

**BEFORE THE
INDIANA UTILITY REGULATORY COMMISSION**

**IN THE MATTER OF THE PETITION OF THE)
CITY OF RICHMOND, INDIANA, BY ITS)
MUNICIPAL ELECTRIC UTILITY,)
RICHMOND POWER & LIGHT FOR) CAUSE NO. 42713
APPROVAL OF A NEW SCHEDULE OF RATES)
AND CHARGES FOR ELECTRIC SERVICE)**

**DIRECT TESTIMONY OF
WILLIAM STEVEN SEELYE**

**PRINCIPAL & SENIOR CONSULTANT
THE PRIME GROUP, LLC**

**On Behalf of the Petitioner,
Richmond Power & Light**

Petitioner's Exhibit WSS

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is William Steven Seelye and my business address is The Prime Group, LLC,
3 6435 West Highway 146, Crestwood, Kentucky, 40014.

4 **Q. BY WHOM ARE YOU EMPLOYED?**

5 A. I am a senior consultant and principal for The Prime Group, LLC, a firm located in
6 Crestwood, Kentucky, providing consulting and educational services in the areas of cost
7 of service, rate design, utility marketing, and regulatory analysis,.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

9 A. The purpose of my testimony is to analyze Richmond Power & Light's ("RP&L's")
10 electric revenue requirements for the 12 months ended March 31, 2004; to sponsor a fully
11 allocated class cost of service study based on RP&L's embedded costs for the 12 months
12 ended March 31, 2004; to describe the proposed allocation of the revenue increase; and
13 to sponsor RP&L's proposed rates for electric service.

14 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

15 A. The Prime Group performed an analysis of RP&L's revenue requirements for the 12
16 months ended March 31, 2004. RP&L's revenue requirements were analyzed using two
17 standard methodologies commonly used in the industry – (1) the rate of return or utility
18 approach, and (2) the cash revenue requirements or cash needs approach. The utility
19 approach, which is the methodology generally used by investor-owned utilities, would
20 support an increase in annual operating revenues of \$4.7 million. The cash revenue

1 requirements approach, a methodology frequently used by municipal utilities to
2 determine the need for a rate increase would support an increase in annual operating
3 revenues of \$4.8 million. RP&L's proposed increase in annual operating revenues of
4 \$3.5 million is well below the increase that could be supported by either of these standard
5 revenue requirements methodologies.

6 The Prime Group prepared a fully allocated, embedded cost of service study for
7 RP&L's test-year operations using standard methodologies. The purpose of the cost of
8 service study is to determine the contribution that each customer class is making towards
9 RP&L's overall rate of return. Rates of return are computed for each rate class. RP&L
10 was guided by the embedded cost of service study in allocating the proposed revenue
11 increase to the classes of service and in developing the proposed rates.

12 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

13 A. My testimony is divided into the following sections: (I) Qualifications, (II) Revenue
14 Requirement, (III) Cost of Service Study, and (IV) Allocation of the Rate Increase and
15 Rate Design.

16

1 **I. QUALIFICATIONS**

2 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PRIOR**
3 **WORK EXPERIENCE.**

4 A. I received a Bachelor of Science degree in Mathematics from the University of Louisville
5 in 1979. I have also completed 54 hours of graduate level course work in Industrial
6 Engineering and Physics. From May 1979 until July 1996, I was employed by Louisville
7 Gas and Electric Company ("LG&E"). From May 1979 until December, 1990, I held
8 various positions within the Rate Department of LG&E. In December 1990, I became
9 Manager of Rates and Regulatory Analysis. In May 1994, I was given additional
10 responsibilities in the marketing area and was promoted to Manager of Market
11 Management and Rates. I left LG&E in July 1996 to form The Prime Group, LLC, with
12 two other former employees of LG&E.

13 Since leaving LG&E, I have provided consulting services to numerous investor-
14 owned utilities, rural electric cooperatives, and municipal utilities regarding utility rate
15 and regulatory filings, cost of service and wholesale and retail rate designs. Specifically,
16 I have prepared and filed Order No. 888 and Order No. 889 compliance filings at the
17 Federal Energy Regulatory Commission ("FERC") for a number of electric utilities as
18 well as Order No. 888 and Order No. 889 waiver requests for other utilities. I have
19 prepared market power analyses in support of market-based rate filings at FERC for
20 utilities and their marketing affiliates, as well as assisting other utilities with their

1 market-based rate filings. I have provided utility clients with assistance regarding
2 regulatory policy and strategy; state and federal regulatory filing development; cost of
3 service development and support; the development of innovative rates to achieve
4 strategic objectives; the unbundling of rates and the development of menus of rate
5 alternatives for use with customers; and performance-based rate development.

6 **Q. HAVE YOU EVER TESTIFIED BEFORE ANY STATE OR FEDERAL**
7 **REGULATORY COMMISSIONS?**

8 A. Yes, on a number of occasions. In Alabama, I testified in Docket 28101 on behalf of
9 Mobile Gas Service Corporation concerning rate design and pro-forma revenue
10 adjustments. In Colorado, I testified in Consolidated Docket Nos. 01F-530E and 01A-
11 531E on behalf of Intermountain Rural Electric Association in a territory dispute case. I
12 testified before the FERC in Docket No. EL02-25-000 et al. concerning Public Service of
13 Colorado's fuel cost adjustment. In Florida, I testified in Docket No. 981827 on behalf
14 of Lee County Electric Cooperative, Inc. concerning Seminole Electric Cooperative
15 Inc.'s wholesale rates and cost of service. In Illinois, I testified in Docket No. 01-0637
16 on behalf of Central Illinois Light Company ("CILCO") concerning the modification of
17 interim supply service and the implementation of black start service in connection with
18 providing unbundled electric service.

19 In Kentucky, I testified on behalf of Louisville Gas and Electric Company
20 ("LG&E") in Administrative Case No. 244 regarding rates for co-generators and small

1 power producers. I testified on behalf of LG&E in Case No. 8924 regarding marginal
2 cost of service and in numerous fuel adjustment clause (“FAC”) proceedings. I testified
3 in Case No. 96-161 and Case No. 96-362 regarding Prestonsburg City’s Utilities
4 Commission rates. I testified in Case No. 99-046 on behalf of Delta Natural Gas
5 Company, Inc. concerning its rate stabilization plan. I testified in Case No. 99-176 on
6 behalf of Delta Natural Gas Company, Inc. concerning cost of service, rate design and
7 expense adjustments. In Case No. 2000-080, I testified on behalf of LG&E concerning
8 cost of service, rate design, and pro-forma adjustments to revenues and expenses. I
9 submitted rebuttal testimony in Case No. 2000-548 on behalf of LG&E regarding the
10 company’s prepaid metering program. I submitted testimony on behalf of LG&E in Case
11 No. 2002-00430 and on behalf of Kentucky Utilities Company (“KU”) in Case No. 2002-
12 00429 regarding the calculation of merger savings. I submitted testimony on behalf of
13 LG&E in Case No. 2003-00433 regarding gas and electric cost of service studies,
14 revenue allocation, rate design, and pro-forma adjustments and on behalf of KU in Case
15 No. 2003-00434 regarding electric cost of service studies, revenue allocation, rate design,
16 and pro-forma adjustments. I submitted testimony on behalf of Delta Natural Gas
17 Company in Case No. 2004-00067 concerning cost of service, temperature normalization,
18 depreciation rates, revenue allocation, and rate design.

19 In Nevada, I testified before the Public Utilities Commission of Nevada on behalf
20 of Nevada Power Company in Case No. 03-10001 regarding cash working capital. I also

1 testified before the Public Utilities Commission of Nevada on behalf of Sierra Pacific
2 Power Company in Case No. 03-12002 regarding cash working capital.

3 **Q. HAVE YOU DEVELOPED RATES FOR MUNICIPAL UTILITIES AND**
4 **ELECTRIC COOPERATIVES?**

5 A. Yes, I supervised the development of revenue requirements and the proposed rates for
6 several municipal electric, water and sewer utilities, including Prestonsburg, Kentucky;
7 Pikeville, Kentucky; Fountain, Colorado; Olive Branch, Mississippi; and Livermore,
8 Iowa. I have supervised the preparation of cost of service studies and the development of
9 retail rates for over 100 electric cooperatives around the country.

10 **Q. HAVE YOU DEVELOPED ELECTRIC RATES FOR UTILITIES IN INDIANA?**

11 A. Yes. I supervised the development of wholesale rates and the open access transmission
12 tariff ("OATT") for Hoosier Energy Rural Cooperative. I also supervised the preparation
13 of cost of service studies and electric rates for Johnson County REMC, Davies-Martin
14 REMC, and Clark County REMC. I also supervised the preparation of the OATT for
15 Southern Indiana Gas and Electric Company.

16

17 **II. REVENUE REQUIREMENTS**

18 **Q. DID YOU PERFORM AN ANALYSIS COMPUTING RP&L'S REVENUE**
19 **REQUIREMENTS?**

20 A. Yes.

1 **Q. HOW WERE REVENUE REQUIREMENTS DETERMINED?**

2 A. RP&L's revenue requirements were calculated using two different methodologies – (i)
3 the utility approach and (ii) the cash needs approach. Under the *utility approach*, revenue
4 requirements include a representative level of operation and maintenance expenses on a
5 going forward basis, depreciation expenses, a reasonable return on utility investment, and
6 tax expenses (as applicable). The return component of revenue requirements is typically
7 determined on the basis of a fair, just and reasonable return on rate base. Using the
8 utility approach, revenue requirements are determined as follows:

9
10
$$\text{Rev Req} = \text{O\&M Expenses} + \text{Depreciation} + (\text{ROR} \times \text{Rate Base}) + \text{Taxes}$$

11
12 Rate base includes net plant (utility plant in service less accumulated depreciation) plus
13 working capital consisting of materials and supplies, cash working capital, and
14 prepayments. The utility approach is the standard methodology used to determine
15 revenue requirements for investor-owned utilities and some cooperatives and municipal
16 utilities when they are regulated by state regulatory commissions. A standard procedure
17 for applying the utility approach is to determine the level of revenue sufficient to produce
18 an operating income that generates a fair, just and reasonable rate of return on rate base.

19 Under the *cash needs* approach, revenue requirements include a level of operation
20 and maintenance expenses representative on a going forward basis, debt service

1 requirements, capital expenditures not debt financed, and tax payments (as applicable).

2 Using the cash needs approach, revenue requirements are determined as follows:

3
4
$$\text{Rev Req} = \text{O\&M Expenses} + \text{Debt Costs} + \text{Cap Exp} + \text{Tax Payments}$$

5

6 When using the cash needs approach, a times-interest-earned (TIER) component will
7 often be included as a part of the utility's debt service costs. The cash needs approach is
8 a methodology commonly used by municipal utilities and rural electric cooperatives.

9 **Q. HAVE YOU PREPARED AN EXHIBIT SHOWING THE DETERMINATION OF**
10 **REVENUE REQUIREMENTS USING THE UTILITY APPROACH?**

11 A. Yes. Exhibit WSS-1 is an income statement shown on an actual basis, pro-forma basis
12 and adjusted for the required increase in revenue. Column B shows the actual results for
13 RP&L's electric operations for the 12 months ended March 31, 2004. Column C shows
14 the pro-forma adjustments made to reflect the going-forward level of operational results.
15 Column D shows the alphanumerical designations (e.g. A01, A02, etc.) used to identify
16 each pro-forma adjustment. Column E shows the pro-forma statement of operating
17 income reflecting the pro-forma adjustments shown in Column C. Column F shows the
18 pro-forma adjustments required to produce RP&L's proposed revenue requirements and
19 operating income, and Column G shows alphanumerical designations identifying the

1 proposed adjustment. Column H shows the pro-forma statement of operating income
2 including the additional revenue requirements for RP&L's electric operations.

3 **Q. WHAT ARE THE ACTUAL OPERATING RESULTS AND THE EFFECT OF**
4 **THE PRO FORMA ADJUSTMENTS SHOWN ON EXHIBIT WSS-1?**

5 A. The actual operating income for the 12 months ended March 31, 2003, as shown on
6 Column B, Line 14 of Exhibit WSS-1 is \$370,112. On a pro-forma basis, RP&L would
7 experience an operating loss for the test year. The pro-forma operating income shown on
8 Column E, Line 14, corresponds to a loss of (\$248,218), as adjusted for the pro-forma
9 margin and expense adjustments shown in Column C. These pro-forma adjustments are
10 necessary to reflect, on a full twelve-month basis, fixed, known and measurable changes
11 to RP&L's actual test-year results.

12 A revenue increase of \$4,701,016 would be required to provide a 7.00% return on
13 RP&L's net original cost rate base. This increase in revenue is shown on Column F, Line
14 4. The \$4,701,016 revenue increase is required to produce the required operating income
15 of \$4,386,983 as shown on Column H, Line 14. Dividing the operating income of
16 \$4,386,983 by the net cost rate base of \$62,671,188 produces a rate of return of 7.00%.

17 **Q. PLEASE DESCRIBE THE DETERMINATION OF RP&L'S NET COST RATE**
18 **BASE.**

19 A. The development of RP&L's net cost rate base is shown on Exhibit WSS-2. Net cost rate
20 base consists of net utility plant (utility plant in service less accumulated depreciation) as

1 of the end of the test year plus working capital consisting of materials and supplies, cash
2 working capital, and prepayments. Contributions in aid of construction (CIAC) were
3 explicitly removed from plant in service. Materials and supplies and prepayments were
4 determined on the basis of 13-month average balances. RP&L elected not to include a
5 cash working capital component in rate base. RP&L's net cost rate base as of March 31,
6 2004, was \$62,671,188.

7 **Q. PLEASE DESCRIBE EXHIBIT WSS-3.**

8 A. Exhibit WSS-3 consists of 20 pages and includes the support for each pro-forma
9 adjustment and the proposed revenue increase. This exhibit includes 9 separate
10 attachments labeled Adjustment A01 through Adjustment A09 that describe each pro-
11 forma adjustment.

12 **Q. PLEASE DESCRIBE ADJUSTMENTS A01, A02, AND A05 SHOWN IN EXHIBIT**
13 **WSS-3.**

14 A. Adjustment A01 and A02 are pro-forma adjustments to RP&L's test year operating
15 revenues. Adjustment A01 is an adjustment to operating revenues to reflect the effect of
16 two large industrial customers switching from one rate schedule to another. Adjustment
17 A01 thus reflects test-year billings for these two customers at the current rates.

18 Adjustment A02 is an adjustment to reflect the loss in revenue due to a plant
19 closing by a large industrial customer, Engine Products Division of Dana Corporation.
20 Engine Products Division, which had operated a foundry in RP&L's service territory,

1 closed its foundry operations in February, 2004. RP&L collected \$1,571,118 in revenues
2 from this customer during the 12 months ended March 31, 2004. These revenues will not
3 be received in the future and consequently have been removed from test-year operating
4 results. A corresponding expense adjustment of \$1,360,225 was made to reflect a
5 reduction in purchased power expenses during the test year for this customer. The
6 expense adjustment is shown as adjustment A05. There are currently no prospects for a
7 new customer to be served at this facility.

8 **Q. PLEASE DESCRIBE ADJUSTMENT A03 SHOWN IN EXHIBIT WSS-3.**

9 A. Adjustment A03 reflects an increase in operating and maintenance expenses based on the
10 current level of wages, fringe benefits and payroll taxes. This adjustment includes an
11 annualization of a 3.0% wage increase for all employees. The pro-forma adjustment was
12 determined by subtracting (a) the pro-forma level of annual labor expenses from (b) the
13 test-year payroll expenses.

14 **Q. PLEASE DESCRIBE ADJUSTMENT A04 THAT IS SHOWN IN EXHIBIT WSS-**
15 **3.**

16 A. Adjustment A04 represents an adjustment to increase test-year expenses for the estimated
17 incremental rate case costs associated with this proceeding. RP&L is proposing a three-
18 year amortization of these costs. We anticipate that this adjustment will be subsequently
19 adjusted to reflect the actual costs incurred in connection with this proceeding.

20 **Q. PLEASE DESCRIBE ADJUSTMENT A06 SHOWN IN EXHIBIT WSS-3.**

1 A. Adjustment A06 reflects the pro-forma increase in depreciation expense based on electric
2 utility plant balances at March 31, 2003. Line 1 represents the depreciation expenses per
3 books for the test year. Line 2 represents the pro-forma depreciation expenses based on
4 the electric utility plant balances by account number as of March 31, 2004, and the
5 applicable depreciation rates currently in effect. The pro-forma increase in depreciation
6 expenses of \$48,083 is shown on line 3 and on the bottom right hand cover of page 2 of
7 Adjustment A06.

8 **Q. PLEASE DESCRIBE ADJUSTMENT A07 SHOWN IN EXHIBIT WSS-3.**

9 A. Adjustment A07 shows an increase in the Indiana Utility Receipts Tax ("IURT") as a
10 result of a notification in early 2004 that receipts collected from the City of Richmond
11 and the school district for the sale of electricity are not tax exempt. During the test year,
12 IURT expenses were computed assuming that these receipts were tax exempt.

13 **Q. PLEASE DESCRIBE ADJUSTMENT A08 SHOWN IN EXHIBIT WSS-3.**

14 A. Adjustment A08 shows the calculation of the increased revenue requirement for RP&L's
15 electric operations necessary to provide a 7.00% return on net original cost rate base.
16 The 7.00% rate of return is discussed later in my testimony. The increased revenue
17 requirement is calculated by determining the required increase in operating income. The
18 required operating income is determined by applying the proposed rate of return of
19 7.00% to the net original cost rate base shown on Exhibit WSS-2. The increase in
20 operating income is then grossed up for the Utility Receipts taxes. The proposed increase

1 in revenue requirements to provide a 7.00% return on net original cost rate base is
2 \$4,701,016.

3 **Q. PLEASE DESCRIBE ADJUSTMENT A09 SHOWN IN EXHIBIT WSS-3.**

4 A. Adjustment A09 is a calculation of the Indiana Utility Receipts Taxes applicable to the
5 proposed increase in revenue requirements, and is calculated by applying the 1.4% rate to
6 the proposed increase in revenue requirements.

7 **Q. PLEASE EXPLAIN WHY IN YOUR OPINION A RATE OF RETURN OF 7.0%**
8 **WOULD REPRESENT A FAIR, JUST AND REASONABLE RETURN FOR**
9 **RP&L.**

10 A. In contrast to an investor-owned utility, RP&L is owned by a municipal government and
11 not by a group of investors. To continue to operate successfully and provide safe and
12 reliable service to its customers, RP&L must be able to earn a fair, just and reasonable
13 return on its invested property, just like an investor-owned utility. A typical investor-
14 owned utility would finance its operations using a composite of equity financing and debt
15 financing. For example, a typical investor-owned utility might finance 50% of its rate
16 base or capital requirements with long-term debt and 50% with equity. Because owning
17 equity entails greater risk to investors than first mortgage bonds (viz. because debt
18 holders have priority over owners of preferred or common stock), the cost of equity for a
19 typical investor-owned utility will be anywhere from 400 to 800 basis points higher than
20 the cost of debt. Therefore, if a utility's debt cost is 6% per annum, its cost of equity

1 might be 12.0%. If the utility's capital structure consists of 50% debt and 50% equity, its
2 weighted cost of capital would be 9.0% ($50\% \times 6.0\% + 50\% \times 12.0\% = 9.0\%$).

3 I indicated earlier in my testimony that The Prime Group works with cooperative
4 and municipal utilities all over the country. The trend for these utilities is to try and
5 operate their organizations as solid business enterprises. As a result, more and more
6 cooperative and municipal utilities are establishing revenue requirements that will
7 provide them the opportunity to earn a reasonable return on rate base, and not merely a
8 minimum revenue level sufficient to meet cash flow requirements. These utilities will
9 typically set their rates at a level that will provide for an overall rate of return on rate
10 base in the range of 200 to 400 basis points above the long-term cost of debt. Therefore,
11 if the long-term cost of debt is 5.0%, then the utility might establish rates that will
12 provide an opportunity to earn a rate of return on rate base of between 7.0% and 9.0%.

13 **Q. IS THERE A THEORETICAL BASIS FOR ESTABLISHING RATES BASED ON**
14 **AN OVERALL RATE OF RETURN THAT IS GREATER THAN THE COST OF**
15 **DEBT?**

16 A. Yes. As mentioned earlier, the cost of equity is greater than the cost of debt. Equity
17 holders assume greater risks than debt holders thus receiving a "premium" for the risks
18 that investors take by owning equity shares rather than, say, long-term mortgage bonds.
19 Thus, the cost of equity reflects a premium above the cost of debt. Mathematically, this
20 can be described by the following formula:

1
$$R_e = R_d + \text{Risk Premium},$$

2 where, R_e represents the return on equity and R_d represent the cost of debt. Because a
3 utility's capital structure will consist of some combination of equity and debt, the
4 weighted cost of capital generally will be higher than the cost of debt. If P_d represents the
5 percentage of a utility's capital structure comprising debt, and P_e represents the
6 percentage of capital structure comprising equity, the weighted cost of capital (ROR) can
7 be stated as follows:

8
$$\begin{aligned} \text{ROR} &= R_d \times P_d + R_e \times P_e \\ &= R_d \times P_d + (R_d + \text{Risk Premium}) \times P_e \\ &= R_d \times P_d + (R_d + \text{Risk Premium}) \times (1 - P_d) \\ &= R_d + \text{Risk Premium} \times (1 - P_d) \end{aligned}$$

12 Therefore, regardless of the amount of leverage, the weighted cost of capital will always
13 be greater than the cost of debt.¹

14 **Q. IS THERE A BASIS FOR ESTABLISHING A RATE OF RETURN THAT IS 200**
15 **TO 400 BASIS POINTS ABOVE THE COST OF DEBT?**

1 This is a reformulation of the famous Miller-Modigliani (M-M) model that can be found in almost any graduate-level financial management textbook. Miller and Modigliani showed that in the absence of income taxes (which is the case for most municipal utilities), the cost of equity is equal to a constant average cost of capital plus a risk premium which depends on the degree of leverage (i.e., $R_e = \text{ROR} + \text{Risk Premium}$). One of the important conclusions from the M-M model is that in the absence of income taxes the overall rate of return for a firm is unaffected by its capital structure. For example, see F. Modigliani and M. H. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, volume 48 (June 1958), 261-297.

1 A. Because equity shares of municipal and cooperative utilities are not traded on any stock
2 exchange, we must rely on judgment and on comparisons with other utilities, including
3 our experience with both not-for-profit utilities and investor-owned utilities. As I
4 indicated earlier, many not-for-profit utilities are establishing utility rates designed to
5 produce a rate of return on rate base that is 200 to 400 basis points above their cost of
6 debt. Likewise, the overall rates of return (weighted cost of capital) for investor owned
7 utilities are currently being awarded in the range of 100 to 400 basis points above the cost
8 of long-term debt.

9 **Q. DOES RP&L HAVE ANY LONG-TERM DEBT?**

10 A. No. For a period of years, RP&L has financed its operations entirely with internally
11 generated funds rather than issue debt. It is not uncommon for municipal and cooperative
12 utilities to finance their operations predominantly or entirely with equity.

13 **Q. DOES THIS SUGGEST THAT RP&L'S WEIGHTED COST OF CAPITAL IS**
14 **LOWER THAN IF IT FINANCED A PORTION OF ITS OPERATIONS WITH**
15 **DEBT?**

16 A. No. Established economic theory suggests that RP&L's overall cost of capital would be
17 the same regardless of the level of its leverage.²

18 **Q. HAVE YOU EXAMINED THE COST OF LONG-TERM MUNICIPAL BONDS?**

2 Ibid.

1 A. Yes. I examined the Municipal Bond Index that is published daily by Standard & Poor's
2 ("S&P"). The average yield to maturity based on the Municipal Bond Index published
3 on September 22, 2004, was 4.88%. This yield has remained in the 4.8-5.0% during the
4 past month.

5 **Q. IN YOUR OPINION, WHAT IS A REASONABLE RATE OF RETURN ON RATE**
6 **BASE FOR RP&L?**

7 A. A rate of return in the range of 6.9% to 8.9% would be reasonable. The bottom end of
8 the range was determined by adding 200 basis points to the S&P Municipal Index yield
9 to maturity (rounded to the nearest 10th percentage point) of 4.9%. The top end of the
10 range was determined by adding 400 basis points to the yield to maturity. In computing
11 RP&L's revenue requirements under the utility approach we used 7.0% as the required
12 return on rate base, which is toward the lower end of this range.

13 **Q. HAVE YOU PREPARED AN EXHIBIT SHOWING THE DETERMINATION OF**
14 **RP&L'S REVENUE REQUIREMENTS USING THE CASH NEEDS**
15 **APPROACH?**

16 A. Yes. Exhibit WSS-4 shows the revenue requirement determined using the cash needs
17 approach. Using this methodology, net revenue requirement reflects operation and
18 maintenance expenses plus normalized capital expenditures ("extensions and
19 replacements"). Test-year operation and maintenance expenses were revised to reflect
20 the following pro-forma adjustments: (i) labor expense adjustment (A03), (i) amortization

1 of rate case expenses (A04), (iii) reduced purchase power expenses from no longer
2 serving Engine Products Division (A05), and (iv) the correction in the IURT expenses
3 (A07). Operating expenses were not adjusted to reflect the annualization of depreciation
4 expenses because depreciation does not affect cash flow. Extensions and replacements
5 were determined by calculating a five-year average of RP&L capital expenditures for the
6 period 2002 through 2006. Extensions and replacements for the years 2002-2003 were
7 based on actual expenditures and the extensions and replacements for the years 2004-
8 2006 were based on budgeted expenditures. Based on this analysis, RP&L's net revenue
9 requirement would be \$67,861,084. Subtracting RP&L's test-year revenue (adjusted for
10 known and measurable changes to test-year results) from the cash needs revenue
11 requirement results in a revenue deficiency of \$4,818,016. Exhibit WSS-5 shows that a
12 revenue increase of \$4,818,016, as determined using the cash needs approach, would
13 produce a rate of return on rate base of 7.17%.

14 **Q. WHAT IS THE REVENUE INCREASE PROPOSED BY RP&L?**

15 A. The Richmond Common Council, the municipal legislative body for Richmond, Indiana,
16 has authorized, through an ordinance, an increase in annual operating revenues of
17 \$3,500,000 and a rate of return on rate base of approximately 5.2%. (It should be noted
18 that RP&L's proposed rates, when applied to test-year billing determinants, actually
19 produce an increase of \$3,501,421, due to rounding of the unit charges.)

1 **Q. HOW DOES RP&L'S PROPOSED INCREASE COMPARE TO THE**
2 **INCREASES THAT CAN BE SUPPORTED BY THE UTILITY APPROACH AND**
3 **THE CASH NEEDS APPROACH?**

4 A. As mentioned earlier, the utility approach for computing revenue requirements would
5 support an increase of \$4,701,016, and the cash needs approach would support an
6 increase of \$4,818,016. Therefore, RP&L's proposed revenue increase of \$3,501,421 is
7 significantly below the level of increase supported by either the utility approach or cash
8 needs approach.

9 **Q. WHAT RATE OF RETURN IS PRODUCED BY RP&L'S PROPOSED REVENUE**
10 **INCREASE?**

11 A. A revenue increase of \$3,501,421 will produce a rate of return on rate base of 5.1% based
12 on pro-forma operating results for the 12 months ended March 31, 2003. This
13 computation is shown in Exhibit WSS-6. A rate of return of 5.1% is well below the 6.9%
14 to 8.9% level that would be reasonable, and is approximately the same as the current
15 yields on municipal bonds, which is currently in the 4.8-5.0% range.³

16

³ See above.

1 **III. COST OF SERVICE STUDY**

2 **Q. DID YOU PREPARE A COST OF SERVICE STUDY FOR RP&L BASED ON**
3 **FINANCIAL AND OPERATING RESULTS FOR THE 12 MONTHS ENDED**
4 **MARCH 31, 2004?**

5 A. Yes. I supervised the preparation of a fully allocated, embedded cost of service study for
6 RP&L's electric operations for the 12 months ended March 31, 2004. The cost of service
7 study corresponds to the pro-forma financial exhibit included in Exhibit WSS-1. The
8 objective in performing the electric cost of service study is to determine the rate of return
9 on rate base that RP&L is earning from each customer class, which provides an
10 indication as to whether RP&L's service rates reflect the cost of providing service to each
11 customer class.

12 **Q. DID YOU DEVELOP THE MODEL USED TO PERFORM RP&L'S COST OF**
13 **SERVICE STUDIES?**

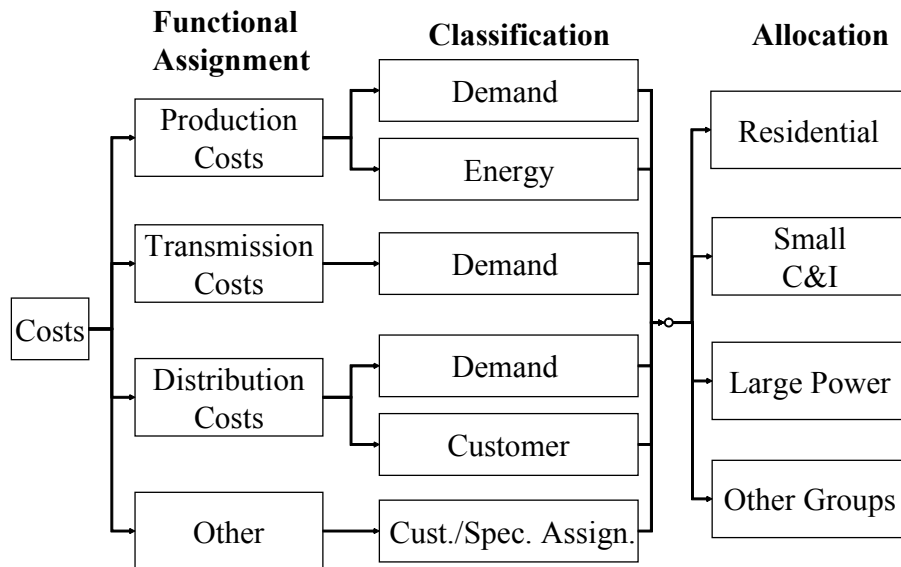
14 A. Yes. I developed the spreadsheet model used to perform the cost of service study being
15 submitted in this proceeding.

16 **Q. WHAT PROCEDURE WAS USED IN PERFORMING THE COST OF SERVICE**
17 **STUDY?**

18 A. The three traditional steps of an embedded cost of service study – functional assignment,
19 classification, and allocation – were used to perform the cost of service study for RP&L.
20 The cost of service study was therefore prepared using the following procedure: (1) costs

1 were functionally assigned (*functionalized*) to the major functional groups; (2) costs were
2 then *classified* as commodity-related, demand-related, or customer-related; and then (3)
3 costs were allocated to RP&L's rate classes. These steps are depicted in the following
4 diagram (Figure 1).

5



6

7

Figure 1

8

9 The following functional groups were identified in the cost of service study: (1)

10 Production, (2) Transmission, (3) Distribution Substation (4) Distribution Primary Lines,

11 (5) Distribution Secondary Lines (6) Distribution Line Transformers, (7) Distribution

1 Services, (8) Distribution Meters, (9) Distribution Street Lighting, (10) Customer
2 Accounts Expense, (11) Customer Service and Information, and (12) Customer Lighting.

3 **Q. HOW WERE COSTS CLASSIFIED AS ENERGY RELATED, DEMAND**
4 **RELATED OR CUSTOMER RELATED?**

5 A. Classification provides a method of arranging costs so that the service characteristics that
6 give rise to the costs can serve as a basis for allocation. Costs classified as *energy related*
7 tend to vary with the amount of kilowatt-hours consumed. Fuel and purchased power
8 expenses are examples of costs typically classified as energy costs. Costs classified as
9 *demand related* tend to vary with the capacity needs of customers, such as the amount of
10 generation, transmission or distribution equipment necessary to meet a customer's needs.
11 Production plant and the cost of transmission lines are examples of costs typically
12 classified as demand costs. Costs classified as *customer related* include costs incurred to
13 serve customers regardless of the quantity of electric energy purchased or the peak
14 requirements of the customers and include the cost of the minimum system necessary to
15 provide a customer with access to the electric grid. As will be discussed later in my
16 testimony, costs related to Distribution Primary Lines, Distribution Secondary Lines and
17 Distribution Line Transformers were classified as demand-related and customer-related
18 using the zero-intercept methodology. Distribution Services, Distribution Meters,
19 Distribution Street and Customer Lighting, Customer Accounts Expense, Customer
20 Service and Information and Sales Expense were classified as customer-related.

1 **Q. HOW WERE RP&L'S PRODUCTION COSTS CLASSIFIED?**

2 A. RP&L purchases all of its power requirements from Indiana Municipal Power Agency
3 ("IMPA"). In addition, RP&L owns and operates a power plant; however, all of the
4 demand and energy from the plant is sold to IMPA under the terms of a Capacity
5 Purchase Agreement. Therefore, it was necessary to classify three categories of
6 production-related costs and revenues: (i) purchased power expenses recorded in Account
7 No. 555 reflecting demand and energy purchases from IMPA, (ii) the fixed and variable
8 costs of RP&L's power plant, and (iii) revenues collected from the sale of power to
9 IMPA (which has the effect of reducing RP&L's revenue requirements). In the cost of
10 service study, all fixed costs, including revenues and purchased power costs billed on a
11 demand basis, were classified as demand-related. All variable costs, including revenues
12 and purchased power costs billed on an energy basis, were classified as energy-related.

13 **Q. HAVE YOU PREPARED AN EXHIBIT SHOWING THE RESULTS OF THE**
14 **FUNCTIONAL ASSIGNMENT AND CLASSIFICATION STEPS OF THE**
15 **ELECTRIC COST OF SERVICE STUDY?**

16 A. Yes. Exhibit WSS-7 shows the results of the first two steps of the electric cost of service
17 study – functional assignment and classification.

18 **Q. PLEASE DESCRIBE THE ALLOCATION FACTORS USED IN THE ELECTRIC**
19 **COST OF SERVICE STUDY.**

20 A. The following allocation factors were used in the RP&L cost of service study:

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- **E01** – The energy components of purchased power costs, fuel, variable production expenses, and power sales to IMPA were allocated on the basis of the kWh sales to each class of customers during the test year.
- **12CP** – The demand components of purchased power expenses, production costs, transmission costs, and power sales to IMPA were allocated on the basis of each class's contribution to RP&L's 12-month average coincident peak demand. The demand charges in RP&L's monthly power bills from IMPA are billed on a monthly coincident peak basis. Likewise, the demand charges billed to IMPA for power sales from RP&L are billed on a monthly coincident peak basis.
- **NCPP** – The demand cost components of distribution poles, distribution substations, and primary distribution lines are allocated on the basis of the maximum class demands for primary and secondary voltage customers.
- **SICD** – The demand cost components of secondary distribution lines and line transformers are allocated on the

- 1 basis of the sum of individual customer demands for
2 secondary voltage customers.
- 3 • **C02** – Customer services are allocated on the basis of the
4 average number of customers for the test year weighted by
5 the cost of services for each type of customer.
 - 6 • **C03** – Meter costs are allocated on the basis of the average
7 number of customers for the test year weighted by the cost
8 of meters for each type of customer.
 - 9 • **YECust04** – Costs associated with street lighting systems
10 were specifically assigned to the street lighting classes of
11 customers.
 - 12 • **C05 and C06** – Meter reading, billing costs and customer
13 service expenses were allocated on the basis of a customer
14 weighting factor based on discussions with RP&L's
15 administrative staff.
 - 16 • **YECust07** – The customer cost component is allocated on
17 the basis of the year-end number of customers taking
18 service at secondary voltage.
 - 19 • **YECust08** – The customer cost component is allocated on

1 the basis of the year-end number of customers taking
2 service at primary and secondary voltage.

- 3 • **YECust09** – Costs associated with customer lighting
4 systems were specifically assigned to the customer lighting
5 class of customers.

6 **Q. IN YOUR COST OF SERVICE MODEL, ONCE COSTS ARE FUNCTIONALLY**
7 **ASSIGNED AND CLASSIFIED, HOW ARE THESE COSTS ALLOCATED TO**
8 **THE CUSTOMER CLASSES?**

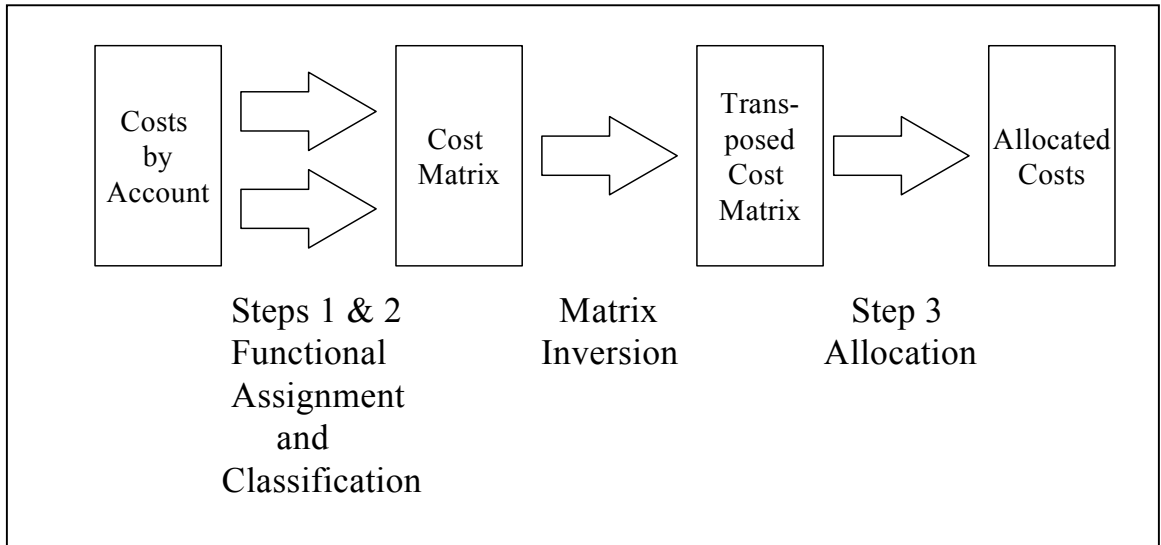
9 A. In the cost of service model used in this study, RP&L's accounting costs are functionally
10 assigned and classified using what are referred to in the model as "functional vectors".
11 These vectors are multiplied (using *scalar multiplication*) by the various accounts in
12 order to simultaneously assign costs to the functional groups and classify costs.
13 Therefore, in the portion of the model included in Exhibit WSS-7, RP&L's accounting
14 costs are functionally assigned and classified using the explicitly determined functional
15 vectors of the analysis and using internally generated functional vectors. The explicitly
16 determined functional vectors, which are primarily used to direct where costs are
17 functionally assigned and classified, are shown on pages 57 through 60. Internally
18 generated functional vectors are utilized throughout the study to functionally assign costs
19 on the basis of similar costs or on the basis of internal cost drivers. The internally
20 generated functional vectors are also shown on pages 57 through 60 of Exhibit WSS-7.

1 An example of this process is the use of payroll expenses (“LBSUB7”) to allocate
2 Account 926 - Employee Benefits. Because pension expenses are associated with
3 employee payroll costs, it is appropriate (and a standard approach in the industry) to
4 functionally assign and classify these costs on the same basis as payroll costs. (See
5 Exhibit WSS-7, pages 29 through 32 for the functional assignment of employee benefits
6 expenses on the basis of LBSUB7 shown on pages 45 through 48.) The functional vector
7 used to allocate a specific cost is identified by the column in the model labeled “Vector”
8 and refers to a vector identified elsewhere in the analysis by the column labeled “Name”.

9 Once costs for all of the major accounts are functionally assigned and classified,
10 the resultant cost matrix for the major cost groupings (e.g., Plant in Service, Rate Base,
11 Operation and Maintenance Expenses) is then transposed and allocated to the customer
12 classes using “allocation vectors” or “allocation factors”. This process is illustrated in
13 Figure 2 below.

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Figure 2

The results of the class allocation step of the cost of service study *on an unadjusted basis* are included in Exhibit WSS-8. The results of the class allocation step of the cost of service study *on a pro-forma or adjusted basis* are included in Exhibit WSS-9. The costs shown in the column labeled "Total System" in Exhibits WSS-8 and WSS-9 were carried forward *from* the functionally assigned and classified costs shown in Exhibit WSS-7. The columns labeled "Ref" in Exhibits WSS-8 and WSS-9 provide a reference to the results included in Exhibit WSS-7.

1 **Q. WHAT METHODOLOGIES ARE COMMONLY USED TO CLASSIFY**
2 **DISTRIBUTION PLANT?**

3 A. Two commonly used methodologies for determining demand/customer splits of
4 distribution plant are the “minimum system” methodology and the “zero-intercept”
5 methodology. In the minimum system approach, “minimum” standard poles, conductors,
6 and line transformers are selected and the minimum system is obtained by pricing all of
7 the applicable distribution facilities at the unit cost of these minimum size facilities. The
8 minimum system determined in this manner is then classified as customer-related and
9 allocated on the basis of the number of customers in each rate class. All costs in excess
10 of the minimum system are classified as demand-related. The theory supporting this
11 approach maintains that in order for a utility to serve even the smallest customer, it would
12 have to install a minimum size system. Therefore, the costs associated with the minimum
13 system are related to the number of customers that are served, instead of the demand
14 imposed by the customers on the system.

15 The zero-intercept methodology was used in RP&L’s cost of service study
16 because it is less subjective than the minimum system approach and is strongly preferred
17 over the minimum system methodology when the necessary data is available. With the
18 zero intercept methodology, we are not forced to choose a minimum size conductor or
19 line transformer to determine the customer component. In the zero-intercept
20 methodology, a zero-size conductor or line transformer is the absolute minimum system.

1 **Q. WHAT IS THE THEORY BEHIND THE ZERO-INTERCEPT**
2 **METHODOLOGY?**

3 A. The theory behind the zero intercept methodology is that there is a linear relationship
4 between the unit cost (\$/ft or \$/transformer) of conductors or line transformers and the
5 load flow capability of the plant, which is proportionate to the cross-sectional area of the
6 conductor or the kVA rating of the transformer. After establishing a linear relation,
7 which is given by the equation:

$$y = a + bx$$

8
9 where:

10 **y** is the unit cost of the conductor or transformer,

11 **x** is the size of the conductor (MCM) or transformer (kVA), and

12 **a, b** are the coefficients representing the

13 intercept and slope, respectively

14
15 it can be determined that, theoretically, the unit cost of a foot of conductor or transformer
16 with zero size (or conductor or transformer with zero load carrying capability) is **a**, the
17 zero intercept. The zero intercept is essentially the cost component of conductor or
18 transformers that is invariant to the size (and load carrying capability) of the plant.

1 Like most electric utilities, the number of line transformers on RP&L's
2 distribution system is not uniformly distributed over all transformer sizes. For
3 example, RP&L has over 1,600 25.0 KVA transformers, but only one 2,300 KVA
4 transformer. For this reason, it was necessary to use a weighted regression
5 analysis, instead of a standard least-squares analysis, in the determination of the
6 zero intercept. Without performing a weighted regression analysis both
7 transformer sizes would have the same impact on the analysis, even though there
8 are over a thousand times more 25.0 KVA transformers than 2,300 KVA
9 transformers.

10 Using a weighted regression analysis, the cost and size of each type of
11 conductor or transformer is, in effect, weighted by the number of feet of installed
12 conductor or the number of transformers. In a weighted regression analysis, the
13 following weighted sum of squared differences

$$\sum_i w_i (y_i - \hat{y}_i)^2$$

14
15 is minimized, where w is the weighting factor for each size of conductor or
16 transformer, and y is the observed value and \hat{y} is the predicted value of the
17 dependent variable.

1 **Q. HAVE YOU PREPARED EXHIBITS SHOWING THE RESULTS OF THE ZERO-**
2 **INTERCEPT ANALYSIS?**

3 A. Yes. The zero-intercept analysis for line transformers is included in Exhibit WSS-10.
4 RP&L did not have the detailed information necessary to perform a zero-intercept
5 analysis for overhead and underground conductors. We attempted to perform a zero-
6 intercept analysis using estimated data, but the R-Square statistics were low and the
7 customer components significantly higher than what we've seen with other distribution
8 systems. Therefore, we developed the customer and demand components for overhead
9 and underground conductors using a panel of zero-intercept results from other utilities.

10 **Q. HAVE YOU PREPARED AN EXHIBIT SHOWING THE DEVELOPMENT OF**
11 **THE DEMAND ALLOCATORS USED IN THE COST OF SERVICE STUDY?**

12 A. Yes. WSS-11 shows the development of the demand allocation factors from RP&L's
13 load research data. RP&L is somewhat remarkable for a municipal utility of its size in
14 that it has an on-going load research program. Most cooperative and municipal utilities
15 the size of RP&L have not implemented a load research program. Having a load research
16 program significantly improves the accuracy of the cost of service study.

17 **Q. PLEASE DESCRIBE EXHIBIT WSS-12.**

18 A. Exhibit WSS-12 shows the development of the allocation factors for meters and services.
19 These allocation factors were developed based the number of customers weighted by the
20 cost of meters and services for each rate class.

1 **Q. DID YOU PREPARE AN EXHIBIT SHOWING THE SEPARATION OF**
2 **DISTRIBUTION LINES BETWEEN PRIMARY AND SECONDARY**
3 **VOLTAGES?**

4 A. Yes. Exhibit WSS-13 shows the results of a study separating overhead and underground
5 conductor between primary and secondary voltages.

6 **Q. PLEASE SUMMARIZE THE RESULTS OF THE ELECTRIC COST OF**
7 **SERVICE STUDY.**

8 A. The following table (Table 1) in my testimony summarizes the rates of return for each
9 customer class before and after reflecting the rate adjustments proposed by RP&L. The
10 Actual Adjusted Rate of Return was calculated by dividing the adjusted net operating
11 income by the adjusted net cost rate base for each customer class. The adjusted net
12 operating income and rate base reflect the pro-forma adjustments shown in Exhibit WSS-
13 3. The Proposed Rate of Return was calculated by dividing the net operating income
14 adjusted for the proposed rate increase by the adjusted net cost rate base.

15

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TABLE 1		
Class Rates of Return		
Customer Class	Actual Adjusted Rate of Return	Proposed Rate of Return
Residential - Rate R	(3.20)%	1.74%
Commercial Lighting Service - Rate CL	(12.23)%	(4.82)%
General Power Service – Rate GP	31.53%	31.54%
Outdoor Lighting Service – Rate OL	(9.34)%	(2.72)%
Industrial Service – Rate IS	0.94%	8.74%
Industrial Service Coincident Peak – Rate IS	(3.23)%	3.93%
Large Power Service – Rate LPS	4.25%	10.63%
Large Power Service Coincident Peak – Rate LPS	(2.75)%	3.01%
General Electric Heating – Rate GEH	13.83%	18.88%
Street and Municipal Lighting – Rates N & M	(2.80)%	(1.40)%
Electric Heating Schools – Rate EHS	10.66%	15.50%
Total System	(0.40)%	5.10%

2

3 **Q. DOES THE COST OF SERVICE STUDY INCLUDE AN ANALYSIS OF THE**
 4 **SUBSIDIES THAT ARE CURRENTLY REFLECTED IN RP&L’S RATES FOR**
 5 **ELECTRIC SERVICE?**

6 **A.** Yes. The rate subsidies at the current rates are derived on pages 23-24 of Exhibit WSS-
 7 9. These subsidies were computed based on a cost of service reflecting a negative 0.40%
 8 rate of return on rate base. Therefore, any customer group with a class rate of return
 9 below negative 0.40% will show that that customer class is currently *receiving* a subsidy,
 10 and any customer group with class rate of return above negative 0.40% will show that

1 that class is currently paying a subsidy. The rate subsidies at the proposed rates are
2 derived on pages of 27-28 of Exhibit WSS-9. Any customer group with a class rate of
3 return below 5.10% will show that that customer class will be receiving a subsidy, and
4 any customer group with class rate of return above 5.10% will show that that class will
5 be paying a subsidy.

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7
8 **IV. ALLOCATION OF THE REVENUE INCREASE AND RATE DESIGN**

9 **Q. HAVE YOU PREPARED AN EXHIBIT RECONSTRUCTING RP&L'S TEST-**
10 **YEAR BILLING UNITS?**

11 A. Yes. In order to develop RP&L's proposed rates it was necessary to reconstruct test-year
12 billing determinants. The reconstruction of RP&L's billing determinants is shown on WSS-
13 14. As shown on page 1 of Exhibit WSS-14, the revenues calculated on pages 2 through 13
14 of that exhibit were within a factor of 0.99934 of RP&L's actual revenues, thus confirming
15 the accuracy of the test period billing units.

16 **Q. AFTER CONSIDERING ALL OF THE REQUIRED PRO-FORMA**
17 **ADJUSTMENTS, WHAT IS THE PROPOSED INCREASE IN REVENUES AND**
18 **HOW IS THE INCREASE APPORTIONED TO THE INDIVIDUAL CUSTOMER**
19 **CLASSES?**

20 A. In this filing, RP&L is proposing to increase its annual revenues by \$3,501,421. Exhibit
21 WSS-15 shows that the proposed increase would result in an increase of 7.85% in total

1 operating revenue (and 7.83% in sales to ultimate consumers). In addition to requesting an
 2 increase in electric service rates, RP&L is also proposing to increase its reconnection charge,
 3 thus resulting in an increase in miscellaneous revenue.

4 The proposed rates apportion the revenue increase among the customer classes as
 5 shown in Table 2 below:
 6

TABLE 2		
Proposed Revenue Increase		
Customer Class	Proposed Increase	Percentage
Residential - Rate R	\$ 1,183,849	10.0%
Commercial Lighting Service - Rate CL	\$ 486,785	20.00%
General Power Service – Rate GP	\$ 265	0.01%
Outdoor Lighting Service – Rate OL	\$ 38,040	19.96%
Industrial Service – Rate IS	\$ 199,187	7.03%
Industrial Service Coincident Peak – Rate IS	\$ 753,423	7.05%
Large Power Service – Rate LPS	\$ 724,573	7.04%
Large Power Service Coincident Peak – Rate LPS	\$ 48,143	7.05%
General Electric Heating – Rate GEH	\$ 14,640	5.04%
Street Lighting Service – Rate N	\$ 2,778	5.00%
Municipal Street Lighting Service – Rate M	\$ 33,587	5.04%
Electric Heating Schools – Rate EHS	\$ 7,616	5.00%
Total Sales to Ultimate Consumers	\$ 3,492,886	7.83%

7
 8 As shown on Exhibit WSS-16, pages 1-12, the increase in revenues for each rate class was
 9 determined by applying both the current and proposed charges to the adjusted billing
 10 determinants.

1 **Q. WHAT WAS THE BASIC UNDERLYING INFORMATION THAT SUPPORTED**
2 **THE PROPOSED ALLOCATION OF THE REVENUE REQUIREMENT**
3 **AMONG RP&L'S RATE CLASSES?**

4 A. The cost of service study provided information measuring the extent to which the revenues
5 generated by each customer class contribute to the overall return earned by RP&L. As
6 shown on Table 1, the cost of service study indicated that the individual class rates of return
7 ranged between -12.23% and 31.53%, as compared to an overall adjusted actual return on
8 rate base of -0.40%, with Rate CL being the lowest at -12.23% and Rate GP being the
9 highest at 31.53%. This indicates a need to increase the revenues collected from some
10 classes more than others.

11 **Q. WHAT WERE THE RATEMAKING OBJECTIVES IN DEVELOPING THE**
12 **PROPOSED RATES?**

13 A. In general, we tried to develop rates that more closely reflect the cost of providing service.
14 One of our key objectives was to bring the rates of return more in line by allocating
15 relatively more of the revenue increase to the customer classes indicating low rates of return
16 and allocating relatively less of the revenue increase to the customer classes indicating high
17 rates of return. We chose not to decrease the rates to any class even though certain customer
18 classes may indicate high rates of return. For example, the cost of service study indicated a
19 rate of return for General Power – Rate GP of 31.53%. Therefore, for this class, we
20 developed rates that were essentially revenue neutral. On the other extreme, we mitigated

1 the level of increases to classes with low rates of return. For example, a higher increase
2 could have been supported for the residential and small commercial classes, but to avoid rate
3 shock we capped the increases to these classes at 10% and 20%, respectively.

4 Another key objective was to bring the unit charges more in line with the unit costs
5 derived from the cost of service study. RP&L's rates consist of both two-part rates,
6 consisting of a customer charge and energy charge, and three-part rates, consisting of a
7 customer charge, energy charge and demand charge. Thus, we developed rates that moved
8 these charges toward the unit costs indicated by the cost of service study.

9 **Q. DOES RP&L HAVE A PURCHASED POWER COST ADJUSTMENT?**

10 A. Yes. RP&L has a purchased power cost adjustment that accounts for changes in its
11 purchased power costs from IMPA. The purchased power cost adjustment is computed
12 against a base power cost. With this filing, we are rolling test-year purchased power costs
13 into base rates. Therefore, when the rates go into effect, a new base power cost will be used
14 to determine the purchased power cost adjustment.

15 **Q. IS RP&L PROPOSING ANY CHANGES TO THE PURCHASED POWER COST
16 ADJUSTMENT MECHANISM?**

17 A. No. We are simply rolling test-year purchased power cost in base rates and resetting the
18 base purchased power costs used to apply the purchased power cost adjustment. We are not
19 proposing to change the way that the mechanism operates.

1 **Q. WHAT IS THE PROPOSED REVENUE INCREASE FOR RESIDENTIAL –**
2 **RATE R?**

3 A. RP&L is proposing a revenue increase of \$1,183,849, or 10.0%, for the residential rate class.
4 To eliminate all subsidies to the residential class and produce an overall return on rate base
5 of 5.10%, an increase of \$1,967,315, or 16.62%, would have been required. In recognition
6 of the principles of gradualism, rate continuity and customer acceptance, the residential
7 increase was limited to 10.0%.

8 **Q. IS RP&L PROPOSING TO BRING THE RESIDENTIAL CHARGES MORE IN**
9 **LINE WITH THE UNIT COSTS SHOWN IN COST OF SERVICE STUDY?**

10 A. Yes. We are proposing to increase the monthly residential facilities charge from \$6.50 to
11 \$10.00 to bring it more in line with the cost of providing service. The cost of service study
12 indicates that the customer cost for the residential class is \$18.54 per customer per month.
13 Therefore, we are proposing to increase the customer charge to a level representing only
14 54% of the cost of providing service. This proposal thus represents a reasonable increase.

15 **Q. WHAT IS THE PROPOSED REVENUE INCREASE FOR COMMERCIAL**
16 **LIGHTING SERVICE – RATE CL?**

17 A. RP&L is proposing a revenue increase of \$486,785, or 20.0%, for Rate CL. The cost of
18 service study indicates that the rate of return for this class is -12.23%, the lowest in the study.

19 To eliminate all subsidies to Rate CL and produce an overall return on rate base of

1 5.10%, an increase of \$1,122,210, or 46.12%, would have been required. We therefore
2 capped the increase at 20%.

3 **Q. IS RP&L PROPOSING TO BRING THE CHARGES FOR RATE CL MORE IN**
4 **LINE WITH THE UNIT COSTS SHOWN IN COST OF SERVICE STUDY?**

5 A. Yes. We are proposing to increase the monthly facilities charge from \$8.00 to \$17.50 to
6 bring it more in line with the cost of providing service. The cost of service study indicates
7 that the customer cost for Rate CL is \$20.16 per customer per month.

8 **Q. ARE YOU PROPOSING TO INCREASE THE RATES FOR GENERAL POWER**
9 **– RATE GP?**

10 A. The charges for Rate GP were designed to be revenue neutral. The cost of service study
11 indicates that the rate of return for Rate GP is 31.53%, the highest rate of return in the study.
12 With its rate of return at 31.53%, a rate increase for Rate GP cannot be justified. By not
13 increasing the rates for this class, RP&L is taking a gradual approach for bringing Rate GP
14 more in line with the cost of providing service. Although the proposed charges for Rate GP
15 are designed to be revenue neutral, the unit charges have been adjusted to reflect the roll-in
16 of purchased power costs into base rates.

17 **Q. WHAT IS THE PROPOSED REVENUE INCREASE FOR OUTDOOR**
18 **LIGHTING SERVICE – RATE OL?**

19 A. RP&L is proposing a revenue increase of \$38,040, or 19.96%, for Rate OL. The cost of
20 service study indicates that the rate of return for this class is -9.34%, the second lowest in the

1 study. To eliminate all subsidies to Rate OL and produce an overall return on rate base of
2 5.10%, an increase of \$81,726, or 42.89%, would have been required. We therefore capped
3 the increase at approximately 20%. In developing the individual lighting charges, we
4 applied the same percentage increase to each type of light.

5 **Q. PLEASE DESCRIBE RP&L'S LARGE POWER RATES AND THE PROPOSED**
6 **CHANGES TO THESE RATES.**

7 A. RP&L has four large power rates – (i) Industrial Service – Rate IS, (ii) Industrial Service –
8 Rate IS Coincident Peak, (iii) Large Power Service – Rate LPS; and (iv) Large Power
9 Service – Rate LPS Coincident Peak. Rate IS is predicated on customers taking service at
10 primary voltage and Rate LPS is predicated on customers taking service at secondary
11 voltage. The coincident peak rates are currently offered on an experimental basis, with
12 customers billed on the lower of either the experimental coincident peak rate or the standard
13 rate. The reason that RP&L incorporated the provision to bill customers under the lower of
14 the two rates was to eliminate risks to customers in order to encourage them to try the
15 experimental rate. Because the rate schedule has been in place for a number of years, and
16 appears to be suitable for certain large industrial customers, it is no longer necessary to
17 continue to offer the rate on an experimental basis. RP&L is proposing to continue to offer
18 the coincident peak rate on an optional basis, but to modify the rate so customers would no
19 longer be billed under the lower of the two rates. RP&L is also proposing to modify the

1 tariff so that if a customer chooses to take service under the optional coincident peak rate
2 then the customer must remain on the rate schedule for at least 12 months.

3 RP&L is proposing to increase all four large power rates by approximately 7.0%.
4 Specifically, Industrial Service – Rate IS would be increased by \$199,187 or 7.03%;
5 Industrial Service – Rate IS Coincident Peak would be increased by \$753,423 or 7.05%;
6 Large Power Service – Rate LPS would be increased by \$724,573 or 7.04%; and Large
7 Power Service – Rate LPS Coincident Peak would be increased by \$48,143 or 7.05%. The
8 energy charges would be increased and the demand charges decreased to reflect the unit
9 charges shown in the cost of service study.

10 We also proposing to modify the late payment provisions of Rate IS, Rate IS
11 Coincident Peak, and Rate LPS Coincident Peak so that they will be the same as RP&L's
12 other rate schedules. Rate R, Rate CL, Rate GP, Rate LPS and other rate schedules include
13 a late payment charge of 3% of all bills if the current bill is not paid by the due date indicated
14 on the bill. Rate IS currently provides that interest at 10% per annum would be charged
15 from the due date to the date of payment on all bills not paid in full by the due date. Rate IS
16 Coincident Peak and Rate LPS Coincident Peak currently do not contain late payment
17 charges. RP&L is thus proposing to conform the late payment charges in Rate IS, Rate IS
18 Coincident Peak, and Rate LPS Coincident Peak to the late payment charges included in
19 RP&L's other rate schedules.

1 Additionally, RP&L is proposing to modify the power factor provisions included in
2 Rate IS Coincident Peak and Rate LPS Coincident Peak to reflect a 96% base power factor
3 rather than the current 95% base power factor. The 96% power factor corresponds to the
4 base power factor used to compute the power factor penalty in IMPA's wholesale power
5 rate.

6 **Q. WHAT ARE THE PROPOSED REVENUE INCREASES FOR THE OTHER**
7 **RATE CLASSES?**

8 A. RP&L is proposing to increase the revenue to the other rate classes by approximately 5.0%.
9 These rates include: Street Lighting Service – Rate N; Municipal Street Lighting Service –
10 Rate M; General Electric Heating Service – Rate GEH; and Electric Heating Schools – Rate
11 EHS. RP&L is not proposing any fundamental rate design changes to these schedules.

12 **Q. IS RP&L PROPOSING ANY NEW RATE SCHEDULES?**

13 A. Yes. RP&L is proposing new rates schedules for large power transmission voltage
14 customers. The service will be offered on both a non-coincident and coincident peak
15 basis. The charges for Industrial Transmission Service – Rate ITS and Industrial
16 Transmission Service Rate ITS Coincident Peak correspond to the respective Rate IS
17 rates schedules, except that distribution fixed costs have not been included in the demand
18 charges. More specifically, the demand charges for Rate ITS and Rate ITS Coincident
19 Peak include a fixed transmission cost component of \$0.71 per kW per month but do not

1 include any fixed distribution demand costs. The \$0.71 per kW transmission demand
2 component was derived from the cost of service study. (See page 34 of Exhibit WSS-9.)

3 RP&L is also proposing a rate schedule that would allow the utility to offer
4 special contracts to non-standard or specialized customer requests for electric services or
5 to meet competitive forces in the market for energy services. A similar rate schedule was
6 approved by the Indiana Utility Regulatory Commission for Indianapolis Power & Light
7 Company.

8 **Q. IS RP&L PROPOSING TO MODIFY ANY OF ITS NON-RECURRING**
9 **CHARGES?**

10 A. Yes. RP&L is proposing to increase its reconnection charges by \$5.00 per reconnect, as
11 follows:

TABLE 3		
Proposed Reconnection Fees		
Reconnection Fee	Current Charge	Proposed Charge

Reconnection Fee	Current Charge	Proposed Charge
At Meter 8 AM-5 PM	\$25.00	\$30.00
At Pole 8 AM-5 PM	\$45.00	\$50.00
After Normal Hours	\$65.00	\$70.00

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The \$5.00 increase was determined based on an analysis of labor and transportation costs involved in performing reconnections. The cost of disconnecting service was not included in the charge; therefore the charge is conservative. Furthermore, RP&L is proposing charges that are less than the actual cost of reconnecting service. These cost estimates are included in Exhibit WSS-17. RP&L is also proposing a \$15.00 charge for all same-day connections (excluding reconnects related to non-payments) requested after 12:30 PM. Given the special attention and effort required to perform same-day connections that are requested late in the business day, a \$15.00 charge is clearly reasonable.

Q. HAVE YOU PREPARED AN EXHIBIT SHOWING RP&L'S COMPLETE TARIFF REFLECTING THE PROPOSED RATES?

A. Yes. Exhibit WSS-18 is RP&L's tariff showing the proposed rates.

1 **Q. HAVE YOU PREPARED A RED-LINED VERSION OF THE TARIFF SHOWING**
2 **THE CHANGES TO THE CURRENT TARIFF?**

3 A. Yes. A red-lined version showing the changes to the current tariff is included in Exhibit
4 WSS-19.

5 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

6 A. Yes, it does.