Rates RS, UW, CW, SS, SH, OES, SL, PL, PH, HL, CSC, MU-1, APL, and EVX)

In addition to the rates and charges set forth in the above mentioned Rates, a Demand-Side Management (DSM) Adjustment applicable for approximately six (6) months or until superseded by a subsequent factor shall be made in accordance with the following provisions:

A. The DSM adjustment shall be calculated by multiplying the KWH billed by an Adjustment Factor per KWH established according to the following formula:

$$DSM = \frac{P + LR}{S} \qquad \text{(For each rate class)}$$

where:

1. "P" is the estimate of DSM program operating costs and any financial incentives and other DSM costs approved for recovery by the Commission for the period from July 2017 through December 2017 for the DSM programs described and approved in the orders in Cause Nos. 44328, 44497 and 44792.

2. "LR" is the estimate of lost revenues for the same estimated period set forth in "P", calculated as follows:
   (a) The participants for each program eligible for lost revenues recovery estimated for each of the six months; times
   (b) The reduction in energy and demand for each program to obtain the total reduction in energy and demand for all DSM programs summed by rate. This total times
   (c) The lost contribution to fixed costs for each rate, that is, the average marginal price by rate less the base cost of fuel and variable Operation & Maintenance expenses and/or the demand rate, to obtain the lost revenues by rate summed by rate class.

3. "S" is the estimated kilowatt-hour sales, for the same estimated period set forth in "P", consisting of the net sum in kilowatt-hours of:
   (a) Net generation,
   (b) Purchases and
   (c) Interchange-in, less
   (d) Inter-system Sales,
   (e) Energy Losses and Company Use

B. The DSM Adjustment Factor as computed above for each rate class shall be further modified to allow the recovery of utility receipts taxes and other similar revenue-based tax charges occasioned by the DSM adjustment revenues.

C. The DSM Adjustment Factor may be further modified to reflect the difference between the actual and estimated ~~program costs~~DSM Adjustment amounts and Customer participation levels.

STANDARD CONTRACT RIDER NO. 22 (Continued)

8. Customers that opt out will remain liable for energy efficiency program costs that accrued or were incurred, or relate to energy efficiency investments made, before the date on which the opt out is effective, regardless of the date on which rates reflecting such costs are actually charged. Such costs may include costs related to evaluation, measurement and verification ("EM&V") required to be conducted after a customer opts out on projects completed under an energy efficiency program while the customer was a participant. In addition, such costs may include costs required by contracts executed prior to April 1, 2014 but incurred after the date of the Qualifying Customer's opt out. However, these costs shall be limited to fixed, administrative costs, including costs related to EM&V. A Qualifying Customer shall not be responsible for any program operating costs such as the payment of energy efficiency rebates or incentives, incurred following the effective date of its opt out, with exception of incentives or rebates that are paid on applications that have not closed out at the effective date of its opt out. If the Company makes subsequent changes to the allocation of ~~Energy~~ energy ~~Efficiency~~ efficiency ~~Program~~ program ~~Costs~~costs, Qualifying Customers that opted out of participation will continue to pay those costs based on the allocation in effect at the time of the notice of opt out. Any reconciliation of ~~Energy~~ energy ~~Efficiency~~ efficiency ~~Program~~ program ~~Costs~~ costs will likewise be allocated in the same manner in effect at the time of the Qualifying Customer's notice of opt out.
9. A Qualifying Customer may opt back in effective January 1 of any year by providing notice by November 15 of the previous year. In order to opt back in, the Qualifying Customer must complete a form provided by the Company, or provide written notice to the Company in substantially the same format as the form provided by the Company that: (1) unequivocally indicates its desire to opt back in to the Company's energy efficiency program, (2) lists all sites (and all services at such sites) which the customer intends to opt in, (3) contains a statement that the customer understands that by opting in, it is required to participate in the program for at least three (3) years and pay related costs including lost revenues and incentives, and (4) confirms that the signatory has authority to make that decision for the customer. Only the qualifying accounts/sites identified in the letter will be opted back into the energy efficiency program, and a customer opting back in must opt back in for all accounts at a single site.
10. Once a customer opts back in, that customer must participate for at least three (3) years, and may only opt out effective January 1 of the year following the third year of participation. If the customer elects to opt out again before the end of the three (3) year period, it may do so, but remains liable for and must continue to pay rates that include energy efficiency program costs for the remainder of the three (3) year period. If a customer elects to opt back out after the three (3) year period, that customer shall be responsible for energy efficiency program costs as outlined for other customers who have opted out of the energy efficiency program.

STANDARD CONTRACT RIDER NO. 22
DEMAND-SIDE MANAGEMENT ADJUSTMENT
(Applicable to Rates RS, UW, CW, SS, SH, OES, SL, PL, PH, HL, CSC, MU-1, APL, and EVX)

In addition to the rates and charges set forth in the above mentioned Rates, a Demand-Side Management (DSM) Adjustment applicable for approximately six (6) months or until superseded by a subsequent factor shall be made in accordance with the following provisions:

A. The DSM adjustment shall be calculated by multiplying the KWH billed by an Adjustment Factor per KWH established according to the following formula:

$$DSM = \frac{P + LR}{S} \quad \text{(For each rate class)}$$

where:

1. "P" is the estimate of DSM program operating costs and any financial incentives and other DSM costs approved for recovery by the Commission for the period from July 2017 through December 2017 for the DSM programs described and approved in the orders in Cause Nos. 44328, 44497 and 44792.

2. "LR" is the estimate of lost revenues for the same estimated period set forth in "P", calculated as follows:
   (a) The participants for each program eligible for lost revenues recovery estimated for each of the six months; times
   (b) The reduction in energy and demand for each program to obtain the total reduction in energy and demand for all DSM programs summed by rate. This total times
   (c) The lost contribution to fixed costs for each rate, that is, the average marginal price by rate less the base cost of fuel and variable Operation & Maintenance expenses and/or the demand rate, to obtain the lost revenues by rate summed by rate class.

3. "S" is the estimated kilowatt-hour sales, for the same estimated period set forth in "P", consisting of the net sum in kilowatt-hours of:
   (a) Net generation,
   (b) Purchases and
   (c) Interchange-in, less
   (d) Inter-system Sales,
   (e) Energy Losses and Company Use

B. The DSM Adjustment Factor as computed above for each rate class shall be further modified to allow the recovery of utility receipts taxes and other similar revenue-based tax charges occasioned by the DSM adjustment revenues.

C. The DSM Adjustment Factor may be further modified to reflect the difference between the actual and estimated DSM Adjustment amounts and Customer participation levels.

STANDARD CONTRACT RIDER NO. 22 (Continued)

8. Customers that opt out will remain liable for energy efficiency program costs that accrued or were incurred, or relate to energy efficiency investments made, before the date on which the opt out is effective, regardless of the date on which rates reflecting such costs are actually charged. Such costs may include costs related to evaluation, measurement and verification ("EM&V") required to be conducted after a customer opts out on projects completed under an energy efficiency program while the customer was a participant. In addition, such costs may include costs required by contracts executed prior to April 1, 2014 but incurred after the date of the Qualifying Customer's opt out. However, these costs shall be limited to fixed, administrative costs, including costs related to EM&V. A Qualifying Customer shall not be responsible for any program operating costs such as the payment of energy efficiency rebates or incentives, incurred following the effective date of its opt out, with exception of incentives or rebates that are paid on applications that have not closed out at the effective date of its opt out. If the Company makes subsequent changes to the allocation of energy efficiency program costs, Qualifying Customers that opted out of participation will continue to pay those costs based on the allocation in effect at the time of the notice of opt out. Any reconciliation of energy efficiency program costs will likewise be allocated in the same manner in effect at the time of the Qualifying Customer's notice of opt out.
9. A Qualifying Customer may opt back in effective January 1 of any year by providing notice by November 15 of the previous year. In order to opt back in, the Qualifying Customer must complete a form provided by the Company, or provide written notice to the Company in substantially the same format as the form provided by the Company that: (1) unequivocally indicates its desire to opt back in to the Company's energy efficiency program, (2) lists all sites (and all services at such sites) which the customer intends to opt in, (3) contains a statement that the customer understands that by opting in, it is required to participate in the program for at least three (3) years and pay related costs including lost revenues and incentives, and (4) confirms that the signatory has authority to make that decision for the customer. Only the qualifying accounts/sites identified in the letter will be opted back into the energy efficiency program, and a customer opting back in must opt back in for all accounts at a single site.
10. Once a customer opts back in, that customer must participate for at least three (3) years, and may only opt out effective January 1 of the year following the third year of participation. If the customer elects to opt out again before the end of the three (3) year period, it may do so, but remains liable for and must continue to pay rates that include energy efficiency program costs for the remainder of the three (3) year period. If a customer elects to opt back out after the three (3) year period, that customer shall be responsible for energy efficiency program costs as outlined for other customers who have opted out of the energy efficiency program.