BEFORE THE

PUBLIC UTILITIES COMMISSION OF OHIO

THE DAYTON POWER AND LIGHT COMPANY

CASE NO. 19-0162-EL-RDR

DIRECT TESTIMONY OF

R. JEFFREY MALINAK

PUBLIC VERSION

- ☐ MANAGEMENT POLICIES, PRACTICES, AND ORGANIZATION
- ☐ OPERATING INCOME
- ☐ RATE BASE
- ☐ ALLOCATIONS
- ☐ RATE OF RETURN
- ☐ RATES AND TARIFFS
- ■ OTHER

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is R. Jeffrey Malinak. I am currently a Managing Principal in the Washington, D.C. office of Analysis Group, Inc., a national economic and financial consulting services firm. My business address is 800 17th Street NW, Washington, DC 20006.

Q. What is your educational and work background?

A. I have over 25 years of experience in the field of economic and financial consulting, in which I have provided microeconomic, finance, and accounting consulting advice and other services to attorneys and companies in both litigation and non-litigation settings. My main areas of expertise are financial economics and valuation of corporations and other assets. I spent approximately seven years of my career at Putnam, Hayes & Bartlett, Inc. (PHB), an economic and financial consulting firm with large consulting practices in the energy industry and other regulated industries. While at PHB, approximately half of my time was spent on litigation matters and regulatory proceedings, including rate cases, in the electric utility and energy sectors. My work on these matters included revenue requirements modeling; analysis of the economics of coal mining and transportation; analysis of the operations and economics of nuclear, coal, wood scrap, and natural gas power plants; forecasting of load and related generation capacity requirements; assessment of the cost of capital for generation and for transmission and distribution (both electric and natural gas); calculation of the cost of compliance with environmental regulations; modeling and forecasting of emission allowance prices; and other topics.

1 Since joining Analysis Group in the mid-1990s, I have continued to work on projects in
2 the energy and environmental economics areas, including regulatory matters.

3 I hold a Master's in Business Administration in Finance and Accounting from the
4 University of Texas at Austin and a B.A. in Social Sciences from Stanford University.
5 My resume, which is included as Appendix A, provides more details on my background
6 and prior experience.

7 **Q. Have you previously testified before the Public Utilities Commission of Ohio?**

8 A. Yes, I testified on behalf of The Dayton Power & Light Company ("DP&L") in PUCO
9 Case Nos. 12-426-EL-SSO, et al. and 16-0395-EL-SSO, et al.

10 **Q. What were the main conclusions that you reached in the Direct Testimony you filed**
11 **on October 31, 2016 in Case No. 16-395-EL-SSO, et al.?**

12 A. In that testimony I concluded that the Company's proposal for a $145 million annual
13 Distribution Modernization Rider ("DMR") for seven years (2017 through 2023) would
14 allow DP&L and DPL Inc. ("DPL," together with DP&L the "Company") to improve
15 their financial condition, which would "significantly reduce the risk of negative effects
16 on DP&L and the customers it serves due to the weakened financial condition or financial
17 integrity" of DP&L or DPL.[1] Further, I concluded that the proposed Electric Security
18 Plan ("ESP"), including the seven-year, $145 million annual DMR, would be more
19 favorable in the aggregate to customers than a Market Rate Offer ("MRO"). That
20 favorability opinion was based in significant part on the fact that DPL and DP&L needed

[1] Direct Testimony of R. Jeffrey Malinak, Public Utility Commission of Ohio, Case Nos., 16-0395-EL-SSO, 16-0395-EL-ATA, 16-0395-EL-AAM, October 31, 2016, at 9, 11.

1 the DMR to allow them to finance grid modernization, in addition to helping them to
2 avoid financial distress.

3 **Q. Did you file any other testimony related to a proposed DMR or financial integrity**
4 **charge?**

5 A. Yes. I filed testimony in support of an Amended Stipulation and Recommendation ("ESP
6 III Stipulation") on March 22, 2017. The Company, Staff, and various intervenors agreed
7 to the ESP III Stipulation, including a $105 million DMR. The terms of this ESP III
8 Stipulation provided that DP&L would implement the DMR for years one through three
9 of the ESP, to be used to service debt issued by DP&L or DPL, or to maintain and
10 modernize DP&L's transmission and distribution infrastructure.[2] The Order approving
11 the ESP III Stipulation provides that DP&L can apply for a two-year extension of the
12 DMR in an amount to be determined in a future rate case by filing an application and
13 support in a separate docket.[3]

14 **Q. Please describe the primary conclusions you reached in that testimony.**

15 A. Based on my analysis of both quantitative and qualitative factors, I concluded that the
16 ESP III Stipulation was more favorable in the aggregate for DP&L's customers than a
17 MRO. Specifically, the ESP III Stipulation offered quantifiable customer benefits of at
18 least $11.5 million that would not have been available under a MRO. In addition, the ESP
19 III Stipulation offered significant non-quantifiable or difficult-to-quantify customer
20 benefits derived from more rapid and robust grid modernization, commitments from AES

[2] Public Utilities Commission of Ohio, Case Nos. 16-395-EL-SSO, et al., Opinion and Order, Oct. 20, 2017, at 6.
[3] Public Utilities Commission of Ohio, Case Nos. 16-395-EL-SSO, et al., Opinion and Order, Oct. 20, 2017, at 6.

1 regarding dividends and tax payments (including an agreement to convert DPL's AES tax
2 liability into equity), and improved financial health of both DP&L and DPL, relative to a
3 MRO in which a financial integrity charge similar to the DMR was not included. Indeed,
4 without the non-bypassable DMR financial integrity charge and the Reconciliation Rider
5 included in the ESP III Stipulation, I determined that DPL's indicated credit ratings
6 would be firmly in the non-investment grade, or "junk" category, even leaving aside the
7 negative impact of certain generation-related charges on DPL's consolidated equity. Due
8 to the lower revenues and cash flows at DP&L without the DMR, and because DP&L and
9 DPL are linked financially, DP&L's credit rating also would have been at risk of
10 downgrade, potentially to below investment grade. Conversely, I projected that, with the
11 DMR and Reconciliation Rider, DPL's and DP&L's indicated credit ratings likely would
12 be maintained or possibly improve.

13 **Q. What did you assume in your prior testimony about the duration of the DMR?**

14 In my analysis, I assumed that the DMR under the ESP III Stipulation would be extended
15 for two years, at the same level ($105 million per year).

16 **Q. Please summarize any relevant, significant financial events at DP&L and DPL since**
17 **you filed testimony in March 2017.**

18 A. One of the most important changes at DPL and DP&L since March 2017 is the
19 completion of the planned divestiture of the Companies' interests in several coal-fired
20 generation stations, as well as their gas and oil-fired peaking units, and the use of the
21 sales proceeds to pay down debt. This restructuring has had the expected effect of
22 lowering the financial risk of DP&L by making it effectively a pure transmission and

distribution utility. Furthermore, DPL and DP&L reduced their debt levels, which had a positive effect on their financial health, all else equal. As a result of these and other changes, DPL and DP&L's debt ratings have risen from Ba3 and Baa3, respectively, in August 2016, with a negative outlook, to current ratings of Ba1 and Baa2, respectively, with a positive or stable outlook.[4] These improvements represent increases of two notches and one notch, respectively.[5]

Q. Have there been any changes to the actual and projected cash flows during the ESP term for DPL and DP&L, relative to the cash flows that you used in your prior testimony?

A. Yes. As discussed by Witness Garavaglia, a number of factors have changed, which collectively translate to [redacted] in cash flow during the 2017-2022 period than originally projected.[6]

DP&L incurred a delay in implementing new distribution rates and a reduction in the projected distribution rates that have reduced revenues by [redacted] in 2017 and 2018. These reduced distribution rates also decrease distribution revenue from 2019 through 2022, offset primarily by the implementation of various mechanisms approved in the ESP III Stipulation for a total net revenue [redacted] over the period.[7] Distribution-related expenses were [redacted], while capital expenditures [redacted], due primarily to the grid modernization initiatives.

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[4] See Exhibit RJM-6.
[5] One reason for these upgrades was that Moody's switched DPL and DP&L to its lower risk regulated grid due to DP&L's divestiture of most of its generating assets. Moody's Investors Service, "Rating Action: Moody's Affirms Ratings of DPL and DP&L; Changes Outlooks to Positive," October 31, 2017, at 1.
[6] Direct Testimony of Gustavo Garavaglia, January 22, 2019, ("Garavaglia Direct Testimony"), at 10-13.
[7] Revenue and expense figures provided above exclude the effect of the [redacted] in matching revenues and expenses related to pass-through items.

Changes to the transmission business include [redacted] of capital expenditures.

In addition to the above changes, the Company received net cash proceeds of [redacted] from the sale of generating assets, [redacted].

Q. What is the scope of your testimony in this proceeding?

A. I have analyzed the financial condition and integrity of DP&L and its parent holding company, DPL, with and without a two-year extension of the DMR ("DMR-E"), a non-bypassable financial integrity and grid modernization charge. Further, I have been asked to determine the minimum amount for the DMR-E that would put DP&L in a financial position to be able to finance at reasonable cost a projected [redacted] investment in the modernization of its grid,[8] as well as to return to a level of financial health in the long run that is consistent with DP&L's industry peers. Finally, I have been asked to opine on whether the approval of the proposed DMR-E is more beneficial for DP&L's customers than a denial of the DMR-E.

Q. What is the time period covered by your testimony in this proceeding, and why?

A. My testimony discusses projected financial results for DPL and DP&L for ten years, from January 2019 through December 2028. This period is of sufficient length to incorporate

[8] On December 21, 2018, DP&L filed its Application for Approval of Its Plan to Modernize Its Distribution Grid (Case Nos. 18-1875-EL-GRD; et al.). DP&L's Distribution Modernization Plan ("DMP") is described in broad terms in the Application. The [redacted] of capital investment referenced here is the portion of the total $576 million that will be incurred between 2019 and 2028, according to the DMP proposal.

most of the DMP investment and, by 2028, to reach close to the maximum annual revenue from the DMP. Using these data, I have analyzed two scenarios based on different assumptions regarding the DMR-E. Both scenarios assume that DP&L attempts to finance and complete its DMP.[9] These scenarios, which are described and explained more fully later in my testimony, include different sub-periods depending on the DMR-E scenario. Briefly, the scenarios I have analyzed are as follows:

1. Without DMR-E: Assumes that no DMR-E is [redacted] in this case but that DP&L nevertheless attempts to finance a [redacted] investment in the DMP from 2020 through 2028. This scenario results in three distinct sub-periods: 2019 through 2020, when the remaining revenue from the DMR equal to $105 million annually will be collected through October 2020; 2021 through 2025, when there are significant capital expenditures, including expenditures on the DMP, but the DMR-E is set to zero; and 2026 through 2028, when capital expenditures moderate and the benefits of prior investments result in higher revenue, including an annual average of [redacted] from the DMP investments.

2. With DMR-E: Assumes that a DMR-E is approved that results in a Cash Flow from Operations before Working Capital ("Cash Flow" or "FFO")-to-debt ratio of [redacted] by 2028 for the (consolidated) holding company, DPL, and that DP&L finances and executes the proposed DMP starting in 2020. The [redacted] *Cash Flow / Debt* ratio makes it likely that DPL will be able to achieve a sustainable [redacted] credit rating from Moody's by the end of

[9] On December 21, 2018, DP&L filed its Application for Approval of Its Plan to Modernize Its Distribution Grid (Case Nos. 18-1875-EL-GRD; et al.). DP&L's Distribution Modernization Plan ("DMP") is described in broad terms in the Application.

the projection period, while DP&L's credit rating is likely to [redacted] for the entire period.[10] While [redacted], the level of financial health represented by these credit ratings is more in line with the level of financial health of the Company's industry peers, who tend to have [redacted]. Like the Without DMR-E Scenario, the With DMR-E Scenario also results in three distinct sub-periods, except the first sub-period extends from 2019 through 2022 and includes revenues from the proposed DMR-E from November 2020 through October 2022. Due to the DMR-E, DPL and DP&L's financial results in the middle period of this scenario are significantly improved relative to their results in the middle period of the Without DMR-E Scenario.

II. SUMMARY OF MAIN CONCLUSIONS

Q. Please summarize the main conclusions that you have reached regarding a DMR-E through October 2022.

A. I have reached two main conclusions. First, my analysis of the projected financial results for DPL and DP&L with and without a DMR-E indicates that an annual DMR-E of at least $199 million will be required for two years beginning in November 2020 in order for DPL and DP&L to avoid financial distress and significant rating downgrades, and ultimately to return to a level of financial health that is consistent with the level of their industry peers. This finding is supported by other information including the commentary

[10] DPL's current senior unsecured credit rating ("Ba1") is one notch below investment grade according to Moody's and is at the lowest investment grade rating (i.e., equivalent to at least "Baa3" in the Moody's system) according to Standard & Poor's ("S&P") and Fitch. DP&L's current credit ratings are investment grade according to all three agencies.

in credit rating agency reports, in addition to my own financial analysis. Without the additional revenue from the DMR-E, DPL's credit rating would be downgraded and the Company would [redacted].[11] DP&L's financial health also would deteriorate to a level that would cause its debt to be downgraded, probably to [redacted] for many years of the forecast period. [redacted]. This latter course of action likely would be difficult or impossible. Thus, the financing and completion of the proposed DMP likely would not be realistic.

Second, based on these results and other data and analysis, I conclude that a DMR-E equal to at least $199 million is more beneficial for DP&L's customers than a zero or significantly lower DMR-E.

Q. Why is the DMR-E you have determined in this testimony higher than the existing $105 million DMR, as well as the $145 million DMR that you calculated in your October 16, 2016 testimony?

A. As an initial matter, it is important to recognize that the $145 million charge extended for seven years, resulting in a cumulative nominal charge of over $1 billion. The current DMR is only $105 million for three years, or $315 million in total. The two-year $199

[11] Garavaglia Direct Testimony, at 15.

1 million DMR-E that I have calculated in this case adds another $398 million to $315
2 million for a total of $713 million. Thus, the DMR-E plus the approved DMR in total is
3 still below the total charge that I originally calculated.

4 However, as described earlier, DPL's current underlying projected net cash flows from
5 operations (i.e., excluding any revenues from the DMR or a DMR-E) are significantly
6 lower than was projected in my previous models for 2019 to 2023. While debt also is
7 lower now, the current ratio of underlying non-DMR operating cash flow to debt for DPL
8 is significantly lower than in my previous projections, due to the fact that operating cash
9 flow has declined to a greater extent than debt. This lower ratio indicates that DPL has a
10 significantly reduced ability to meet its financial obligations and maintain integrity
11 without the DMR or a DMR-E. All else equal, these lower projected operating cash flows
12 relative to debt mean a higher non-bypassable charge will be necessary to reach the
13 required level of financial health and integrity.

14 **Q. Please expand on the bases for your conclusion that a DMR-E of at least $199**
15 **million is more beneficial for customers than a zero or significantly lower DMR-E.**

16 A. In order to provide the safe and reliable service that their customers desire, utilities must
17 make large capital investments in long-lived assets, such as those required for DP&L's
18 proposed DMP. Such investments are inherently risky because they are highly technical
19 and their economic justification depends on long-term forecasts of economic and
20 technological variables that may or may not be realized. This investment risk is typically
21 shared by investors and customers through the regulatory process. In order to make such
22 investments on behalf of their customers, utilities must have ready access to capital at

reasonable costs. Thus, a financially strong utility is highly beneficial for its customers, both directly through a lower cost of capital that will be passed along in rates, and indirectly through the utility's ability to invest in robust and modern infrastructure in a timely fashion.

Q. Are the economic benefits to customers of having a financially strong utility supported by empirical evidence?

A. Yes. Credit rating data show that utility holding companies (e.g., DPL), transmission and distribution utilities (e.g., DP&L), and their regulators choose to maintain midrange investment grade credit ratings (Baa1 or higher) for such companies. Economic theory and empirical evidence suggest that these firms' management (on behalf of shareholders) and regulators (on behalf of customers and broader public policy objectives) would not make this choice unless the economic benefits of a midrange investment grade credit rating outweigh the costs. Such costs include the economic cost of maintaining higher profit margins, more liquid assets, or less debt than the firm would otherwise maintain without the constraint of the requirement to maintain a higher debt rating. A higher midrange credit rating is an indicator of greater financial strength, the benefits of which ultimately accrue to customers, as discussed above.

In addition to the credit rating data, I also examined capital expenditures per retail MWh and retail customer for a sample of transmission and distribution utilities and found that such expenditures were generally lower for utilities with lower ratings. This result indicates that higher-rated utilities are more likely to make larger and more timely capital

investments. All else equal, such investments enhance the quality of service provided to customers.

Q. Please describe further what would happen to DPL and DP&L's financial health and credit metrics without the proposed DMR-E.

A. Without the proposed $199 million DMR-E, DPL and DP&L will suffer significant financial stress beginning in 2020 when the existing three-year DMR expires. [redacted].

[12] EBITDA is Earnings Before Interest, Taxes, Depreciation, and Amortization.

[13] [redacted]

Q. Why have you proposed a DMR-E that still results in [redacted]?

A. My approach is to calculate a DMR-E that is large enough so that [redacted] by the end of the projection period, while DP&L [redacted] throughout. I set the model's financing and dividend assumptions in order to minimize the DMR-E subject to these minimum financial integrity constraints. As a result, DPL is projected to experience [redacted].

Of course, a DMR-E larger than $199 million would reduce or eliminate the need for [redacted]. It is important to note that a key factor driving the size of the DMR-E is that it lasts for only two years (November 2020 through October 2022). As a result, it has a major impact on certain key income-based rating agency credit metrics, such as *Debt / EBITDA* or *Cash Flow / Debt*, for only those two years. A significant DMR-E is required, therefore, to allow for sufficient debt reduction to keep these ratios at a level

that will reduce the risk of a downgrade in 2023 and 2024, while providing DP&L with the ability to finance the DMP capital expenditures at a reasonable cost.

In sum, based on my projections, a DMR-E of at least $199 million is required to avoid financial distress and ratings downgrades at DPL and DP&L, while also providing a bridge to the years when the proposed DMP revenues and profits will help to ensure the long-term financial health of DPL and DP&L. Furthermore, DPL will not [redacted] and should be able to refinance its long term debt, thereby avoiding significant liquidity issues. In addition, [redacted]. However, if the Company achieves the projections, it is my opinion that Moody's (and the other credit rating agencies) actually would assign a [redacted] to DPL's debt [redacted], and that [redacted] likely would be sustainable. The reasons for this opinion include the following:

- In 2028, DPL's *Cash Flow / Debt* ratio is projected to be at least [redacted].

- Though Moody's currently has DPL's credit rating at one notch below investment grade, both S&P and Fitch currently have its rating one notch higher, at the low end of investment grade. This suggests that the model that I employ based on the Moody's criteria and methodology may be conservative.

- DPL's various key financial metrics are projected to be significantly improved by 2028 compared to the values I project at the end of 2019. In addition, all of these

ratios are projected to start improving beginning in 2023 and going through 2028, with the potential to improve further. Given that the rating agencies look at both current and future data, this higher values and projected upward trend of DPL's financial metrics are a positive factor that supports [redacted].

- I have assumed conservatively that Moody's would hold its qualitative regulatory factors constant if the DMR-E is approved. If Moody's were to upgrade those factors, which seems quite possible, it could lead to [redacted].

- In order to determine its actual assigned rating, Moody's applies a negative "notching" adjustment to DPL's grid-indicated rating for the fact that it is "structurally subordinated" to DP&L. Over time, it has reduced that negative adjustment from -3 notches to -2 notches, which I still apply in 2028. If Moody's were to reduce this adjustment further to -1 notch in 2028 due to DPL and DP&L's projected improved financial position, my model would produce an [redacted] for DPL.

DP&L's credit rating is projected to remain at a [redacted] level throughout the projection period, even under my conservative assumption that Moody's will not adjust DP&L's qualitative regulatory ratings upwards following approval of the DMR-E.

These credit ratings and financial condition for both entities are the targeted results that will cause DPL and DP&L's projected financial health to be more in line with that of

their peers, [redacted].

Q. Is it your opinion that approval of the $199 million DMR-E is, on a net basis, beneficial for customers?

A. Yes. While the DMR-E will increase rates by a total of $398 million over two years relative to the scenario without a DMR-E, my projections show that a $199 million annual DMR-E will allow DPL and DP&L to avoid financial distress and ultimately return to a level of financial health ([redacted]) that is more consistent with that of their peers. As a result, DP&L's customers will derive substantial benefits from having a financially strong utility, as well as the economic benefits of the DMP. In stark contrast, without the DMR-E, both DPL and DP&L will suffer financial distress, and DPL will suffer extreme distress. In that case, not only will customers lose the benefit of having a financially strong utility, they will incur the costs of having a utility in financial distress, including distracted management, reduced investment, potential impairment of DP&L's ability to provide safe and reliable service, and sub-par or no grid modernization.

Indeed, without the proposed DMR-E, it will be difficult or impossible for DP&L to finance and complete its proposed DMP. The potential customer benefits from such investments, including investments in "smart grid" technology, have been well-described and documented. Based on publicly available data, utilities have invested over $18 billion in grid modernization projects between 2010 and 2013 and are estimated to have invested

over $32 billion over the 10-year period between 2008 and 2017, including at least $111 million by Ohio utilities.[14]

My analysis also shows that a number of these projects, including those in Ohio, were financed in part by taxpayer subsidies, including grants supplied through the federal stimulus package following the 2008 financial crisis. In fact, DP&L withdrew a grid modernization application when it failed to receive stimulus funding. These facts suggest that grid modernization and other transmission and distribution investments are seen as benefiting customers and will not necessarily be undertaken without public support to encourage the financial investment. These findings provide additional support for my opinion that approval of the $199 million DMR-E is reasonable and would provide a net benefit to customers, in addition to the clear net benefits that customers receive from avoiding financial distress and having a financially strong utility.

Q. Please identify any exhibits attached to your testimony.

A. My testimony is supported by the following exhibits:

- Exhibit RJM-1 summarizes debt at the Company;
- Exhibits RJM-2 through 4 compare the current projections to October 2016 projections and historical data;
- Exhibits RJM-5 and 6 provide the grid Moody's uses to assess the financial metrics in its ratings model and summarize historical Moody's ratings, respectively;

[14] EEI Summary of State Regulatory Smart Grid Decisions, August 2011, available at http://smartgrid.eei.org/Toolkit/2011-12-27-eei-state%20regulation-chart.pdf. *See also*, https://www.smartgrid.gov/project/duke_energy_business_services_smart_grid_deployment.html.

- Exhibits RJM-7 through 13 provide details on the No DMR-E Scenario as follows:
  - RJM-7 and 8 provide projected credit ratings for DPL and DP&L, respectively
  - RJM-9 summarizes the Company's debt activity
  - RJM-10 and 11 summarize key financial data for DPL and DP&L from the detailed financial statements (RJM-12 and 13); and
- Exhibits RJM-14 through 20 parallel Exhibits RJM-7 through 13 for the With DMR-E Scenario.

III. BACKGROUND

A. DESCRIPTION OF DPL AND ITS SUBSIDIARIES

Q. Please describe the organizational structure of DPL and its subsidiaries.

A. The primary entities that I analyze are DPL, a diversified regional energy company that is a wholly-owned subsidiary of The AES Corporation; and DP&L, the principal subsidiary of DPL and a public utility.

DP&L has the exclusive right to provide transmission and distribution services to approximately 524,000 customers located in West Central Ohio. Additionally, DP&L provides retail SSO electric service to residential, commercial, industrial, and governmental customers in a 6,000 square mile area of West Central Ohio. Through September 30, 2017, DP&L owned interests in multiple coal-fired and peaking electric generating facilities as well as numerous transmission facilities. On October 1, 2017, the DP&L-owned generating facilities were transferred to AES Ohio Generation ("AOG"), an affiliate of DP&L and wholly-owned subsidiary of DPL.

1 Principal industries located in DP&L's service territory include automotive, food
2 processing, paper, plastic, health care, data management, manufacturing, and defense.
3 Through September 30, 2017, DP&L sold its generated energy and capacity into the
4 wholesale market. After September 30, 2017, DP&L continues to sell its proportional
5 share of energy and capacity from its investment in the Ohio Valley Electric Cooperative
6 ("OVEC").[15]

7 Pursuant to the ESP III Stipulation, AOG began selling generation facilities in December
8 2017 and used the proceeds to retire debt. Specifically, DPL and AOG engaged in the
9 transactions shown in Table 1, which resulted in [redacted] in sale proceeds and $301
10 million of debt reduction.

TABLE 1[16]
SUMMARY OF GENERATION ASSET SALES

Generation Asset Sales			Debt Retired			
Generation Assets Sold	Date	Net Cash Proceeds	Date	Entity	Issue	Amount
Miami Fort, Zimmer	12/8/2017	[redacted]	12/8/2017	DPL	Term Loan	$30 Mil.
			12/8/2017	DPL	Revolver	$40 Mil.
Peaker Assets (Hutchings, Montpelier, Monument, Tait, Sidney, Yankee)	3/27/2018	[redacted]	3/27/2018	DPL	Term Loan	$70 Mil.
			4/30/2018	DPL	6.75% 2019 Sr. Notes	$101 Mil.
			3/30/2018	DP&L	2020 First Mortgage Bonds	$60 Mil.
Total		[redacted]				$301 Mil.

[15] DP&L has a 4.9 percent contractual interest in OVEC. DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 27.
[16] DPL Inc. and DP&L Form 10-Q for the period ending 03/31/2018, at 6, 31, 39, 69; DPL Inc. and DP&L Form 10-K for the period ending 12/31/2017, at 10, 77, 106, 125; Garavaglia Direct Testimony, at 5, 11. In addition to these transactions, DPL and AOG also retired the Stuart Station and the Killen Station on May 31, 2018. DPL Inc. and DP&L SEC Form 10-Q for the period ending 6/30/2018, at 31.

1 DPL owns other subsidiaries that are small relative to DP&L. For example, AOG's
2 primary remaining asset is an interest in Conesville Unit 4, a coal-fired electrical
3 generation unit which does not meet the thresholds to be a separate reportable operating
4 segment.[17] DPL's revenue from Conesville was less than four percent of its total revenue
5 for the nine months ended September 30, 2018.[18] DPL's other subsidiaries include Miami
6 Valley Insurance Company ("MVIC"), which provides insurance services to DPL and its
7 subsidiaries, and Miami Valley Lighting ("MVLt"), which maintains outdoor lighting for
8 governments and businesses. DPL also has a wholly-owned business trust, DPL Capital
9 Trust II, formed for issuing trust capital securities to investors.[19] In October 2018, AEP,
10 the operator of the Conesville unit in which DPL has a stake, announced that Unit Four
11 would close by May 2020.[20] Over 95% of DPL's revenues are derived from DP&L.[21]
12 Thus, DPL's primary asset is DP&L and, therefore, DPL relies primarily on DP&L for
13 cash flow with which to pay its debt.

14 DPL and its subsidiaries employed 674 people as of September 30, 2018, of which 648
15 were employed by DP&L. Approximately 53 percent of all DPL employees are under a
16 collective bargaining agreement, which expires October 31, 2020.[22]

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[17] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 63.
[18] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 65. $449/$11,392 = 3.94 percent.
[19] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 12.
[20] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 68.
[21] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 8, 36.
[22] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 12.

1 ## *B. DP&L'S SERVICE TERRITORY*

2 **Q. Describe DP&L's service area.**

3 A. DP&L serves over 520,000 customers in 24 counties throughout the Miami Valley in
4 West Central Ohio.[23] The service area comprises the majority of 13 counties surrounding
5 Dayton and portions of an additional 11 counties.[24] According to the U.S. Census, the
6 total population of the 13-county primary area was approximately 1.24 million in 2017,
7 virtually unchanged from the population level in 2014.[25]

8 Income levels of the service area population were close to the state average. U.S. Census
9 data indicate that average per capita income for the 13-county area was $26,256,
10 compared to the state average of $27,800. On a per household basis, the median
11 household income for the 13-county primary area was $53,259, higher than the $50,674
12 average for the state. Thus, on an ability-to-pay basis, the population of the DP&L
13 service area appears to be similar to, or slightly better than, that of the remainder of Ohio.
14 In a like vein, data for October 2018 showed that the unemployment rates for 11 out of 13
15 counties were below the statewide average of 4.3 percent,[26] according to the Bureau of
16 Labor Statistics.

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[23] https://www.dpandl.com/about-dpl/who-we-are/the-basics/
[24] https://www.dpandl.com/about-dpl/who-we-are/economic-development/. The 13 primary counties are: Auglaize, Champaign, Clinton, Darke, Fayette, Greene, Logan, Mercer, Miami, Montgomery, Preble, Shelby, and Union. The additional counties served by DP&L include: Brown, Butler, Clark, Delaware, Hardin, Highland, Madison, Pickaway, Ross, Van Wert, and Warren.
[25] https://www.census.gov/quickfacts/fact/table/US/PST045217/
[26] The October 2018 unemployment rates for Clinton County and Montgomery County were 5.1 percent and 4.4 percent, respectively.

1 **Q. What is the economic outlook for DP&L's service area?**

2 A. According to Moody's Analytics, payroll employment in Dayton has recently reached its
3 highest level since late 2006. Moody's views the stability from Wright-Patterson AFB
4 and local universities, a quality healthcare system that serves Dayton and the surrounding
5 region, high industrial diversity, and improving migration trends as strengths of the
6 Dayton metro region. DP&L operates in a manufacturing-oriented region, and, as a result,
7 a large part of its load comes from industrial and commercial customers, who tend to be
8 relatively price sensitive.[27]

9 ## C. DP&L'S DISTRIBUTION MODERNIZATION PLAN

10 **Q. Did the ESP III Stipulation require further action from DP&L regarding its plans**
11 **for modernizing its distribution infrastructure?**

12 A. Yes, the ESP III Stipulation approved by the Commission requires that DP&L file a
13 comprehensive DMP.[28] The Stipulation states that "[t]he Modernization Plan should
14 assess and analyze the cost-effectiveness and provide a cost/benefit analysis of all of its
15 components and provide anticipated timelines for deployment."[29] I understand that
16 DP&L has applied for approval of its modernization plan under Case No. 18-1875-EL-
17 GRD, et al. on December 21, 2018.

[27] https://www.economy.com/precis-snapshot?g=IUSA_MDAY.
[28] ESP III Stipulation, at 7. The Dayton Power and Light Company's Application for Approval of Its Plan to Modernize Its Distribution Grid, Case Nos. 18-1875-EL-GRD, et al., December 21, 2018, at 9.
[29] ESP III Stipulation, at 7.

1 **Q. Did the ESP III Stipulation explain how DP&L would recover the costs incurred**
2 **while completing the Modernization Plan?**

3 A. Yes. The ESP III Stipulation provides that, "[t]he costs of DP&L's grid modernization
4 efforts as outlined in the to-be-filed Modernization Plan, once approved by the
5 Commission, will be recovered through a new Smart Grid Rider ('SGR'). The costs of the
6 grid modernization program will be subject to an annual prudence review."[30] I have
7 included the revenues and costs for the DMP in my model up through 2028, the end of
8 the projection period.

9 **Q. Please describe the structure of the remainder of your testimony.**

10 A. In the next section, I analyze the financial condition and integrity of DPL and DP&L with
11 and without a DMR-E from 2019 through 2028. I begin by describing the significant
12 economic benefits to customers from having a financially strong utility, and provide
13 supporting empirical evidence. I then provide background information on the financial
14 projection methodology that I use to assess the impact on DPL and DP&L of different
15 financial assumptions, including the level of the DMR-E. Finally, I discuss my financial
16 projections under the Without DMR-E Scenario and the With DMR-E Scenario.

17 After describing my financial analysis, I describe my assessment of the overall qualitative
18 and quantitative costs and benefits of approving a $199 million DMR-E. As part of this
19 section, I also discuss past public financial support for grid modernization projects.

[30] ESP III Stipulation, at 7-8.

IV. FINANCIAL CONDITION AND INTEGRITY OF DPL AND DP&L WITH AND WITHOUT THE DMR-E

A. INTRODUCTION

Q. Please define what you mean by "financial condition" and "financial integrity."

A. Consistent with my prior testimony, I use the term "financial condition" to refer to an assessment of the general financial health based on a variety of financial variables ranging from income statement items such as revenue growth, profitability, and cash flow, to balance sheet items such as the amount of liquid assets, amount and types of liabilities, debt-to-capital ratios and other financial ratios.[31]

I use the term "financial integrity" to refer more specifically to a credit-risk assessment. Thus, one cannot assess the financial integrity of an entity or enterprise without also analyzing its financial condition. For example, as I use the term, poor financial performance (e.g., low profitability) is an indicator of poor financial condition, which will reduce financial integrity, all else equal.[32] Credit ratings are a good summary measure of a company's overall financial integrity as determined by a third party. Over time, credit ratings on average have been shown to be predictors of financial distress in that default rates increase systematically as debt ratings fall.[33] In addition, credit ratings are used by investors to make investment decisions.

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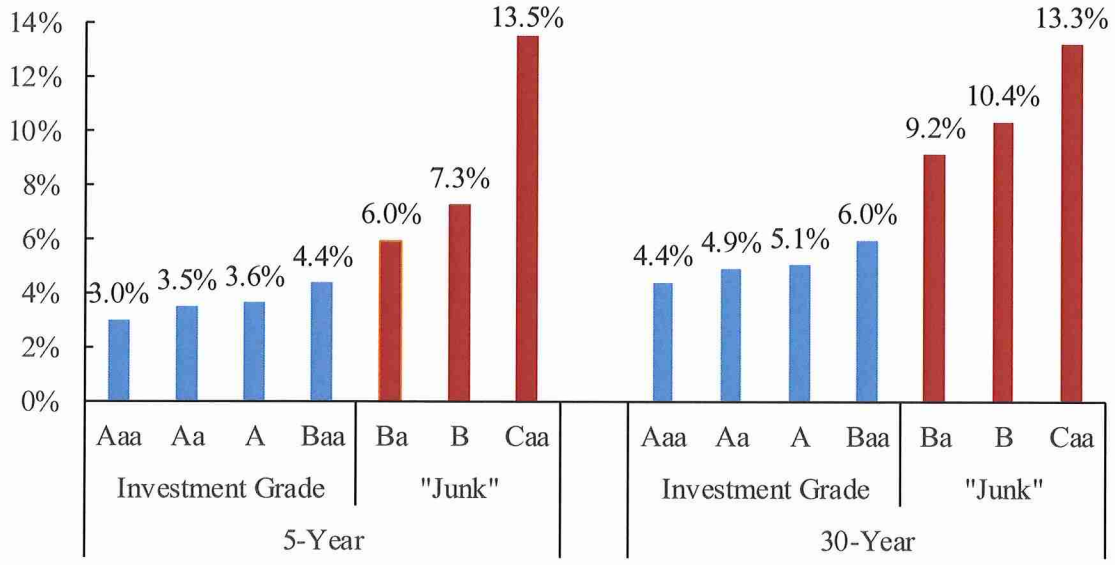
[31]Direct Testimony of R. Jeffrey Malinak, Public Utilities Commission of Ohio Case Nos. 16-0395-EL-SSO, et al., at 15-16.
[32]Direct Testimony of R. Jeffrey Malinak, Public Utilities Commission of Ohio Case Nos. 16-0395-EL-SSO, et al., at 15-16.
[33] Moody's, "Annual Default Study: Corporate Default and Recovery Rates, 1920-2014," March 4, 2015.

1 **Q. Is maintaining an investment grade credit rating a reasonable component of**
2 **financial integrity?**

3 A. Yes. As discussed below, the financial economics literature recognizes several benefits of
4 an investment grade credit rating. Of course, a higher rating is associated with a lower
5 default rate.[34] Many institutions, including banks, insurance companies, and broker-
6 dealers, are either prohibited from or limited in their ability to own bonds that are rated
7 below investment grade.[35] Consistent with their greater safety and the greater demand
8 due to restrictions on institutional investors, investment grade bonds have lower yields
9 than speculative grade bonds, as reflected in Figure 1.

[34] Moody's, "Annual Default Study: Corporate Default and Recovery Rates, 1920-2014," March 4, 2015.
[35] *See, e.g.*, L. White, "The Credit Rating Agencies," *Journal of Economic Perspectives* 24, 2010, at 213-14.

FIGURE 1
UTILITY SECTOR YIELDS BY CREDIT RATING



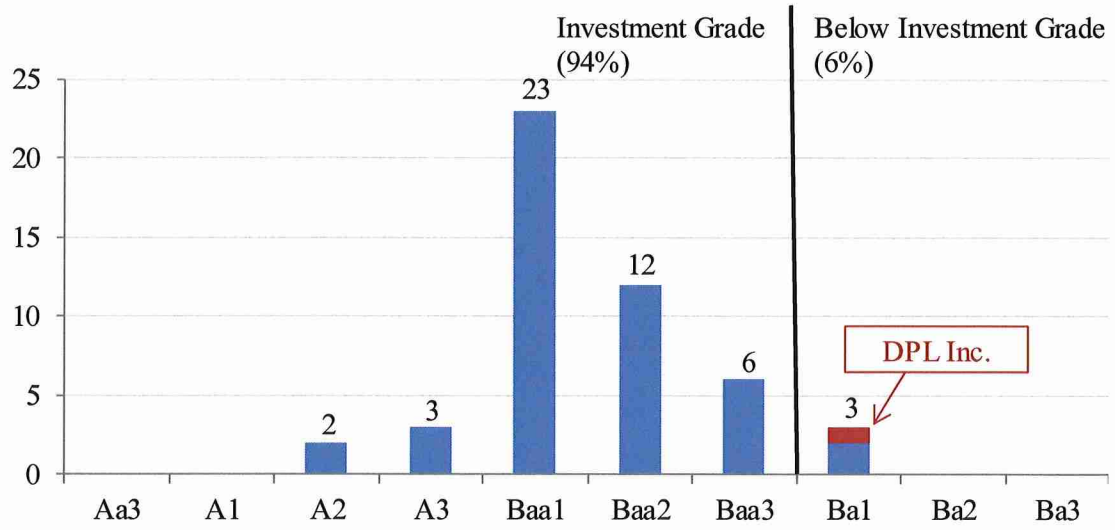
Notes and Sources:
Annual compounded yields from S&P Capital IQ, as of January 2, 2019. Ratings expressed on Moody's scale, grouped by primary rating (e.g. Aa includes Aa1, Aa2, and Aa3). Utilities Sector includes firms with GICS codes for Electric, Gas, and Water Utilities, and Independent Power Producers & Energy Traders. See https://www.spglobal.com/marketintelligence/en/documents/112727-gics-mapbook_2018_v3_letter_digitalspreads.pdf.

There is evidence that firms adjust their behavior to target credit ratings, especially near the cutoff for investment grade.[36] For example, firms near the investment grade boundary (Baa) have lower leverage than otherwise would be expected in order to gain an investment grade credit rating.[37] This evidence shows that there are costs to maintaining a higher rating (e.g., a potentially higher cost capital structure) that are outweighed by the benefits.

[36] D. Kisgen, "Do Firms Target Credit Ratings or Capital Structure Levels?," *Journal of Financial and Quantitative Analysis* 44, 2009, at 1323, 1342; D. Kisgen, "The Influence of Credit Ratings on Corporate Capital Structure Decisions," *Journal of Applied Corporate Finance* 19, 2007, at 65; J. Graham and C. Harvey, "The Theory and Practice of Corporate Finance: Evidence from the Field," *Journal of Financial Economics* 60, 2001, at 210-11.
[37] D. Kisgen, "Credit Ratings and Capital Structure," *Journal of Finance* 61, 2006, at 1035, 1062-1063.

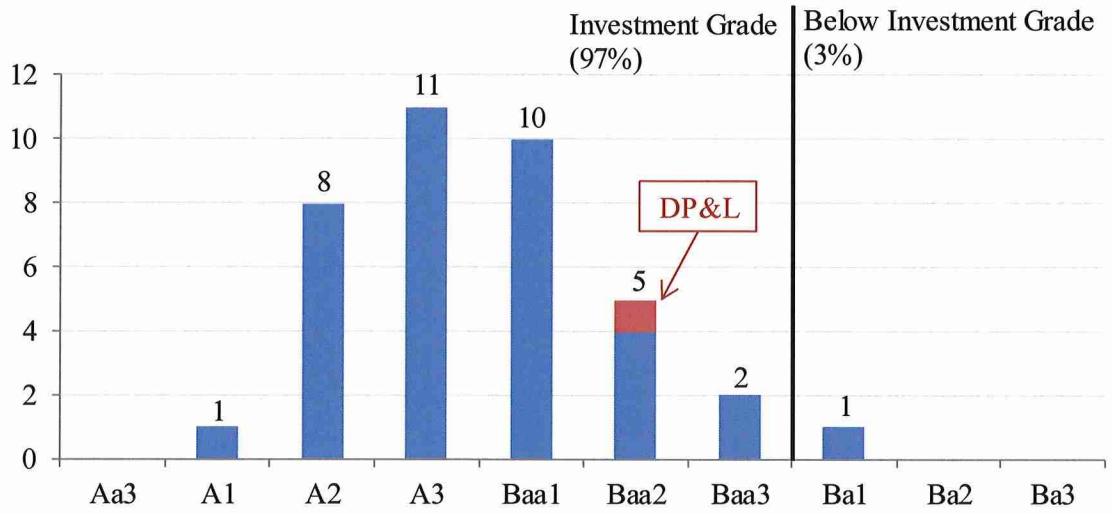
As I have noted in previous testimony, few transmission and distribution utilities or their parent corporations have credit ratings below investment grade. Figure 2 shows the frequency of various Moody's credit ratings for utility holding companies, including DPL. Of 49 rated companies as of December 2018, DPL is one of only three that are below investment grade. Figure 3 shows similar results for a sample of transmission and distribution utility companies, including DP&L. Of the 38 rated companies, DP&L is one of just five with a rating of "Baa2," while only three companies have lower ratings, including one that has a rating below investment grade. The most common rating for these firms is "A3," which is two notches above DP&L's current Moody's rating of "Baa2."

FIGURE 2
DISTRIBUTION OF MOODY'S CREDIT RATINGS
UTILITY HOLDING COMPANIES



Notes & Sources:
Credit ratings from Moody's. Utility Holding Companies chosen based on Edison Electric Institute, "U.S. Investor-Owned Electric Companies, International Members, Associate Members," Members List, November 2018. Where available, immediate parent company of U.S. Investor-Owned Utility was used.

FIGURE 3
DISTRIBUTION OF MOODY'S CREDIT RATINGS
ELECTRIC TRANSMISSION AND DISTRIBUTION COMPANIES



Notes & Sources:
Credit ratings from Moody's. Companies chosen based on Edison Electric Institute, "U.S. Investor-Owned Electric Companies, International Members, Associate Members," Members List, November 2018.

This evidence shows that utilities and their parents have a target capital structure and general financial strength that balances the costs and benefits of debt and that generally results in a midrange investment grade rating.

Q. Is the level of a utility's financial condition and integrity associated with the level of its capital expenditures ("capex")?

A. Yes. The data on credit ratings reviewed above show that transmission and distribution utilities and their regulators manage the financial affairs of the companies to generate a midrange investment grade credit rating. Companies with credit ratings that are "too high" may have an incentive on the margin to overinvest, while companies with credit ratings that are "too low" are typically closer to being in some degree of financial distress and may have an incentive to underinvest. This reduced incentive is the result of a higher

cost of capital, as well as liquidity effects. The latter refers to the fact that the lower level of financial health indicated by a lower credit rating makes it more likely that a company will have to make difficult choices between investments in needed infrastructure and more immediate demands on its cash, such as servicing debt. All else equal, reductions or delays in needed infrastructure investments may reduce the quality of the service provided to customers below an appropriate level, including potentially jeopardizing a utility's ability to provide safe and reliable service.

To investigate how capital expenditures are associated with financial health as measured by credit ratings, I calculated capex per MWh and per retail electric customer for a sample of electricity transmission and distribution companies. I focused on these companies rather than integrated utilities or utility holding companies in order to avoid confounding the results with capex on generation or other assets. Figures 4 and 5 below show that there is a clear pattern, in which lower-rated utilities generally have lower capital expenditures, controlling for size. For example, as shown in Figure 4, the median capital expenditures per MWh for "A3" utilities is approximately $30/MWh, compared to approximately $19/MWh for "Baa1" utilities, $12/MWh for "Baa2" utilities, and $6/MWh for "Baa3" utilities.[38] Similarly, as shown in Figure 5, the median capital expenditures per retail customer for "A3" electric transmission and distribution companies is approximately $671, versus $470 for "Baa1" utilities, $312 for "Baa2" utilities, and $156 for "Baa3" utilities. The "Baa1" utilities have a median capex per customer that is about fifty percent larger than that of the "Baa2" utilities (which is

[38] The precise number of observations and calculated capital expenditure ratios are shown in Table 2.

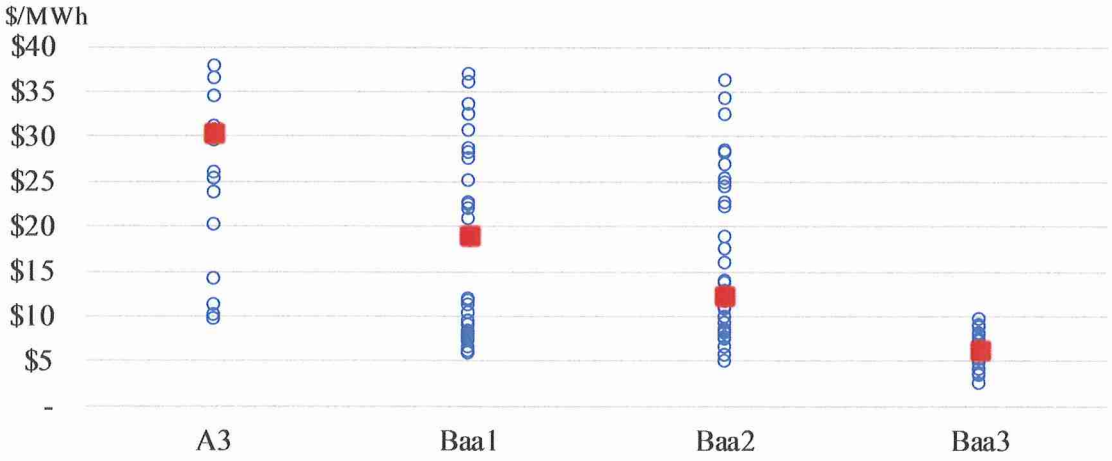
DP&L's rating), while the median capex per customer for "Baa3" utilities is half that of "Baa2" utilities.

Q. Why have you chosen to focus your analysis on utilities rated between "A3" and "Baa3"?

A. Companies rated from "A3" to "Baa3" are those with credit ratings closest to DP&L's current "Baa2" rating. In addition, there is a large enough number of observations for these rating categories to draw reliable conclusions. Over the period 2012-2017, there are only three observations for each of the "Ba1" and "Ba2" credit ratings, and only six observations for the "A2" rating. Of these, the "Ba1" and "Ba2" observations each come from a single company, while the "A2" observations come from only two companies. In contrast, there are 21, 34, 34, and 19 observations of companies rated "A3," "Baa1," "Baa2," and "Baa3," respectively. These correspond to a total of 9, 13, 13, and 4 different companies contributing to observations in each category, respectively.

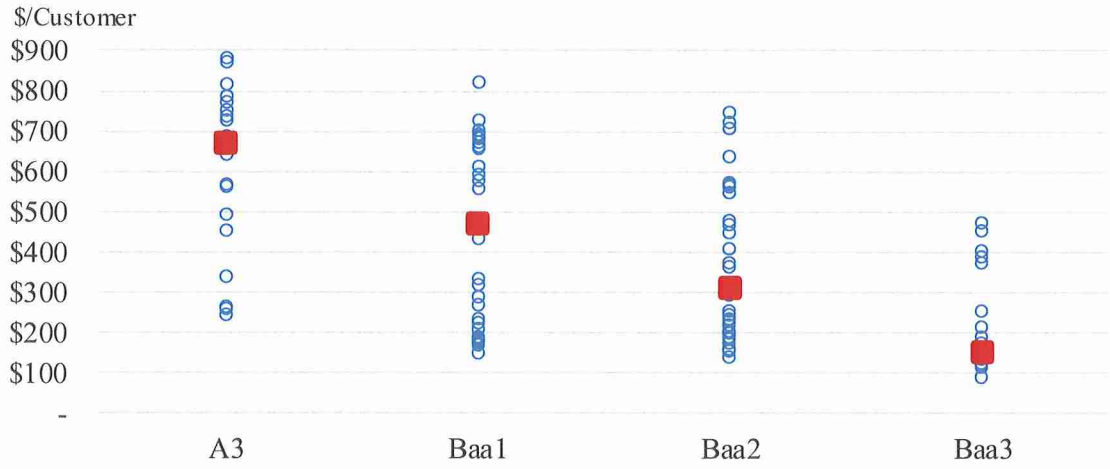
FIGURE 4

CAPEX PER TOTAL RETAIL ELECTRIC VOLUME (MWH), 2012-2017
ELECTRIC TRANSMISSION AND DISTRIBUTION COMPANIES



Notes & Sources:
Yearly CapEx divided by yearly Total Sales of Electricity Volume (MWh) for 2012-2017. Credit ratings from Q4 of each year. CapEx and Total Sales of Electricity Volume (MWh) from SNL. Credit Ratings from Moody's via SNL. Only includes Electric Transmission and Distribution Companies for which CapEx, Total Sales of Electricity Volume (MWh), and Credit Ratings were available. Median values in red.

FIGURE 5
CAPEX PER TOTAL RETAIL ELECTRIC CUSTOMERS, 2012-2017
ELECTRIC TRANSMISSION AND DISTRIBUTION COMPANIES



Notes & Sources:
Yearly CapEx divided by yearly Total Retail Electric Customers for 2012-2017. Credit ratings from Q4 of each year. CapEx and Total Retail Electric Customers from SNL. Credit Ratings from Moody's via SNL. Only includes Electric Transmission and Distribution Companies for which CapEx, Total Retail Electric Customers, and Credit Ratings were available. Median values in red.

TABLE 2

CAPITAL EXPENDITURE BY CREDIT RATING SUMMARY STATISTICS

	A3	Baa1	Baa2	Baa3
Median CapEx/MWh	$30	$19	$12	$6
Median CapEx/Retail Customer	$671	$470	$312	$156
Number of Observations	21	34	34	19
Number of Firms	9	13	13	4

Notes & Sources:
Data from SNL Financial. Only includes Electric Transmission and Distribution Companies for which CapEx, Total Sales of Electricity Volume (MWh), Total Retail Electric Customers, and Credit Ratings were available.

Q. What do you take away from the above analysis?

A. Economic research shows that companies target particular credit ratings and arrange their affairs to achieve those targets. Such arrangements have economic costs. Therefore, the

fact that transmission and distribution utilities, their holding companies, and their regulators choose to maintain midrange investment grade credit ratings shows that the benefits of maintaining those revenues outweigh the costs. One of the benefits of a higher credit rating is a lower cost of debt, and likely a lower cost of equity as well. Under utility regulation, a lower cost of debt and equity capital provides a direct benefit to customers via lower rates, because the lower cost is passed through to customers. In addition, the data above show that a higher debt rating is associated with more intensive capital expenditures on necessary infrastructure. This analysis indicates that customers also indirectly benefit from a financially strong utility in the form of more timely and robust investments in utility infrastructure.

B. BACKGROUND ON FINANCIAL MODELING APPROACH

Q. Please summarize the nature of the financial analysis you are sponsoring.

A. In this testimony, I calculate the minimum annual DMR-E amount that will maintain the financial condition and integrity of DPL and DP&L in the near term, and that in the longer term will allow DP&L to finance and execute the DMP, and make it likely that DPL and DP&L will achieve and maintain a level of financial health that is consistent with that of their peers. Accordingly, my financial analysis focuses on the financial condition and integrity of the two entities with and without the proposed DMR-E.

In addition, as discussed further below, DPL will depend heavily on DP&L to service its debt given that DP&L is DPL's primary asset. Thus, DPL's financial integrity is largely dependent on the financial integrity of DP&L; and conversely, DP&L's financial

1 integrity also depends on the financial integrity of DPL. As described below, the credit
2 rating agencies explicitly recognize this link in their rating methodologies.

3 My analysis is based on financial projections for 2019 through 2028 that feed into an
4 integrated financial model I developed for both DPL and DP&L. Integrated financial
5 models include balance sheets, income statements, and cash flow statements that are
6 linked together. For example, balance sheet equity is reduced or increased each year by
7 after-tax net income from the income statement. In a similar fashion, changes in certain
8 balance sheet accounts, such as accounts receivable, affect the cash flow statement. Using
9 an integrated modeling approach provides checks and balances so that financial
10 projections are internally consistent.

11 From this integrated financial model, I also am able to calculate various financial metrics
12 for DPL and DP&L. These metrics allow me to draw conclusions about the financial
13 condition and integrity of each entity over time.

14 **Q. Please expand on the reasons that you analyze the financial condition and integrity**
15 **of DPL in addition to DP&L.**

16 A. The financial condition and integrity of DPL – which depends on its ability to service all
17 of its consolidated debt – affects the financial condition and integrity of DP&L. For
18 example, if DPL experiences financial distress, it would have a negative effect on DP&L
19 including, but not limited to, unfavorable changes in DP&L's credit ratings, increased
20 cost of debt/borrowing costs, reductions or other limits on capital expenditures or O&M
21 that would negatively affect service quality, and redirecting management attention and
22 effort to managing through financial distress. Also, just as importantly, when DP&L

1 seeks incremental debt capital from outside lenders to finance grid modernization, it will
2 require a healthy parent in order to obtain the best terms possible for its customers.

3 The credit rating agencies recognize the intertwined nature of DPL and DP&L in
4 determining their ratings. A recent quote from Moody's illustrates this dependency:

> 5 However, a material amount of holding company debt remains at around
> 6 $894.5 million, representing approximately 60% of consolidated debt,
> 7 driving the two notch difference between DPL's Ba1 senior unsecured
> 8 rating and DP&L's Baa2 Issuer rating. It also tempers DP&L's credit
> 9 quality because the utility is the only source of cash flow to service the
> 10 parent debt.[39]

11 Similarly, S&P assigns each of the two entities the lower of DPL's and DP&L's stand-
12 alone ratings.[40] Thus, DPL and DP&L both always have the same S&P rating, which
13 emphasizes the fact that S&P views the two entities essentially as one and the same for
14 credit rating purposes.

15 **Q. Is there additional support for an "integrated" approach in which one considers the**
16 **utility parent's financial condition and integrity?**

17 A. Yes. My approach is consistent with the Commission's previous adoption of an
18 integrated view of financial condition and integrity.

19 For example, the Commission's Order in a FirstEnergy matter also adopts this
20 "integrated" view. Specifically, in approving a DMR, the Commission noted that both
21 Moody's and S&P consider the parent's rating when rating a regulated utility. For

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[39] Moody's Investors Service, "Moody's Upgrades DPL to Ba1 and DP&L to Baa2, Maintains Positive Outlook," October 3, 2018, at 1.

[40] *See, e.g.*, S&P Global Ratings, "Research Update: DPL Inc. And Subsidiary Upgraded Following Sale of Merchant Generation Assets," March 30, 2018, at 2, 7; S&P Global Ratings, "Research Update: DPL Inc. And Subsidiary Dayton Power & Light Co. Upgraded to 'BB' and Placed on CreditWatch Positive," December 20, 2017, at 2, 4; S&P Ratings Services, "General Criteria: Group Rating Methodology," November 19, 2013, at 7, 17.

example, the Commission stated that "S&P takes an 'umbrella' approach to credit ratings and that a downgrade to FirstEnergy Corp. would result in a downgrade to the Companies."[41] It also stated that, "[a]lthough Moody's rates FirstEnergy Corp. and its affiliates separately, Cleveland Electric Illuminating and Toledo Edison are both one notch above the cutoff for investment grade while Ohio Edison is three notches above investment grade; and a downgrade to FirstEnergy Corp. would significantly impact the Companies."[42]

Q. Please describe the approach you take to measure and analyze the financial integrity of DPL.

A. As I have noted, timely and full service of the debt issued by DPL will depend heavily on the cash flow from DP&L, DPL's primary subsidiary and source of operating profits. However, DP&L's available cash flow is subject to certain constraints. First, DP&L's operating profits must be used to pay interest and any contractual principal obligations ("debt service obligations") on its own debt first, thereby making DPL's debt subordinated to DP&L's debt in order of payment. Second, DP&L must make a contribution to its pension plan of approximately $5 million per year to fund service costs and keep the funding rate flat. Third, DP&L must attempt to make capital and operating expenditures for its transmission and distribution network, subject to the constraint that its remaining free cash flow also is needed to service debt issued by DPL.[43] To the extent that capital or O&M expenditures can be delayed or reduced, additional cash flows may

[41] Public Utilities Commission of Ohio, Case No. 14-1297-EL-SSO, Fifth Entry on Rehearing, October 12, 2016, at 162.
[42] Public Utilities Commission of Ohio, Case No. 14-1297-EL-SSO, Fifth Entry on Rehearing, October 12, 2016, at 162-163.
[43] The term "free cash flow" means net cash flow remaining after payment of all cash costs, including debt service and capital expenditures.

be available for debt service at DPL, and vice versa.[44] Thus, the ability of DPL to service its debt and achieve financial health in line with industry peers in the medium to long term will directly depend on the cash flows from DP&L. This concern about debt service is especially relevant after the current $105 million DMR period expires in October 2020.

Q. What is the impact of DPL's financial health and credit rating on DP&L's ability to make needed capital and O&M expenditures?

A. For the reasons discussed below, DP&L's ability to make needed O&M and capital expenditures, including on the DMP, is dependent in part on the financial integrity of DPL in addition to DP&L. For example, if DPL is investment grade, then DP&L will be less "constrained" by the need to supply DPL with cash flows for debt service, because DPL will have more options in meeting its short and longer term financing needs. If DPL Inc. is not financially sound, however, this will put downward pressure on DP&L's credit ratings, reducing the incentive to invest because of a higher cost of capital, as well as liquidity effects as previously discussed.

Q. What are DPL's options for servicing its debt other than using cash flow from DP&L?

A. DPL can depend to a lesser extent on cash flow from its smaller subsidiaries such as AOG, MVLt, and MVIC.[45] However, as stated above, total revenues from these

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[44] I understand that the amount of any remaining cash flows that can be provided to DPL may be limited by regulation.

[45] As noted previously, Moody's observed that DP&L is DPL's main source of cash flows to service the holding company debt. DPL would depend to a lesser extent on cash flow from its smaller subsidiaries such as AOG, MVLt, and MVIC, which comprise under five percent of DPL's revenue. For example, Moody's notes that DP&L "is expected to remain the main source of cash flows to service its material amount of holding-company's

1 subsidiaries represent under five percent of DPL's revenue and, therefore, are insufficient
2 to fully service DPL's debt. In the absence of sufficient cash flows from these units or
3 DP&L, DPL would have to look to other potential sources for its debt service, which
4 could include increases in short-term or other debt, reduction in capital expenditures,
5 and/or reductions in operating expenses at any, or all, of its subsidiaries. However,
6 issuing new debt (including the refinancing of $780 million by 2021), or reducing capital
7 expenditures and/or operating expenses, would be problematic. Specifically, the financial
8 stress on the Company without the DMR-E would make issuing new debt at reasonable
9 rates difficult or impossible, and reductions in capital expenditures would have both
10 short- and long-term negative effects on the Company, its subsidiaries (particularly
11 DP&L), and the customers they serve.

12 **Q. Please describe the interplay between DPL and DP&L in these projections.**

13 A. DP&L is a wholly-owned subsidiary of DPL, so consolidated financial statements for
14 DPL include those of DP&L. DP&L can distribute surplus funds to DPL as a dividend, or
15 it can receive funds from DPL as an equity investment. Each entity can issue (or
16 voluntarily repay) its own debt, and DPL consolidated debt is the sum of debt that it
17 issued directly and debt that DP&L issued. Importantly, shifting borrowing from DPL to
18 DP&L does not reduce DPL consolidated debt.

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indebtedness." Moody's Investors Service, "Credit Opinion: DPL Inc.," October 13, 2015, at 3; DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 8, 36.

1 **Q. Please describe the long-term debt held by DP&L and DPL.**

2 A. As shown in Exhibit RJM-1, DPL had approximately $889.3 million in outstanding long-
3 term debt as of September 30, 2018. This debt included $99 million in notes maturing in
4 2019 with an interest rate of 6.75 percent, $780 million in notes maturing in 2021 with an
5 interest rate of 7.25 percent,[46] and about $15.6 million in a Capital Trust with a maturity
6 in 2031 and an interest rate of 8.125 percent.[47]

7 DP&L had approximately $586.7 million in outstanding long-term debt as of September
8 30, 2018, including a $437.2 million Term Loan maturing in 2022, $140 million in First
9 Mortgage Bonds maturing in 2020, and a $17.7 million U.S. Government Note maturing
10 in 2061.[48] Of these, the interest rate on the Term Loan ranged from 3.57 percent to 4.82
11 percent for the nine months ended September 30, 2018, the interest rate on the First
12 Mortgage Bonds ranged from 2.50 percent to 2.72 percent over the same time period, and
13 the interest rate on the U.S. Government Note was 4.20 percent. Substantially all
14 property, plant & equipment of DP&L is subject to the lien of the mortgage securing
15 DP&L's First and Refunding Mortgage.[49]

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[46] [redacted].

[47] The discrepancy between the stated $889.3 million and the sum of the notes plus Capital Trust results from credits of $4.8 million and $0.5 million for Unamortized Deferred Financing Costs and net Unamortized Long-Term Debt Discounts and Premiums, respectively.

[48] My analysis is based on projections prepared in December 2018. The Term Loan amortizes so the December 2018 balance declines to $436.1 million. The discrepancy between the $586.7 million of DP&L long-term debt in Exhibit RJM-1 and the sum of the Term Loan, First Mortgage Bonds, and U.S. Government Note reflects credits of $6.7 million for Unamortized Deferred Financing Costs and $1.5 million for net Unamortized Long-Term Debt Discounts and Premiums, respectively.

[49] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 51.

The consolidated total long-term debt of DPL and DP&L is $1.48 billion as of September 30, 2018. Both DPL and DP&L have financial covenants related to their debt, which I describe later in this testimony.

Q. Will any of this long-term debt need to be refinanced in the near-term future?

A. Yes. DPL must refinance its $780 million in 7.25 percent notes by 2021. For purposes of my analysis and comparison, I have assumed that [redacted].

In addition, I understand that the Company has filed for approval to refinance the $437 million DP&L Term Loan in 2019 and, while it may not be possible, [redacted].

Q. Please describe the short-term debt facilities of DP&L and DPL.

A. DPL currently has a $205 million revolving credit facility and DP&L has a $175 million revolving credit facility.[50] As of September 30, 2018, DPL and DP&L had no outstanding borrowings on these lines of credit.[51] Since the first quarter of 2016, the median quarterly revolver balance was $7.4 million (3.6 percent) for DPL and $1.4 million (0.8 percent)

[50] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 71-72.
[51] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 24, 71-72.

for DP&L.[52] The financial projections assume that the [redacted].[53]

Q. Please describe the covenants that govern the debt of DP&L and DPL.

A. DPL is subject to several covenants in its credit agreements.[54] One covenant limits *Debt / EBITDA* (measured on a consolidated basis) to 7.0x or less as of January 1, 2019, declining to 6.75x or less on July 1, 2019, and 6.5x or less beginning January 1, 2020.[55] DPL must also maintain a ratio of EBITDA to interest of at least 2.25x.[56]

DPL's credit agreements also prohibit dividend payments from DPL to AES if DPL does not meet certain financial metrics. However, DPL also is restricted from making dividend and tax sharing payments to AES per its 2017 ESP III Stipulation. This Order approving the ESP III Stipulation restricts dividend payments from DPL to AES during the term of ESP III (through October 2023) and restricts tax sharing payments from DPL to AES during the term of the DMR.[57]

DP&L's unsecured revolving credit agreement and Bond Purchase and Covenants Agreement from its August 2015 issuance of $200 million of First Mortgage Bonds have

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[52] S&P CapitalIQ.
[53] Garavaglia Direct Testimony, at 13-14.
[54] First Amendment to Credit Agreement among DPL Inc., AES Ohio Generation, LLC, the Lenders, and U.S. Bank National Association, December 15, 2017, at 2-3.
[55] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 25. As I discuss below, my financial analysis assumes [redacted].
[56] Credit Agreement among DPL Inc., U.S. Bank National Association, PNC Bank, National Association, and Bank of America, N.A., July 31, 2015, at 94-95; Credit Agreement among the Dayton Power and Light Company, PNC Bank, National Association, Fifth Third Bank, and Bank of America, N.A., July 31, 2015, at 76, 79; DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 25.
[57] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 25, 27.

two financial covenants. The first restricts Total Debt to Total Capitalization to be no greater than 0.75x, except that this limit is suspended if DP&L's long-term indebtedness is less than or equal to $750 million or if DP&L maintains an investment grade rating (BBB-/Baa3) with a stable outlook from at least one of Fitch, S&P, or Moody's.[58] As of September 30, 2018, DP&L's borrowing level and ratings meet those requirements, meaning this limitation is not currently applicable. The second financial covenant limits the ratio of EBITDA to Interest Expense to be not less than 2.5.[59] As of September 30, 2018, DP&L satisfied this covenant with a ratio of 7.35x.[60]

C. ANALYSIS

Q. Please describe how you have applied the financial modeling approach described above in this case.

A. I have prepared two sets of financial projections of the income statements, balance sheets, and cash flow statements for DPL and DP&L for the period from January 2019 through December 2028. The first set of projections – the Without DMR-E scenario – assumes a DMR-E is not approved. The second set assumes that a DMR-E will be approved that is large enough so that DPL is projected to have a [redacted] by the end of the projection period, while DP&L [redacted]. I set the model's financing and dividend assumptions in order to minimize the DMR-E subject to these minimum financial integrity constraints.

[58] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 25.
[59] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 25.
[60] DPL Inc. and DP&L Form 10-Q for the period ending 09/30/2018, at 51.

While the data for my projections were provided by DP&L, I did some independent comparisons of the projected data to historical and other data and found the projections to be reasonable.

A forecast of the capital costs and required revenue for the proposed DMP are included. I assume that all DMP capital costs, which total [redacted] for the period through 2028 and that I understand are consistent with those in DP&L's December 21, 2018 DMP filing, will be deemed prudent and allowed into rate base. The revenue requirement is based on DP&L's current approved cost of capital, and [redacted] are incurred. The assumed DMP capital costs and revenues included in my model are as follows:

[redacted]

The financial model produces a set of financial metrics, as well as projected debt ratings, which I use to measure financial integrity.

In the remainder of this section I discuss the input data for my calculations, background on my methodology and, finally, my analysis of the financial condition and integrity of DPL and DP&L under the two specified scenarios.

i. Input Data for Financial Projections

Q. What information did you use to develop your financial projections for DPL and DP&L?

A. The financial projections are based on the Company's financial model for the period from 2019 to 2028. Witness Garavaglia discusses how the Company prepared these projections.[61] The pro forma financial statements that serve as the primary input to my model were provided to me by the Company.

Q. Have you done anything to assure yourself that the input data for the financial projections are sound and reasonable?

A. Yes. I have performed the following procedures:

- I have reviewed the information provided to me by the Company and discussed the underlying assumptions with the Company personnel responsible for their preparation.
- I tested the projections by comparing them to historical performance of the Company (see Exhibit RJM-2).
- I tested the projections by comparing them to the Company projections I used in my prior testimony (see Exhibits RJM-2 through 4).

Q. What were the results of this analysis?

[61] Garavaglia Direct Testimony, at 21-24.

1 A. The projected revenues, expenses, and other information received from the Company
2 appear reasonable based on my comparisons. At a high level, DPL now faces increased
3 pressure on its key financial metrics.[62]

4 **Q. When were the projections provided to you?**

5 A. December 20, 2018.

6 **Q. Have there been any material changes to the Company and its financial outlook**
7 **since then?**

8 A. Not to my knowledge.

9 **Q. How did you use these data in your analysis?**

10 A. I incorporated them into my integrated financial model, which I modified to facilitate
11 alternative assumptions about the DMR-E, as well as financing choices such as
12 incremental borrowing by DP&L, pay down of long-term debt by DPL, and dividends
13 from DP&L to DPL. My model is designed to minimize unrestricted cash balances of
14 both DPL and DP&L, while drawing cautiously on the DP&L revolver to preserve a
15 cushion for unforeseen liquidity needs. In an effort to minimize the proposed DMR-E, I
16 assume DPL will rely heavily on its revolver for several years.

[62] Exhibit RJM-4.

1 ### *ii. Credit Ratings*

2 **Q. What are the current corporate credit ratings for DP&L and DPL?**

3 A. Table 4 summarizes DPL's and DP&L's ratings from the three major credit rating
4 agencies, Moody's, Standard & Poor's, and Fitch. The lowest investment grade rating is
5 Baa3 (BBB- on the S&P or Fitch scale) and the highest speculative rating is Ba1 (BB+).

TABLE 4
SUMMARY OF CURRENT CREDIT RATINGS

	DPL (Senior Unsecured)		DP&L (Issuer)	
	Rating	Outlook	Rating	Outlook
Moody's	Ba1	Positive	Baa2	Positive
Fitch (Moody's scale)[63]	Baa3	Stable	Baa2	Stable
S&P (Moody's scale)[64]	Baa3	Stable	Baa3	Stable

6 On October 3, 2018, Moody's upgraded its issuer rating for DP&L from Baa3 to Baa2
7 and upgraded its senior unsecured rating for DPL from Ba2 to Ba1.[65] Moody's explained
8 that it upgraded the ratings following the PUCO's approval of a $30 million increase in
9 DP&L's distribution base rates, which "evidences the support of the Ohio regulatory
10 environment to the utility's credit quality."[66]

[63] Fitch's ratings are BBB- for DPL and BBB for DP&L.
[64] S&P's rating is BBB- for both DPL and DP&L.
[65] Moody's Investors Service, "Moody's Upgrades DPL to Ba1 and DP&L to Baa2, Maintains Positive Outlook," October 3, 2018, at 1.
[66] Moody's Investors Service, "Moody's Upgrades DPL to Ba1 and DP&L to Baa2, Maintains Positive Outlook," October 3, 2018, at 1. While Moody's viewed the outcome of the distribution rate case favorably, the revised rates were lower than the Company had modeled. Garavaglia Direct Testimony, at 11.

1 **Q. Did Moody's and the other rating agencies address the credit ratings that would be**
2 **assigned to DPL and DP&L if the Commission does not approve the DMR-E?**

3 A. Each of the major credit rating agencies has indicated that a failure to approve the DMR-
4 E could lead to negative changes in the credit ratings of DPL and DP&L. All else equal,
5 lower credit ratings would increase the cost of capital for DP&L, which would ultimately
6 hurt customers to the extent the higher cost of capital is included in rates.

7 • In its most recent Rating Action report, Moody's writes "A downgrade could be
8 considered if the DMR is not extended through 2022, or following a material
9 deterioration of the credit metrics; specifically, if DPL's consolidated CFO pre-
10 W/C to debt falls below 8%."[67]

11 • Fitch has also written recently that a failure to extend the DMR could lead to
12 negative rating actions for both DPL and DP&L.[68] "DPL and DP&L's long-term
13 rating stability will depend on the extension of the Distribution Modernization
14 Rider (DMR)."[69]

15 • In a recent report, S&P writes: "Our base-case scenario assumes that the DMR
16 will be extended, allowing the company to further reduce its overall leverage."[70]

17 These statements indicate that a failure to extend the DMR would be a worse than
18 expected outcome that could lead to negative rating actions.

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[67] Moody's Investors Service, "DPL Inc.: Update Following Upgrade to Ba1," December 17, 2018, at 2.
[68] Fitch Ratings, "Fitch Upgrades DPL to 'BBB-' and DP&L to 'BBB'; Outlook Stable," October 9, 2018, at 3.
[69] Fitch Ratings, "Fitch Upgrades DPL to 'BBB-' and DP&L to 'BBB'; Outlook Stable," October 9, 2018, at 2.
[70] S&P Global Ratings, "Research Update: DPL Inc. And Subsidiary Upgraded Following Sale of Merchant Generation Assets," March 30, 2018, at 3.

1 **Q. What is the significance of the positive and stable outlooks on the corporate credit**
2 **ratings of DP&L and DPL?**

3 A. The outlook indicates the potential direction of ratings in the short to medium term. A
4 stable outlook means that the rating is unlikely to be upgraded or downgraded in the short
5 to medium term, while a positive outlook means that the rating may be upgraded.
6 Typically, rating agencies identify potential future developments that may, individually
7 or collectively, lead to a negative or positive rating action. In particular, Moody's
8 identified a decline in DPL's Cash Flow/Debt ratio below [redacted] as a potential
9 trigger for a downgrade and an increase in that ratio above [redacted] as a potential
10 trigger for an upgrade.[71]

11 **Q. Aside from credit ratings, what other financial metrics do you use to evaluate the**
12 **financial condition and financial integrity of DPL and DP&L?**

13 A. In addition to credit ratings, I also consider free cash flow metrics such as *Cash Flow /*
14 *Debt* and financial covenants such as *Debt / EBITDA* and *EBITDA / Interest.*

15 **Q. How did you determine indicated credit ratings for DPL and DP&L during the**
16 **projection period?**

17 A. Moody's publishes details on the credit rating methodology that underlies its credit
18 ratings.[72] As in my prior testimony, I use the financial projections for DPL and DP&L to

[71] Moody's Investors Service, "DPL Inc.: Update Following Upgrade to Ba1," December 17, 2018, at 2.
[72] To my knowledge, S&P and Fitch do not publish the detail of their methodologies necessary to perform similar estimates of their ratings.

calculate the four key quantitative metrics that Moody's uses to determine credit ratings for regulated utilities:[73]

1. *Cash Flow / Debt*
2. *Retained Cash Flow / Debt*
3. *Interest Coverage*
4. *Debt / Capital*

For each of these variables, I summarize in Exhibit RJM-5 the range of values that Moody's considers for each credit rating. Moody's announced in April 2018 that DP&L's exit from volatile merchant operations lowered the group's business risk profile such that the financial performance of both DPL and DP&L would be assessed using Moody's low business risk grid for rating regulated electric and gas utilities.[74]

Cash Flow / Debt is the ratio of cash flow from operations before changes in working capital relative to debt.[75] A higher ratio indicates a stronger financial position and a higher credit rating. Moody's indicates that Baa-rated regulated utilities on the low-risk grid tend to have *Cash Flow / Debt* ratios of 11 percent to 19 percent.[76] Moody's most recent credit rating report on DPL states that *Cash Flow / Debt* falling below 8 percent could trigger a downgrade.[77]

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[73] Moody's Investors Service, "DPL Inc.: Update Following Rating Upgrade to Ba2, Positive Outlook," April 11, 2018, at 7.
[74] Moody's Investors Service, "DPL Inc.: Update Following Rating Upgrade to Ba2, Positive Outlook," April 11, 2018, at 7.
[75] I measure debt as short- and long-term debt plus pension liability. I measure CFO pre-WC as cash flow from operations plus increases in accounts receivable, inventory, and general taxes applicable to future years, less the increase in accounts payable, accrued interest, taxes payable, and non-current deferred income taxes. I have verified that my calculations closely replicate those of Moody's.
[76] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 22. I focus on a Baa rating in order to maintain consistency with DPL's current rating.
[77] Moody's Investors Service, "DPL, Inc.: Update Following Upgrade to Ba1," December 17, 2018, at 2.

Retained Cash Flow / Debt is similar to *Cash Flow / Debt*, except the numerator subtracts dividend payments from *Cash Flow*. For DPL, the projections do not include any dividends so there is no difference in the two measures of cash flows. Moody's indicates that Baa-rated regulated utilities on the low-risk grid tend to have *Retained Cash Flow / Debt* ratios of 7 percent to 15 percent.[78]

Interest Coverage is calculated as the ratio of cash flow from operations before interest expense and changes in working capital (but after changes in other assets and liabilities such as regulatory capital and cash collateral) relative to interest expense. The ratio indicates the amount of cash flow available to pay interest, capital expenditures, and other obligations per dollar of interest due, so a higher ratio is indicative of a higher credit rating. Moody's indicates that Baa-rated regulated utilities tend to have *Interest Coverage* ratios of 3.0x to 4.5x.[79]

Debt / Capital is calculated as the ratio of debt to capital (which includes short- and long-term debt, common equity, preferred stock, and deferred taxes). The ratio indicates the degree of financial leverage. A higher ratio (greater leverage) is indicative of a lower credit rating. Moody's indicates that Baa-rated regulated utilities on the low-risk grid tend to have *Debt / Capital* ratios of 50 percent to 59 percent.[80]

Table 5 summarizes the weights that Moody's assigns to these metrics for regulated utilities.

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[78] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 22.
[79] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 22.
[80] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 22.

TABLE 5
WEIGHTS ON FINANCIAL METRICS IN MOODY'S CREDIT RATING MODEL

Financial Metric	Weight[81]
Cash Flow / Debt	15.0%
Retained Cash Flow / Debt	10.0%
Interest Coverage	7.5%
Debt / Capital	7.5%
Total for Financial Metrics	40.0%

1 To assign a credit rating, I assign a numerical score for each financial metric based on the
2 Moody's criteria summarized in Exhibit RJM-5. For example, *Interest Coverage* of 3.5x
3 translates to a Baa rating and a score of 9.[82] *CF / Debt* and *RCF / Debt* metrics of 9.0
4 percent and 8.0 percent result in ratings (scores) of Ba (12) for *CF / Debt* and Baa (9) for
5 *RCF / Debt*. A *Debt / Capital* ratio of 70.0 percent corresponds to a B rating and a score
6 of 15. The composite rating score would be (0.075×9 + 0.150×12 + 0.100×9 + 0.075×15)
7 / 0.40 = 11.25, which translates to a rating of "Ba1."[83]

8 The projections forecast each metric over time, allowing for similar calculations and
9 ratings based on the financial metrics each year.

10 **Q. Do credit ratings assigned by Moody's depend on factors other than the ones you**
11 **have mentioned?**

12 A. Yes. In addition to these four quantitative factors, which account for 40 percent of the
13 credit rating, Moody's also considers several qualitative factors that determine the
14 remaining 60 percent. These factors are:

[81] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 4.
[82] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 5 (explaining numerical scores for each letter rating).
[83] In Moody's rating scale each letter grade is further divided into high, medium and low based on a numerical suffix (e.g., "Ba2" is below "Ba1" but above "Ba3").

1 • Regulatory Framework (25 percent);[84]

2 • Ability to Recover Costs and Earn Returns (25 percent);[85] and

3 • Diversification (10 percent).[86]

4 These qualitative ratings, which contribute 60 percent to the overall rating, are updated
5 each year based on the subjective judgment of the rating agency analysts. [87] While the
6 specific bases for such changes are difficult to observe directly, there is evidence in the
7 Moody's rating agency reports for DPL and DP&L that can be used to assess the likely
8 rating agency updates to at least two qualitative regulatory ratings.[88] The impact of such
9 changes can be significant. For example, a movement of two qualitative regulatory
10 ratings from "Aa" to "Ba" would result in a rating reduction of either two or three
11 notches, all else equal.[89]

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[84] Within Regulatory Framework, Moody's has two equally weighted sub-factors: 1) Legislative and Judicial Underpinnings of the Regulatory Framework (currently rated A for both entities) and 2) Consistency and Predictability of Regulation (currently rated A for both entities).

[85] Within Ability to Recover Costs and Earn Returns, Moody's has two equally weighted sub-factors: 1) Timeliness of Recovery of Operating and Capital Costs (currently rated A for both entities) and 2) Sufficiency of Rates and Returns (currently rated Baa for both entities).

[86] For entities such as DPL and DP&L that lack material generation, Moody's rating for Diversification is based on Market Position (currently rated Ba for both entities).

[87] For example, the definition of a Baa rating for Sufficiency of Rates and Returns is: "Rates are (and we expect will continue to be) set at **a level that generally provides full operating cost recovery** and a **mostly fair return** on investments, but there may be **somewhat more instances of regulatory challenges and disallowances**, although ultimate **rate outcomes are sufficient to attract capital without difficulty**. In general, this will translate to returns (measured in relation to equity, total assets, rate base or regulatory asset value, as applicable) that are average relative to global peers, but may at times be somewhat below average." Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 15 (emphasis added).

[88] These are "Consistency and Predictability of Regulation" and "Timeliness of Recovery of Operating and Capital Costs."

[89] Moody's assigns a numeric value of 12 to "Ba" ratings and a numeric value of 3 to "Aa" ratings. To see how this would change the overall rating, I compute that such a change would add $(12 - 3) \times 25\% = 2.25$ to DP&L's composite score. From this, I see that a firm at the high end of its rating category would move down two notches, while a firm at the low end of its rating category would move down three notches. Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 5-6.

1 **Q. Please summarize your observations regarding the relationship between rating**
2 **agencies' assessment of the qualitative regulatory environment faced by DPL and**
3 **DP&L and the credit ratings those agencies assign to DPL and DP&L.**

4 A. A review of recent Credit Opinions published by Moody's shows that improvements to
5 Moody's overall credit rating or its rating outlook for DPL and DP&L have generally
6 coincided with improvements to Moody's current or forecasted view of DPL and
7 DP&L's regulatory environment.

8 Table 6 shows how Moody's views of these factors have evolved with the credit ratings
9 of DPL and DP&L. In the case of DPL, there is a clear pattern of Moody's scores for
10 qualitative regulatory factors improving over time together with the company's overall
11 credit score. In August 2016, Moody's scored present and expected future regulatory
12 consistency and timeliness of recovery factors for DPL as "Baa," while the company had
13 an overall rating of Ba3 with a negative outlook.[90] In April of 2018, DPL's current score
14 for regulatory consistency remained at "Baa," but Moody's forward view improved to
15 "A;" this coincided with an improvement in DPL's overall rating to "Ba2" with a positive
16 outlook.[91] By December of 2018, Moody's had increased DPL's current score for
17 "consistency and predictability of regulation" to "A" from "Baa," and Moody's also
18 increased its forward score for DPL's timeliness of cost recovery to "A" from "Baa."
19 These favorable changes in Moody's view of the regulatory climate faced by DPL

[90] Moody's Investors Services, "DPL Inc.: Parent Holding Company of the Utility The Dayton Power & Light Company," August 11, 2016, at 8.
[91] Moody's Investors Services, "DPL Inc.: Update Following Rating Upgrade to Ba2, Positive Outlook," April 11, 2018, at 7, 9.

coincided with an increase in the company's overall credit rating from Ba2 to Ba1, both with a positive outlook.[92]

TABLE 6
MOODY'S REGULATORY RATINGS AND OVERALL COMPANY RATINGS FOR DPL AND DP&L

	DPL			DP&L		
	Aug-16	**Apr-18**	**Dec-18**	**Aug-16**	**Nov-17**	**Dec-18**
Regulatory Consistency and Predictability						
Moody's Current View	Baa	Baa	A	Baa	Baa	A
Moody's Forward View	Baa	A	A	Baa	A	A
Timeliness of Cost Recovery						
Moody's Current View	Baa	Baa	Baa	Baa	Baa	Baa
Moody's Forward View	Baa	Baa	A	Baa	Baa	A
Moody's Overall Company Rating	Ba3	Ba2	Ba1	Baa3	Baa3	Baa2
Moody's Overall Company Outlook	Negative	Positive	Positive	Negative	Positive	Positive

DP&L's qualitative regulatory rating factors exhibit a similar general pattern. Furthermore, Moody's specifically cited the approval and implementation of the DMR as the reason for their positive changes in the qualitative regulatory-related factors. For example, Moody's explained the April 2018 change in their rating and outlook on DPL by writing:

> DPL's positive outlook reflects the positive outlook of utility subsidiary DP&L and our expectation that a credit supportive rate case outcome at the utility will allow the group to further deleverage and progressively improve its consolidated capital structure. This expectation also factors in DPL's planned use of the $105 million per annum Distribution Modernization Rider (DMR), approved in October 2017 for at least three years, largely to service the group's debt and to fund growth of the utility's regulated distribution and transmission rate base.[93]

[92] Moody's Investors Services, "DPL Inc.: Update Following Upgrade to Ba1," December 17, 2018, at 7, 9.
[93] Moody's Investors Services, "DPL Inc.: Update Following Rating Upgrade to Ba2, Positive Outlook," April 11, 2018, at 2.

Moody's explained their views on the regulatory environment faced by DPL and DP&L in more detail by writing later in the report:

> DP&L completed its last rate case in 1992. However, the utility and its parent company have been involved in several regulatory proceedings over the last few years which underpin our view that the Ohio regulatory environment is also credit supportive and that the relationship of DP&L and DPL with the PUCO is constructive. These include PUCO's authorization in October 2017 of DP&L's third Electric Security Plan (ESP-III) for the 2017-2023 period and adoption of the key terms of the multi-party Amended Settlement Agreement reached in March 2017.[94]

Moody's reiterated this sentiment in their December 2018 report on DPL following their upgrade of the company's credit rating to Ba1 from Ba2. Moody's wrote:

> Our view that the regulatory environment in Ohio is credit supportive considers that PUCO approved in September 2018 and October 2017 the key terms of the multi-party Settlement Agreements reached in connection with DP&L's distribution rate case and the ESP-III for the 2017-2023 period. This was the first rate case completed in over twenty years (last in 1992). However several regulatory proceedings involved the utility and its parent company over the last few years, including the Electric Security Plans (ESP), that set a track-record of overall credit supportive outcomes.[95]

If the DMR-E is not approved, therefore, it is reasonable to expect that Moody's will reduce its assessment of the qualitative regulatory factors. Accordingly, in the analysis that follows, I calculate estimated credit ratings for the Without DMR-E scenario based in part on a projected reduction in Moody's assessment of DPL and DP&L's qualitative regulatory ratings. Under the With DMR-E scenario, by contrast, I calculate credit ratings assuming no change in Moody's qualitative regulatory ratings. This assumption is conservative because Moody's raised its assessment of the regulatory environment after approval of the DMR, and it is reasonable to believe that the agency would raise its

[94] Moody's Investors Services, "DPL Inc.: Update Following Rating Upgrade to Ba2, Positive Outlook," April 11, 2018, at 5.
[95] Moody's Investors Services, "DPL Inc.: Update Following Upgrade to Ba1," December 17, 2018, at 4-5.

1 assessment further if a substantial DMR-E is approved. I assume that any changes to
2 Moody's assessment of qualitative regulatory factors would occur by the end of 2019 and
3 be held constant through 2028.

4 **Q. Did you include an adjustment for Moody's regulatory qualitative factors in your**
5 **prior testimony?**

6 A. No.

7 **Q. Why do you include such an adjustment now?**

8 A. In my prior testimony, I was concerned about the subjective nature of those adjustments
9 and, in particular, the lack of variation from credit opinion to credit opinion. Specifically,
10 Moody's initiated scores for the "Consistency and Predictability of Regulation" and
11 "Timeliness of Recovery of Operating and Capital Costs" for DPL and DP&L in
12 September 2014 and held them constant through August 2016, the last opinion prior to
13 my October 2016 and March 2017 testimony. Thus, I did not feel that I had a basis to
14 include projected changes in the regulatory qualitative factors in my model. I now have
15 that basis because, as shown in Table 6, Moody's adjusted the regulatory qualitative
16 ratings upwards beginning in November 2017. Based on these data and further study of
17 Moody's historical qualitative data, I have decided that including the qualitative factors
18 improves my rating prediction model.

19 **Q. Does Moody's apply any additional adjustments to its model-indicated credit**
20 **ratings?**

A. Yes. Moody's also applies "notching" adjustments to recognize the link between entities such as DPL and DP&L. For DPL, Moody's applies a "structural subordination" notching adjustment, which is presently a two-notch reduction to the model-indicated rating.[96] This adjustment recognizes that DPL creditors may be subordinated to DP&L creditors.[97] Moody's also applies a 2-notch reduction to its current model-implied rating of DP&L to reflect the debt at DPL and the fact that DP&L is its primary source of cash for debt service.[98]

iii. Financial Condition and Integrity of DPL and DP&L without a DMR-E

Q. Please describe the projected financial condition of DPL and DP&L without the DMR-E.

A. Without the DMR-E, DPL and DP&L would suffer financial distress [redacted].

[redacted]

[96] Moody's Investors Service, "DPL Inc.: Update Following Upgrade to Ba1," December 17, 2018, at 1, 4, 7.
[97] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 22-24.
[98] Moody's Investors Service, "Dayton Power & Light Company: Update to Credit Analysis," November 8, 2017, at 5; Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 36-37 (explaining a notching adjustment to the operating company "especially when there is a clear dependence on an OpCo's cash flow to service parent debt.").

1 [redacted]

2 [redacted]

3 [redacted]

4 [redacted]

5 [redacted]

6 [redacted]

7 [redacted]

8 [redacted]

9 [redacted]

10 [redacted]

11 [redacted]

12 [redacted]

13 [redacted]

14 [redacted]

15 [redacted]

16 [redacted]

17 [redacted]

18 [redacted]

19 **Q. Please describe the impact on <u>DPL's</u> financial condition and integrity if a**

20 **substantial DMR-E is not approved.**

---

[99] I understand that the Company believes it may be able to [redacted]. While this is by no means certain, especially if a substantial DMR-E is not approved, I have made this assumption for purposes of my analysis.

A. As shown in Exhibit RJM-7, [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[100] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 11.
[101] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 14.

1 [redacted]

2 [redacted]

3 **Q. Please expand on your reasons for making the adjustments to Moody's qualitative**
4 **regulatory ratings for DPL and DP&L in the event that the DMR-E is not approved.**

5 A. My adjustments are based on the fact that Moody's raised its qualitative regulatory
6 ratings in 2017 and 2018 in response to the approval of the DMR and DP&L's
7 distribution rates, the fact that Moody's has stated that it may downgrade DPL and DP&L
8 if the DMR-E is not approved, and Moody's description of the criteria that it uses for
9 setting its qualitative ratings.

10 As of December 2018, Moody's current and forward view was that DP&L's rating for the
11 "Consistency and Predictability of Regulation" factor was "A."[102] Moody's describes a
12 firm with a score of "A" as one whose "interaction with the regulator has led to a track
13 record of largely predictable and consistent decisions," in which the regulator "has been
14 quite credit supportive of the [utility] in most circumstances."[103] In comparison, DP&L's
15 prior rating of "Baa" is described as one in which regulators are "generally consistent and
16 predictable." Based on the difference in this language, as well language in the Moody's
17 report, the "A" rating for this factor appears to reflect Moody's expectation that the DMR
18 will be extended.

19 Thus, it is reasonable to expect this rating to be reduced if the DMR-E is not extended.
20 To determine the level to which the rating is likely to be reduced, I examined the criteria

[102] Moody's Credit Opinion: DP&L, December 17, 2018, at 8.
[103] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 11.

for "Ba" and "B," in addition to "Baa." A "Ba" rating is assigned to firms who suffer from "considerable inconsistency, while a "B" rating is assigned to firms in which "[Moody's] expect[s] that regulatory decisions will be largely unpredictable or even somewhat arbitrary."[104] Moody's goes on to explain that for firms with this level of regulatory consistency,

> [W]e expect that the issuer will ultimately be able to obtain support when it encounters financial stress, albeit with material or more extended delays. Alternately, the regulator is untested, lacks a consistent track record, or is undergoing substantial change.[105]

Failure to extend the DMR would break the growing track record of regulatory support for DP&L and surprise Moody's and the other rating agencies. Therefore, I would expect that failure to extend the DMR would be a significant strike against the perceived predictability of DP&L's regulation, and would lead Moody's to downgrade DPL and DP&L's "Consistency and Predictability of Regulation" to [redacted].

Similarly, in December 2018, Moody's current view of DP&L's score for "Timeliness of Recovery of Operating and Capital Costs" was "Baa," while its forward view was that DP&L would warrant an "A" score in this category within the next 12-18 months.[106] As stated above, Moody's wrote that it expected the DMR to be extended through 2022 when determining these scores.[107] I make the conservative assumption that since Moody's projects that an extension of the DMR would improve this score by one category, a failure to extend the DMR would lead to a reduction in this score by at least

[104] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 11.
[105] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 11.
[106] Moody's Credit Opinion: DP&L, December 17, 2018, at 8.
[107] Moody's Credit Opinion: DP&L, December 17, 2018, at 2.

one category. As an important part of its description of a firm that would receive a score of "Ba" in this factor, Moody's writes, "[r]ecovery of costs related to capital investments may be subject to delays that are somewhat lengthy, but **not so pervasive as to be expected to discourage important investments**."[108] The fact that failure to extend the DMR would "discourage important investments" by DP&L provides further support for this projected downgrade.

Q. Please describe the impact on the financial condition and integrity of <u>DP&L</u> if the DMR-E is not approved.

A. As shown in Exhibit RJM-8, [redacted]

[redacted]

[108] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 14 (emphasis added).
[109] Exhibit RJM-9.

[redacted]

Q. How would DP&L's customers be affected by DPL's and DP&L's financial distress?

A. DP&L's customers would face a number of negative consequences. For example, as noted, [redacted]. If no DMR-E is awarded, and the financial condition of DPL and DP&L worsens as discussed above, the impacts will be magnified and more invasive. Specifically,

- Based on my analysis of capital expenditures by financially distressed companies described above, DP&L likely would reduce or delay such expenditures. All else equal, this reduction would result in a less effective and less reliable infrastructure for delivering electric service, which would harm customers and the state of Ohio more generally.

- DP&L would have limited or no ability to finance its proposed DMP, preventing its customers from benefiting from new technology like customers in other parts of Ohio and in other states. Also, as I discuss further below, without the DMP, DPL's long term financial viability would be threatened. In that case, DPL's financial distress would have a longer term negative impact on DP&L's customers.

- Management and regulators' attention and effort would be diverted from their normal duties aimed at fulfilling customers' needs to instead deal with the financial distress. This diversion also would cause harm to customers through reduced service quality.

- The increased cost of debt at DP&L would increase electric rates as the increased cost is passed through to customers.

- DP&L likely would invest less in service operations, which would reduce the quality of customer service and customer satisfaction.

Q. What would change if the DMR-E is not approved and the DMP is not pursued?

A. DPL and DP&L still would experience the negative financial effects that are described above, including [redacted] ratings downgrades. Although both entities would need to issue less debt, they also would lose the long term benefit of the revenues and profits from the DMP. As shown in Exhibits RJM-7 and 8, the financial condition and credit ratings of both companies start to improve in the out years due in significant part to the revenues and profits from the DMP. For example, as shown in Exhibit RJM-13A, DP&L's net income rises from [redacted], while its financial metrics improve accordingly. Dividends to DPL, [redacted]. These dividends would then be available to service DPL's debt. If the DMP is not approved, the "safety net" that its revenues and profits represent would be lost to the combined companies, thus increasing the threat to their long-term financial health.

Of course, as previously noted, absent a substantial DMR-E, DP&L almost certainly will not be able to finance and implement the proposed DMP due to DP&L's poor financial condition and integrity, as well as DPL's extreme financial distress. Therefore, a "No-DMR-E/No DMP" scenario would be the more realistic scenario if a substantial DMR-E is not approved.

Q. Would DP&L and DPL be able to avoid financial distress if the DMR-E is not approved and the DMP is not pursued?

A. No. While DP&L would avoid [redacted] in capital expenditures beginning in [redacted] without the DMP, freeing up cash for dividends to DPL, these dividends will not be sufficient to stave off financial distress. DPL still will [redacted]. Further, even assuming it can refinance $780 million in long-term debt [redacted] while experiencing financial distress, which is by no means certain, DPL still is projected to be required to either [redacted]. There would be no assurance that this would be possible, indicating an eventual liquidity crisis. Finally, over the long run, the DMP is projected to improve the financial strength of DP&L and DPL by contributing to their revenues and profits. Without those contributions, DPL and DP&L will be worse off in the long-run. So cancelling the DMP while also not approving the DMR-E will cause significant financial distress in the short-run, while removing a source of potential improved financial condition in the long run.

iv. Financial Condition and Integrity of DPL and DP&L with a $199 Million DMR-E

Q. Please describe the level of the DMR-E that you have determined should be collected from November 2020 through October 2022 in order for DPL and DP&L to meet the financial health goals that you have identified.

A. The results of my financial analysis indicate that a DMR-E of $199 million/year is required in order for DPL's projected credit rating to reach the [redacted].

Q. What are the main factors you considered in formulating your recommendation?

A. DPL's and DP&L's credit ratings depend on a number of financial metrics discussed above. For example, the Moody's credit rating model considers *Cash Flow / Debt*, *Retained Cash Flow / Debt, Interest Coverage*, and *Debt / Capital*. The financial covenants, especially DPL's *Debt / EBITDA* ratio, are another important consideration.

I consider all of these factors in my analysis. However, I selected my specific DMR-E number by choosing an amount that would result in a *Cash Flow / Debt* ratio of [redacted] by 2028.

Q. Why did you select this particular approach?

A. Moody's commonly references *Cash Flow / Debt* as an important metric in its ratings reports.[110] In its credit rating model, this is the financial factor that receives the highest weight.[111] [redacted]

Having DPL reach [redacted] is sensible in light of evidence that customers would benefit more with a higher credit rating. Specifically, as shown by the ratings data presented in Figures 2 and 3 above, DPL and DP&L are at the lower range of the distribution, which suggests that DPL and DP&L's customers would benefit from the higher projected [redacted] credit ratings that result from an appropriately-sized DMR-E. As discussed above, these benefits include a direct benefit from a lower cost of capital and an indirect benefit in the form of more timely and robust investment by the utility due to easier access to capital.

Q. What assumptions did you make to determine the $199 million DMR-E?

A. In addition to eliminating unrestricted cash, I make key assumptions in three areas: incremental long-term debt issued by DP&L to finance the DMP, voluntary pay-down of

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[110] See *e.g.*, Moody's Investors Service, "Moody's Upgrades DPL to Ba1 and DP&L to Baa2, Maintains Positive Outlook," October 3, 2018, at 1-2, and Moody's Investors Service, "DPL Inc.: Update Following Rating Upgrade to Ba2, Positive Outlook," April 11, 2018, at 4.
[111] Moody's Investors Service, "2017 Rating Methodology for Regulated Electric and Gas Utilities," at 22.
[112] Moody's Investors Service, "Moody's Upgrades DPL to Ba1 and DP&L to Baa2, Maintains Positive Outlook," October 3, 2018, at 2.

long-term debt by DPL, and dividends from DP&L to DPL. The amount of long-term debt issued by DP&L is selected to preserve its capital structure near [redacted] and to avoid drawing heavily on its revolving credit facility. This results in debt issuances of [redacted]. Dividends from DP&L to DPL are based on DP&L's surplus cash and preserving a capital structure near [redacted] [redacted].

Q: Is DP&L able to maintain a [redacted] regulatory debt/capital ratio with the proposed $199 million DMR-E?

A. As shown in Exhibit RJM-18, [redacted]

[redacted]

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[113] Consistent with the Company's internal financial projections, [redacted].

[114] For the purposes of this calculation, I exclude pension liabilities from debt to be consistent with the way DP&L presents its capital structure to PUCO. As noted above, when calculating the financial metrics used in the Moody's model I include pension liabilities to be consistent with the Moody's definition of debt. Similarly, *Debt / Capital* includes deferred tax liabilities as part of capital to follow the Moody's definition of capital.

1 [redacted]

2 [redacted]

3 [redacted]

4 [redacted]

5 [redacted]

6 [redacted]

7 [redacted]

8 [redacted]

9 [redacted]

10 [redacted]. It is important to note that a key factor driving the size of the DMR-E

11 is that it lasts for only two years (November 2020 to October 2022).[116] As a result, it has

12 a major impact on certain key income-based rating agency credit metrics, such as *Debt /*

13 *EBITDA* or *Cash Flow / Debt*, for only those two years. A significant DMR-E is required,

14 therefore, to allow for significant debt reduction to keep these ratios at a level that will

15 reduce the risk of a downgrade in 2023 and 2024, while providing DP&L with the ability

16 to finance the DMP capital expenditures at a reasonable cost.

17 **Q. Please describe the impact of the DMR-E on <u>DPL's</u> financial condition and**

18 **integrity.**

---

115 [redacted]

116 I note that if the two-year $199 million annual DMR-E were instead $99 million annually for four years, DPL's [redacted], all else equal, customers would see a slight decrease in their rates relative to the current $105 million DMR.

A. Based on my projections, a DMR-E of at least $199 million will allow DPL to avoid financial distress and a significant rating downgrade, while also providing a bridge to the years when the proposed DMP revenues and profits will help to ensure the long-term financial health of both DPL and DP&L.[117] Furthermore, DPL will not [redacted] and should be able to refinance its $780 million in debt that is maturing in 2021. The interest rate on this refinancing with the DMR-E likely will be lower than it would if a substantial DMR-E is not approved, further improving DPL's relative financial health. Thus, DPL will be able to avoid a liquidity crisis. In addition, DPL's overall credit rating based on my model will be [redacted]. The bases for this opinion include the following:

- In [redacted], DPL's *Cash Flow / Debt* ratio is at least [redacted]. Moody's has stated in its reports that an [redacted] value for this ratio is a key criterion for it to upgrade DPL to investment grade.

- DPL's current actual assigned rating from Moody's is Ba1, whereas my model shows a rating of [redacted]. This result suggests that, while my model captures a significant amount of the variation in DPL and DP&L's credit ratings, there are certain qualitative or other factors that my model cannot capture fully. [redacted]

[117] Exhibit RJM-14.

1 [redacted]
2 [redacted]

3 • While Moody's currently has DPL's credit rating at Ba1, or one notch below
4 investment grade, both S&P and Fitch currently have DPL's rating at the low end
5 of investment grade. This suggests that my model may be conservative because it
6 is based on the Moody's structure, and that DPL effectively is at the "high end"
7 of Moody's non-investment grade category and on the verge of an upgrade if
8 conditions improve.

9 • All of DPL's other key financial metrics are projected to be significantly
10 improved by 2028 compared to the values I project at the end of 2019, even
11 though they [redacted]
12 [redacted] based only on my model. By 2028 in particular, these ratios all would have
13 shown steady improvement beginning in 2023, with the potential for continued
14 improvement thereafter. Because the rating agencies analyze both current metrics
15 and metrics 12-18 months in the future, this upward trend likely would be a
16 positive factor [redacted]. Driving the
17 upward trend in these projected metrics is the increasing projected revenues and
18 profits from the DMP. By 2028 these revenues are projected to be [redacted]
19 per year.

20 • I have assumed conservatively that Moody's would hold its qualitative regulatory
21 factors constant if a $199 million DMR-E is approved. However, if a substantial
22 DMR-E is approved, it is reasonable to assume that Moody's would upgrade two

of those factors, which may result in a [redacted].

- Prior to 2016, Moody's applied a three-notch structural subordination notching reduction to its weighted average factor rating for DPL, in order to arrive at its actual assigned rating. For example, the Moody's weighted average factor rating for DPL October 13, 2015, was Baa3, but its assigned rating was Ba3. However, it later began to evaluate DPL ratings with just a two-notch adjustment.[118] [redacted]

Q. Please describe the impact of the DMR-E on <u>DP&L's</u> financial condition and integrity.

A. DP&L's projected credit rating will [redacted], even under the conservative assumption that Moody's will not adjust DP&L's qualitative regulatory ratings upwards due to approval of the substantial DMR-E.[119] Furthermore, it will be in good financial condition to maintain and maybe even [redacted], invest appropriately in its existing infrastructure, and finance and implement the proposed DMP, all at a lower capital cost to customers than if no DMR-E is approved.

[118] Moody's Investors Service, "Credit Opinion: DPL Inc.," October 13, 2015, at 7.
[119] Exhibit RJM-15.

These credit ratings and financial condition for both entities are the targeted results that will cause DPL and DP&L's projected financial health to be more in line with [redacted]

V. *NET BENEFIT OR COST TO CUSTOMERS*

Q. Is it your opinion that approval of the $199 million DMR-E is, on a net basis, beneficial to DP&L's customers?

A. Yes. While the DMR-E will increase rates temporarily by a total of $398 million over two years relative to the scenario without a DMR-E, my projections show that a $199 million DMR-E will allow DPL and DP&L to meet their coming financial challenges, including with the proposed DMP investment and to emerge in a stable condition over the longer term. DPL's credit rating is projected to [redacted].

It is important to note that their projected ratings, [redacted] This result reflects the balanced approach that I have applied in which I have chosen certain input assumptions in order to minimize the DMR-E while still achieving [redacted]. If I had chosen different assumptions or [redacted] in line with the peer group, the calculated DMR-E would likely have been higher.

As a result, DP&L's customers will derive substantial benefits from having a financially strong utility, as discussed extensively above. In stark contrast, without the DMR-E, both DPL and DP&L will suffer financial distress, and DPL will suffer extreme distress. In particular, DPL is projected to [redacted] as assumed in my model. In that case, not only will customers lose the benefit of having a financially strong utility, they will incur the substantial costs of having a utility and its holding company in financial distress, including distracted management and reduced investment in infrastructure, thus increasing the likelihood that DP&L will be unable to provide safe and reliable service to its customers.

Furthermore, without the proposed DMR-E, it will be difficult or impossible for DP&L to finance and complete its proposed DMP. The potential customer benefits from such investments, including investments in "smart grid" technology, have been well-described and documented. Based on my analysis of publicly available data, utilities have invested over $18 billion in grid modernization projects between 2010 and 2013[120] and are projected to have invested over $32 billion over the 10-year period between 2008 and 2017,[121] including $111 million by Ohio utilities.[122] This level of investment and the widespread implementation of such projects is a testament to the value they provide to customers.

Q. How have these projects been financed?

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[120] U.S. Department of Energy, 2014 Smart Grid System Report, August 2014, at 2.
[121] Richard J. Campbell, "The Smart Grid: Status and Outlook," Congressional Research Service, April 2018, at 7.
[122] https://www.smartgridlegalnews.com/cost-recovery/stepping-aside-on-smart-meter-deployment-dayton-power-light/. *See also*, EEI Summary of State Regulatory Smart Grid Decisions, August 2011, available at http://smartgrid.eei.org/Toolkit/2011-12-27-eei-state%20regulation-chart.pdf.

1 A. My analysis also shows that a number of these projects, including those in Ohio, were
2 financed in part by taxpayer subsidies, including grants from the federal stimulus package
3 following the 2008 financial crisis.

4 **Q. Please describe your analysis and findings on taxpayer support for grid**
5 **modernization projects.**

6 A. The Edison Electric Institute provides a summary of 70 grid modernization projects and
7 related state regulatory decisions, including an analysis of how these projects were
8 funded.[123] A large majority of these projects received taxpayer support in the form of
9 federal stimulus funding from the Smart Grid Investment Grant ("SGIG") through the
10 American Recovery and Reinvestment Act ("ARRA").[124]

11 SGIG was a program launched in 2009 by the US Department of Energy intended to
12 encourage investment in the modernization of the nation's electricity system. SGIG was
13 funded by $3.4 billion invested through the ARRA of 2009 and SGIG-funded projects
14 started in 2010.[125] SGIG was completed in 2015, by which time the $3.4 billion federal
15 stimulus funding had induced an additional $4.5 billion in private investment in grid
16 modernization projects, bringing the total investment to $7.9 billion.[126]

17 **Q. Did utilities in Ohio, including DP&L, receive any SGIG funding?**

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[123] EEI Summary of State Regulatory Smart Grid Decisions, August 2011, available at http://smartgrid.eei.org/Toolkit/2011-12-27-eei-state%20regulation-chart.pdf.
[124] EEI Summary of State Regulatory Smart Grid Decisions, August 2011, available at http://smartgrid.eei.org/Toolkit/2011-12-27-eei-state%20regulation-chart.pdf.
[125] U.S. Department of Energy, Smart Grid Investment Grant Program Final Report, December 2016, at 5.
[126] U.S. Department of Energy, Smart Grid Investment Grant Program Final Report, December 2016, at 5.

1 A. Certain utilities operating in Ohio, including AEP, Duke Energy, and FirstEnergy, did
2 receive federal funding from the SGIG program totaling at least $111 million.[127] These
3 projects were undertaken, and it is reasonable to assume that the stimulus funding
4 encouraged the utilities to make the investment. DP&L, in contrast, did not receive such
5 funding, and cited that fact as a reason for it to withdraw a proposal for advanced
6 metering infrastructure and smart grid that it had previously filed with PUCO.[128]

7 **Q. What is the importance of the federal funding for DP&L (or lack thereof) to your**
8 **analysis and recommendation?**

9 A. This evidence shows that, without some form of non-investor assistance, for example
10 from federal stimulus or perhaps the DMR-E, grid modernization projects are less likely
11 to be undertaken. Thus, to the extent that the DMR-E encourages and enables DP&L to
12 implement its DMP, it is similar the public encouragement that has been offered to many
13 other utilities and grid modernization projects that have been undertaken.

14 These findings provide additional support for my opinion that approval of the $199
15 million DMR-E is reasonable and would provide a net benefit to customers, in addition to
16 the clear net benefits that customers receive from avoiding financial distress and having a
17 financially strong utility.

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[127] https://www.smartgridlegalnews.com/cost-recovery/stepping-aside-on-smart-meter-deployment-dayton-power-light/. *See also*, EEI Summary of State Regulatory Smart Grid Decisions, August 2011, available at http://smartgrid.eei.org/Toolkit/2011-12-27-eei-state%20regulation-chart.pdf.

[128] Before the Public Utilities Commission of Ohio, Motion of the Dayton Power and Light Company to Withdraw Its Revised Advanced Metering Infrastructure and Smart Grid Business Cases, Case Nos. 08-1094-EL-SSO, 08-1095-EL-ATA, 08-1096-EL-AAM, 08-1097-EL-UNC, at 2.

1 ## *VI. CONCLUSION*

2 **Q. Please summarize your primary conclusions you have reached.**

3 A. First, without the DMR-E, DPL and DP&L are projected to suffer financial distress and
4 credit rating downgrades. DP&L's credit rating is projected to be downgraded to [redacted]
5 [redacted]. In addition, DPL is projected to suffer more extreme financial distress,
6 including a liquidity crisis involving a [redacted]
7 [redacted]. The effects of this extreme financial distress at DPL and its
8 impact on DP&L will make it difficult or impossible for DP&L to finance and implement
9 the DMP.

10 In contrast, with a $199 million DMR-E, DPL's credit rating is projected to reach
11 [redacted]. Furthermore, this rating is
12 likely to be sustainable. DP&L is projected to [redacted]
13 [redacted]. While this level of projected financial strength [redacted]
14 for both entities will still be [redacted]
15 [redacted], it will be sufficient for DP&L to finance and implement the proposed DMP, and
16 at a reasonable capital cost to customers.

17 For these and other reasons, DP&L's customers are better off on balance with the DMR-
18 E than without it.

19 **Q. Does this conclude your direct testimony?**

20 A. Yes.

21 1322765.1

APPENDIX A

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Mr. Malinak specializes in financial economics, with particular expertise in damages estimation, applied finance theory, and business and asset valuation. He has provided deposition and arbitration testimony on economic damages issues, and has testified on financial integrity, cost of capital and economic issues in utility rate hearings. Mr. Malinak has directed litigation projects in many industries on issues related to securities (including derivative securities), antitrust, breach of contract, taxation, regulatory economics, and intellectual property claims. Mr. Malinak has frequently addressed class certification and damages issues in securities fraud cases, as well as the myriad economic, financial, and accounting issues common to most damages calculations, such as cost of capital and prejudgment interest.

He has considerable experience in tax-related work, including leading Analysis Group teams in *Black & Decker, Inc. v. United States* and *Chemtech Royalty Associates L.P. v. United States,* as well as in financial institutions and risk management, having been heavily involved in the *Winstar* savings and loan litigations, and having also completed a major project on the risk of Fannie Mae. Mr. Malinak has acted as a management consultant to clients in the energy, environmental, and health care industries, and as an economic valuation and business strategy consultant to clients with new technology, intellectual property, and intangible assets.

He is the treasurer, head of the audit and finance committee, and a member of the executive committee and board of directors of the Meridian International Center, an international leadership organization that works with partners in the government, private, NGO, and educational sectors to create lasting international partnerships through leadership programs and cultural exchanges. Prior to joining Analysis Group, Mr. Malinak was a principal at Putnam, Hayes & Bartlett, Inc.

EDUCATION

M.B.A. (Finance and Accounting), University of Texas Graduate School of Business (Austin, Texas)

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PROFESSIONAL EXPERIENCE

2000- *Managing Principal,* Analysis Group, Inc. (Washington, D.C.).
Financial and economic analysis and testimony related to complex securities, finance, accounting, antitrust and general business litigation. Financial and economic consulting related to public policy issues and business and other asset valuation.

1997-1999 *Vice President*, Analysis Group, Inc. (Washington, D.C.).

1996-1997 *Vice-President and Secretary/Treasurer*, Malinak Medical Products, Inc., (Phoenix, Arizona), a wholesale medical supplies and service company.

1994-1996 *Principal,* Putnam, Hayes & Bartlett, Inc. (Washington, D.C.).

1988-1993 *Associate*, Putnam, Hayes & Bartlett, Inc. (Washington, D.C.).

1986-1987 *Staff Consultant*, Peterson & Co. (Houston, Texas).

CURRENT BOARD POSITIONS

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2014-Present Member, Board of Directors and Executive Committee
Treasurer and Chairman of the Audit and Finance Committee

PREVIOUS PROFESSIONAL POSITIONS

Meridian International Center, Washington, D.C.

2013-2014 Member, Audit Committee

American Society of International Law, Washington, D.C.

2009-2011 Member, Audit Committee

SELECTED REPRESENTATIVE CONSULTING ENGAGEMENTS

Regulatory Consulting

SOUTH CAROLINA PUBLIC SERVICE COMMISSION, DOCKETS NO. 2017-207-E; 2017-305-E; and 2017-370-E (Rate Proceeding Involving Nuclear Power Plant Costs)

Overall project management and analysis of economic and financial issues in a rate proceeding to determine the portion of over $5 billion in capital and financing costs for an abandoned nuclear construction project that should be allowed in electricity rates. Issues addressed included the impact of regulatory disallowances on cost of capital, measurement of shareholder losses due to regulatory and political actions, and the appropriate calculation of utility revenue requirements.

PUBLIC UTILITIES COMMISION OF OHIO, DAYTON POWER & LIGHT (DP&L) RATE PROCEEDINGS

Expert witness for DP&L on financial and economic issues in several rate proceedings. See Deposition and Trial Testimony section below.

SOUTH CAROLINA PUBLIC SERVICE COMMISSION, DOCKET NO. 2005-113-G (Application for Increase in Gas Rates and Charges)

Overall project management and analysis of the appropriate cost of capital for a natural gas distribution system.

U.S. ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, D.C.
Energy Industry

Expert affidavit and declaration on behalf of a number of energy firms in a Freedom of Information Act matter regarding the value of information contained in confidential business documents.

U.S. EPA AND/OR PUBLIC INTEREST GROUPS V. VARIOUS DEFENDANT FIRMS
Various Industries

Analysis of the present value of pollution control costs allegedly avoided due to non-compliance with Clean Water Act regulations. Work included review and critique of the EPA's "BEN" financial model for calculating the economic benefit of noncompliance with Clean Water Act regulations.

General Business Litigation

AMERICAN ARBITRATION ASSOCIATION, WASHINGTON, D.C.
Major Commercial Bank v. Federal Deposit Insurance Corporation

Overall project management and analysis of the value of distressed commercial real estate and related loans. Also, in-depth analysis of proper accounting for impaired loans and Other Real Estate Owned under U.S. Generally Accepted Accounting Principles.

CIRCUIT COURT FOR THE CITY OF ALEXANDRIA, VIRIGNIA
General Motors Acceptance Corporation (GMAC) v. Field Auto City, Inc.

Expert report (co-authored) regarding the damages sustained by a car dealership due to the alleged improper withdrawal of floor plan financing by GMAC.

U.S. BANKRUPTCY COURT, SOUTHERN DISTRICT OF NEW YORK
In re: Genuity., et al., Debtors.

Analysis of asset purchase agreement and damages in this bankruptcy proceeding. Key issues included the cause of bankruptcy, the value of the enterprise and the economic and financial impact of the proposed restructuring agreement.

U.S. DISTRICT COURT, DISTRICT OF COLUMBIA
Philip L. Chabot, Jr. v. Brickfield, Burchette & Ritts, P.C. et al.

Expert report regarding the value of an equity interest in a "greenfield" steel company at various stages in the firm lifecycle, including the seed capital and start-up financing stages.

UNITED STATES COURT OF FEDERAL CLAIMS, WASHINGTON, D.C.
FDIC as Receiver for various Savings & Loan Institutions v. The United States

Overall project management and analysis of damages. Key issues included the appropriateness of various damages theories and the value of leverage in the regulated thrift industry.

AMERICAN ARBITRATION ASSOCIATION, NEW YORK
New Industries Co. (Sudan) Ltd. v. Pepsico, Inc.

Overall case management and analysis of damages in this breach of contract case involving the original Pepsi bottler in Sudan. Key issues included the appropriate methods for projecting lost profits and the valuation of the business of a soft drink bottler.

DISTRICT OF COLUMBIA AND DELAWARE CHANCERY COURTS
Robert Haft v. Herbert Haft and Dart Group

Analysis of the value of large holdings of common stock and options on the common stock of a number of public and private companies with a combined $1 billion plus in revenues. Key issues included assumptions to use in a discounted cash flow analysis (DCF), the valuation of employee stock options and the applicability of minority and marketability discounts to securities prices.

Securities and Commodity Market Litigation

U.S. DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION
United States of America v. Mark David Radley, et al.

Overall case management and analysis of natural gas liquids markets, propane price movements, market microstructure issues and allegations regarding market power and price manipulation. Key issues included the size and definition of the relevant market, the appropriate measurement of market power in the context of futures/forward contract markets, and appropriate methods for analyzing trading behavior and specific claims of price manipulation.

U.S. DISTRICT COURT FOR THE DISTRICT OF MARYLAND, BALTIMORE DIVISION
United States Securities and Exchange Commission v. Agora, Inc., Pirate Investor, LLC and Frank Porter Stansberry

Overall case management and analysis of the materiality to investors of certain information regarding a nuclear fuel processing firm contained in an investor newsletter. Key issues included the effect of public information releases on the firm's stock price.

U.S. DISTRICT COURT, DISTRICT OF MASSACHUSETTS
Class v. Life Sciences Company 1

Expert report on damages and participation in a mediation hearing. The analysis addressed the value of the common stock and other securities of a Life Sciences company at different times and under different assumptions.

U.S. DISTRICT COURT, DISTRICT OF MASSACHUSETTS
Class v. Life Sciences Company 2

Expert report on the alleged damages of the lead plaintiff, which was a hedge fund, and analysis of alleged class-wide damages. The expert report, which was filed in support of a motion in opposition to class certification, addressed the economic impact on the lead plaintiff of the simultaneous increase in value of a short position in the Life Sciences' firm's common stock and the decrease in value of the plaintiff's convertible bond position.

U.S. DISTRICT COURT FOR THE DISTRICT OF MASSACHUSETTS
In Re: Xcelera.com Securities Litigation

Overall case management and analysis of the efficiency of the market for the equity securities of an internet-related firm for class certification purposes in a 10b-5 matter. Key issues included the existence of limits to arbitrage (e.g., short sales constraints) and the extent of participation by traders who were trading based on non-fundamental economic criteria during the class period.

U.S. DISTRICT COURT FOR THE DISTRICT OF IDAHO
Muzinich & Co., Inc. et al. v. Raytheon Company, et al.

Overall case management and analysis of the efficiency of the market for the unregistered 144A bonds of a construction firm. Key issues included the existence of appropriate analyst coverage, the amount of trading volume, the nature of the reaction of the bond prices to new information and the size of the bid-ask spread.

COURT OF COMMON PLEAS, PHILADELPHIA COUNTY
Plaintiff Class v. Sun Company, Inc.

Overall case management and analysis of trading in Sun common stock related to allegations that a preferred stock redemption rate calculation was affected by stock price manipulation.

U.S. DISTRICT COURT, EASTERN DISTRICT OF PENNSYLVANIA
Plaintiff Class v. Centocor, Inc.

Analysis of alleged securities fraud damages and other economic issues in a 10b-5 matter involving allegations surrounding the announcement of the outcome of joint venture negotiations. Key issues included the measurement of abnormal stock returns in the presence of extreme volatility and the analysis of damages, if any, to various investor sub-classes, including day traders and short-sellers.

U.S. DISTRICT COURT, NORTHERN DISTRICT OF ILLINOIS
Plaintiff Class v. Kemper Mutual Funds

Analysis regarding distribution of returns on over 130,000 S&P500 futures transactions in investigation of improper trading and self-dealing by the fund manager in class-action involving investors in two public equity mutual funds. Key issues included definition of hedging strategies, trade matching methods and appropriate statistical methods.

TEXAS STATE COURT, BEAUMONT
Plaintiff Class v. Paine Webber

Analysis of the sale prices for limited partnership units. Key issues included the amount of damages sustained by two different investor classes, the average settlement amounts in securities fraud matters, and the value of a company after a roll-up reorganization into an equity financed company.

Tax-Related Litigation

UNITED STATES TAX COURT, WASHINGTON D.C.
Major Multinational Manufacturing Company v. Commissioner of Internal Revenue

Overall case management and analysis of financial data and complex transactions. Work included assessing the economic substance and business purpose of a series of complex transactions in a repatriation matter.

UNITED STATES DISTRICT COURT, MIDDLE DISTRICT OF LOUISIANA
Chemtech Royalty Associates, L.P., by Dow Europe, S.A. as Tax Matters Partner v. United States of America

Overall case management and analysis of financial data and complex transactions. Work included assessing whether certain instruments were more akin to debt or equity from an economic point of view.

GOVERNMENT TAX-RELATED INVESTIGATION
Major Non-U.S. Multinational Company v. United States

Overall case management and analysis of computerized accounting data. Work involved obtaining and analyzing all of the computerized accounting data for a large division of a major multinational to determine the way the firm accounted for certain intercompany transactions and managed its cash flow.

UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF CALIFORNIA, SAN FRANCISCO DIVISION
SCVHG Valley Housing Group, Inc. v. United States

Overall case management and analysis of finance and valuation issues. Work included assessing the economic substance and business purpose of a transaction involving issuance of warrants, the valuation of the warrants, and the market valuation of an S-Corp's securities.

UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF CALIFORNIA, SAN FRANCISCO DIVISION
SCVHG Valley Housing Group, Inc. v. United States

Overall case management and analysis of finance and valuation issues. Work included assessing the economic substance and business purpose of a transaction involving issuance of warrants, the valuation of the warrants, and the market valuation of an S-Corp's securities.

AMERICAN ARBITRATION ASSOCIATION, CHICAGO, ILLINOIS
Tax Payer v. Tax Transaction Participant

Overall case management and analysis of finance and valuation issues. Work included assessing the economic substance of a transaction involving the purchase of emerging market distressed consumer and trade debt, determining the value of this distressed debt and performing "forensic accounting" analysis.

U.S. COURT OF FEDERAL CLAIMS
National Westminster Bank, PLC. v. United States

Overall case management and analysis of accounting issues. Work included the reconstruction of the financial statements of the U.S. branches of a foreign bank, based on accounting and other information that was incomplete and, in many cases, over 20 years old.

U.S. DISTRICT COURT, DISTRICT OF MARYLAND, BALTIMORE DIVISION
WFC Holdings Corp. v. United States

Overall case management and analysis of economic issues. Key issues included the economic substance and business purpose of a transaction involving the formation of a special purpose entity.

U.S. DISTRICT COURT, DISTRICT OF MARYLAND, BALTIMORE DIVISION
Black and Decker, Inc. v. United States

Overall case management and analysis of economic issues. Key issues included the economic substance and business purpose of a transaction involving the formation of a special purpose entity and the payoff structures of different financial instruments.

U.S. DISTRICT COURT, SOUTHERN DISTRICT OF W. VIRGINIA
Flat Top Insurance Agency v. United States

Expert report regarding the economic life and value of insurance renewal intangible assets to be used for tax depreciation purposes.

U.S. DISTRICT COURT, EASTERN DISTRICT OF VA, RICHMOND DIV.
Trigon Insurance Company vs. United States of America

Overall case management and analysis of economic issues in a tax refund case involving a customer base as an intangible asset.

Non-Securities Class Action Litigation

U.S. DISTRICT COURT FOR THE DISTRICT OF NEW JERSEY
Beverly Clark, et al., v. Prudential Insurance Company of America

Analysis of damages and other issues related to class certification. Key issues included the appropriate damages methodology and the extent to which individual inquiry was required to accurately determine damages.

Antitrust

U.S. DISTRICT COURT, NORTHERN DISTRICT OF CALIFORNIA
Central Garden & Pet Company v. The Scotts Company and Pharmacia
Overall case management and analysis of antitrust damages. Key issues included the appropriate herbicide product market definition, the measurement of market power, and the effect of the trend towards "big box" retailers on herbicide manufacturers and distributors.

U.S. DISTRICT COURT, NORTHERN DISTRICT OF IOWA
Act, Inc. v. Sylvan Learning Systems
Overall case management and analysis of market power issues and antitrust damages.

TEXAS STATE COURT, CORPUS CHRISTI
Independent Service Provider v. IBM
Damages and antitrust analyses prepared on behalf of IBM. Key issues included definition of relevant markets, calculation of the defendant's market share, calculation of antitrust and business disparagement damages and valuation of settlement options.

U.S. DISTRICT COURT, FLORIDA
Thermo Electron & Rolls Royce, Inc. v. Florida Power & Light
Analysis of damages due to alleged anticompetitive acts by an electric utility. Key issues included forecasting of fuel prices, business decision-making procedures, profitability of cogeneration facilities and the appropriate cost of capital to use in evaluating investments in electricity generation facilities.

TEXAS COURT
ETSI Pipeline Project, et al. v. Burlington Northern, et al.
Assistance to counsel in rebutting opposing expert's lost profits damages claim. Key issues included the appropriate measure of lost profits and the appropriate discount and interest rates to apply in valuing the lost profits stream.

Environmental Insurance and Other Insurance Litigation

CONFIDENTIAL MATTER
Financial Institution v. Group of Insurers/Reinsurers
Analysis of potential trading and other losses due to business interruption resulting from a single disaster-type event.

SUPERIOR COURT OF THE STATE OF WASHINGTON, KING COUNTY
Alcoa Inc., and Northwest Alloys, Inc., v. Accident and Casualty Insurance Company, et al.
Analysis of the history of environmental regulation of various pollutants to determine the extent of government and industry knowledge regarding those pollutants at various policy dates. Analysis of economic damages due to environmental contamination.

ENVIRONMENTAL INSURANCE SETTLEMENT MATTER
General Electric v. Environmental Insurance Firms
Analysis of the value of future environmental remediation cost liabilities for settlement purposes, including the determination of the appropriate discount and inflation rates to use in valuing projected environmental remediation costs.

Intellectual Property Litigation

U.S. DISTRICT COURT, DISTRICT OF CONNECTICUT
Joint Medical Products Corporation v. Depuy, Inc., et al.
Analysis of patent damages. Key issues: the factors driving the buying decision in the hip implant market, fixed versus variable costs and relevant licensing rates for comparable products.

U.S. DISTRICT COURT, EASTERN DISTRICT OF VIRGINIA
Wang Laboratories, Inc. v. America Online, Inc. and Netscape Communications Corp.
Valuation of patented on-line services software interface features. Key issue: the economic value of customer retention.

U.S. DISTRICT COURT, EASTERN DISTRICT OF PENNSYLVANIA
BTG USA, Inc. v. Magellan Corp. / BTG v. Trimble Navigation
Patent damages: analysis of prejudgment interest, reasonable royalty, value of inventory on hand, preparation and investments made and business commenced (as of patent reissuance) involving a patent directed to secret or secure communications technology employed in global positioning systems products.

U.S. DISTRICT COURT, DISTRICT OF MASSACHUSETTS
Polaroid v. Kodak
Patent damages: analysis and preparation of trial exhibits in support of academic witness's discount and interest rate testimony. Analysis of fixed and variable costs for use in lost profits study involving an instant photography technology patent.

Prospective Intellectual Property Consulting and Valuation

Internet Security/Privacy Technology
Valuation of a patent-pending technology for enhancing the security and privacy of web-based transactions and interactions.

Smartcard Technology for GSM Wireless Phones
Valuation of a portfolio of patents in relation to their potential use in GSM wireless phones.

Automotive Industry Patent Portfolio
Preparation of a preliminary report supporting the potential value of an international portfolio of product patents in the automotive industry. Identification of industry players, description of market structure, profitability analysis of potential licensees and estimation of potential royalty payments.

Biotechnology Patent
Preparation of materials supporting the potential value of a basic process patent in the biotechnology industry. Identification of industry players, description of market structure, and profitability analysis of potential licensees.

Medical Diagnostic Test Patent
Identification of industry players, description of market structure, evaluation of alternative technologies and profitability analysis of potential licensees.

Wireless Telecommunications Patent
Preparation of a report on the potential value of a basic process patent in the wireless telecommunications industry. Identification of industry players, description of market structure, evaluation of alternative technologies and profitability analysis of potential licensees.

Management Consulting and Valuation Projects

CLIENT: FANNIE MAE

Overall responsibility for assisting in the preparation of a white paper appearing on Fannie Mae's website, including analysis of the financial risk of Fannie Mae. Key issues included the appropriate model to use in evaluating the risk of a large regulated mortgage banking and guarantee business with a sophisticated hedging operation using derivatives.

CLIENT: ENVIRONMENTAL INSURANCE FIRM

Expert report regarding the appropriate discount and inflation rates to use in calculating the present value of projected environmental remediation costs. Participation in settlement meetings.

CLIENT: HOSPITAL MANAGEMENT

Analysis of the value of a hospital in connection with a proposed hospital merger transaction. Key issues included the appropriate measure of hospital profits, the cost of capital to use in valuing those profits and the impact of market forces (e.g., managed care) on the hospital's future revenues.

CLIENT: MAJOR FEDERAL GOVERNMENT AGENCY

Review of the decision making methods and data regarding a large government energy project. Key issues included the best quantitative methods to use to support the government's decision, the appropriate discount rates to use in valuing different projects and the option value of flexibility when projecting the cost of private and government mega-projects.

CLIENT: WOOD FLOORING MANUFACTURER

Preparation of an economic feasibility study for the installation of a cogeneration facility by a basketball court flooring manufacturer. Effort included extensive research into the cost of constructing a facility and the projected cost of power in the Upper Peninsula of Michigan.

DEPOSITION AND TRIAL TESTIMONY

CIRCUIT COURT FOR THE COUNTY OF ORANGE, VIRGINIA

McConnell v. McConnell

Expert and rebuttal reports and hearing testimony regarding the meaning of "personal efforts" as applied to investing, and the increase (decrease) in value of marital assets due to such personal efforts.

PUBLIC UTILITIES COMMISION OF OHIO, Case No.'s 16-0395-EL-SSO, 16-0396-EL-ATA and 16-0397-EL-AAM.

Pre-filed direct, deposition and hearing testimony focused on the issues of (a) whether the Amended Stipulation and Recommendation signed by Dayton Power and Light (DP&L) and various parties in interest is more favorable in the aggregate for ratepayers than a hypothetical Market Rate Offer, and (b) the impact of different rate plans and other assumptions on the financial integrity of DP&L.

PUBLIC UTILITIES COMMISION OF OHIO, Case No.'s 12-426-EL-SSO, 12-427-EL-ATA, 12-428-EL-AAM, 12-429-EL-WVR and 12-672-EL-RDR

Pre-filed direct, rebuttal, deposition and hearing testimony on the issues of (a) whether the proposed Electricity Stabilization Plan filed by DP&L is more favorable in the aggregate for ratepayers than a hypothetical Market Rate Offer, (b) the impact of different rate plans on the financial integrity of DP&L, and (c) the current cost of capital for DP&L.

U.S. DISTRICT COURT, MIDDLE DISTRICT OF NORTH CAROLINA, DURHAM DIV.
Humana Military Healthcare Services, Inc., v. Blue Cross and Blue Shield of North Carolina, et al.
Expert report and deposition testimony regarding the amount of trade secret damages in the context of a large government managed care contract procurement.

AMERICAN ARBITRATION ASSOCIATION (BOSTON OFFICE)
Pragmatech Software v. Silknet Software, Inc.
Expert report and testimony at an arbitration hearing regarding the proper measure of damages in a breach of contract case involving alleged improper use of intellectual property / confidential information.

PUBLICATIONS

"Estimating the Cost of Capital," Litigation Services Handbook, The Role of the Financial Expert, Chapter 10 (pp. 10.1-10.25), Sixth Edition (2017) (co-authored with J. McLean).

"Estimating the Cost of Capital," Litigation Services Handbook, The Role of the Financial Expert, Chapter 7 (pp. 7.1-7.22), Fourth Edition (2007) (co-authored with G. Jetley and L. Stamm).

SPEECHES/COURSES

"First Mover Advantages and e-Competition: Sustaining Superior Profitability in e-Commerce," presented as part of a panel titled, "Effective Use of Expert Witnesses in e-Commerce Antitrust Litigation," at a regional meeting of the antitrust litigation section of the American Bar Association, February 2001.

"Savings & Loan Financial Modeling Issues," presentation to the Receivership Goodwill Section of the Federal Deposit Insurance Corporation, October 2000 (confidential).

"Internet Patents -- Monetary Remedies" (with John C. Jarosz), American Intellectual Property Law Association (22nd Mid-Winter Institute titled, "IP Law in Cyberspace"), February 1999.

NEWSLETTER ARTICLES

"Damage Awards – Royalty Rates versus Profit Rates," IP Litigator, November/December 2000 (Volume 6, Number 6).

"Presenting Economic Expert Testimony to a Jury: Five Golden Rules," antitrust litigation newsletter.

EXHIBIT RJM-1

DPL INC. AND DP&L
OUTSTANDING LONG-TERM DEBT AS OF SEPTEMBER 30, 2018

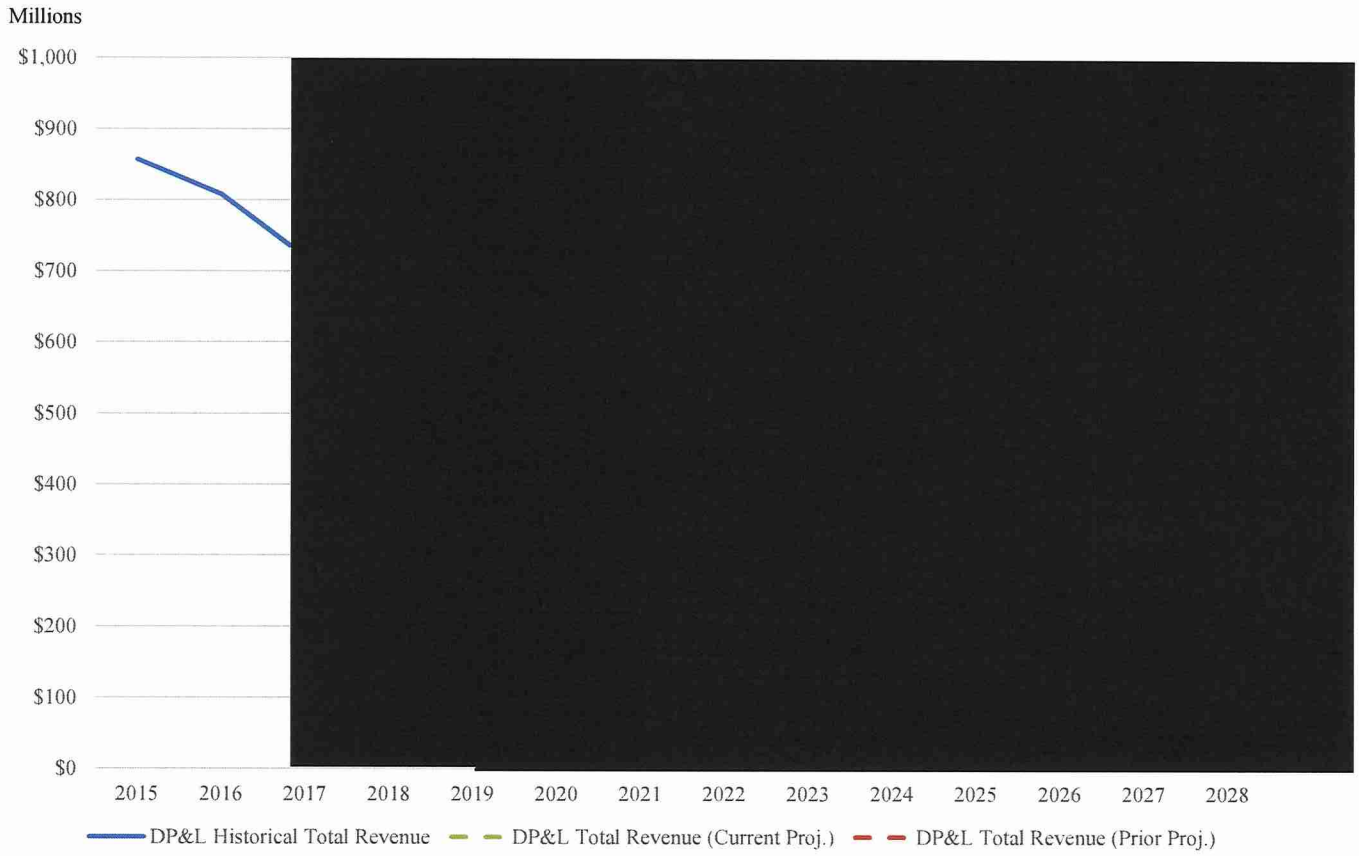
	Interest Rate	Maturity	Amount Outstanding
DPL Inc.			
Senior Unsecured Notes	6.750%	2019	$99.0
Senior Unsecured Notes	7.250%	2021[1]	$780.0
DPL Capital Trust II	8.125%	2031	$15.6
Unamortized Deferred Financing Costs			($4.8)
Unamortized Long-Term Debt Discounts and Premiums, Net			($0.5)
DPL Inc. Total Long-Term Debt			$889.3
DP&L			
Term Loan	3.57-4.82%[2]	2022	437.2[3]
Tax-Exempt First Mortgage Bonds	2.50-2.72%[2]	2020	$140.0
U.S. Government Note	4.200%	2061	$17.7
Unamortized Deferred Financing Costs			($6.7)
Unamortized Long-Term Debt Discounts and Premiums, Net			($1.5)
DP&L Total Long-Term Debt			$586.7
Total Consolidated Long-Term Debt			$1,476.0
Less: Current Portion of Debt			($4.6)
Total Consolidated Long-Term Debt, Net of Current Portion			$1,471.4

Notes & Sources:
In millions.
From DPL Inc. and The Dayton Power and Light Company Form 10-Q for the quarterly period ended September 30, 2018, at 24, 50.

[1] A[redacted]

EXHIBIT RJM-2A

DP&L HISTORICAL AND PROJECTED TOTAL REVENUE, 2015 – 2028
STANDARDIZED DMR AND EXCLUDING GENERATION



Notes & Sources:

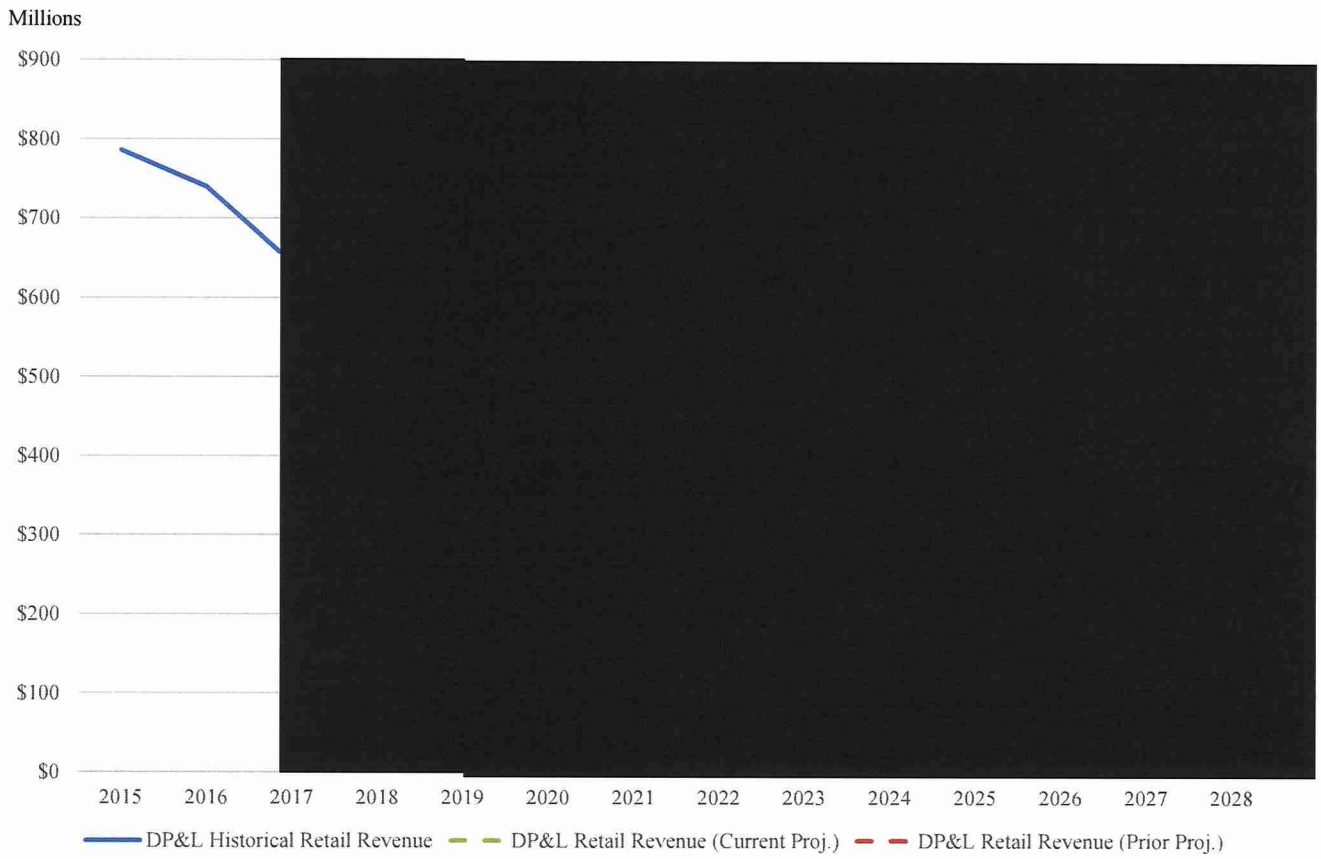
DP&L Historical Total Revenue from DPL Inc. and The Dayton Power and Light Company Form 10-K for the fiscal year ended December 31, 2017, at 36. In 2017, two months of DMR-E at $105 million, calculated as 2/12 * $105,000,000, are removed from total revenues.

DP&L Total Revenue (Current Proj.) from December 2018 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

DP&L Total Revenue (Prior Proj.) from October 2016 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter. Excludes revenue from DP&L Generation.

EXHIBIT RJM-2B

DP&L HISTORICAL AND PROJECTED RETAIL REVENUE, 2015 – 2028
STANDARDIZED DMR AND EXCLUDING GENERATION



Notes & Sources:

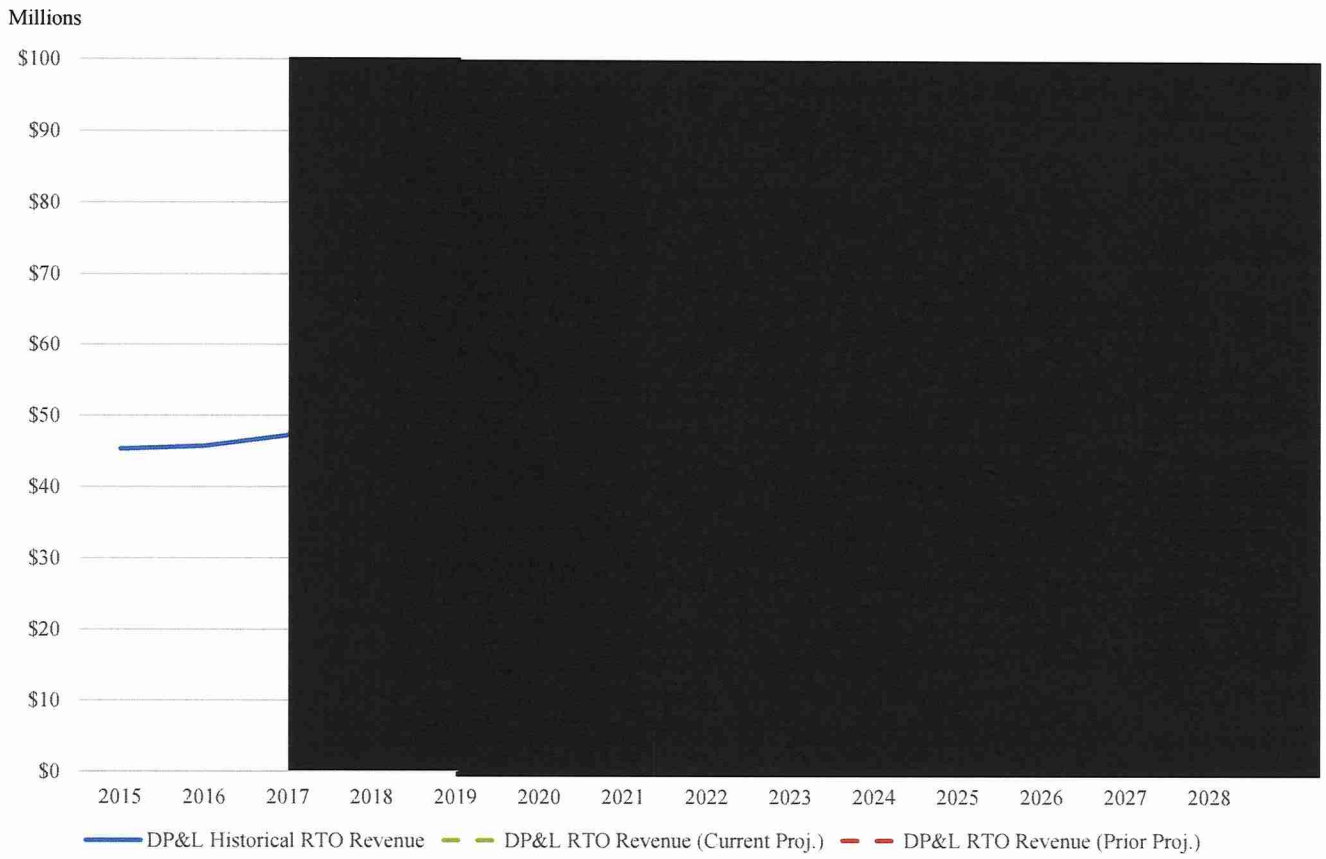
DP&L Historical Retail Revenue from DPL Inc. and The Dayton Power and Light Company Form 10-K for the fiscal year ended December 31, 2017, at 49.

DP&L Retail Revenue (Current Proj.) from December 2018 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

DP&L Retail Revenue (Prior Proj.) from October 2016 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter."

EXHIBIT RJM-2C

DP&L HISTORICAL AND PROJECTED RTO REVENUE, 2015 – 2028
STANDARDIZED DMR AND EXCLUDING GENERATION



Notes & Sources:

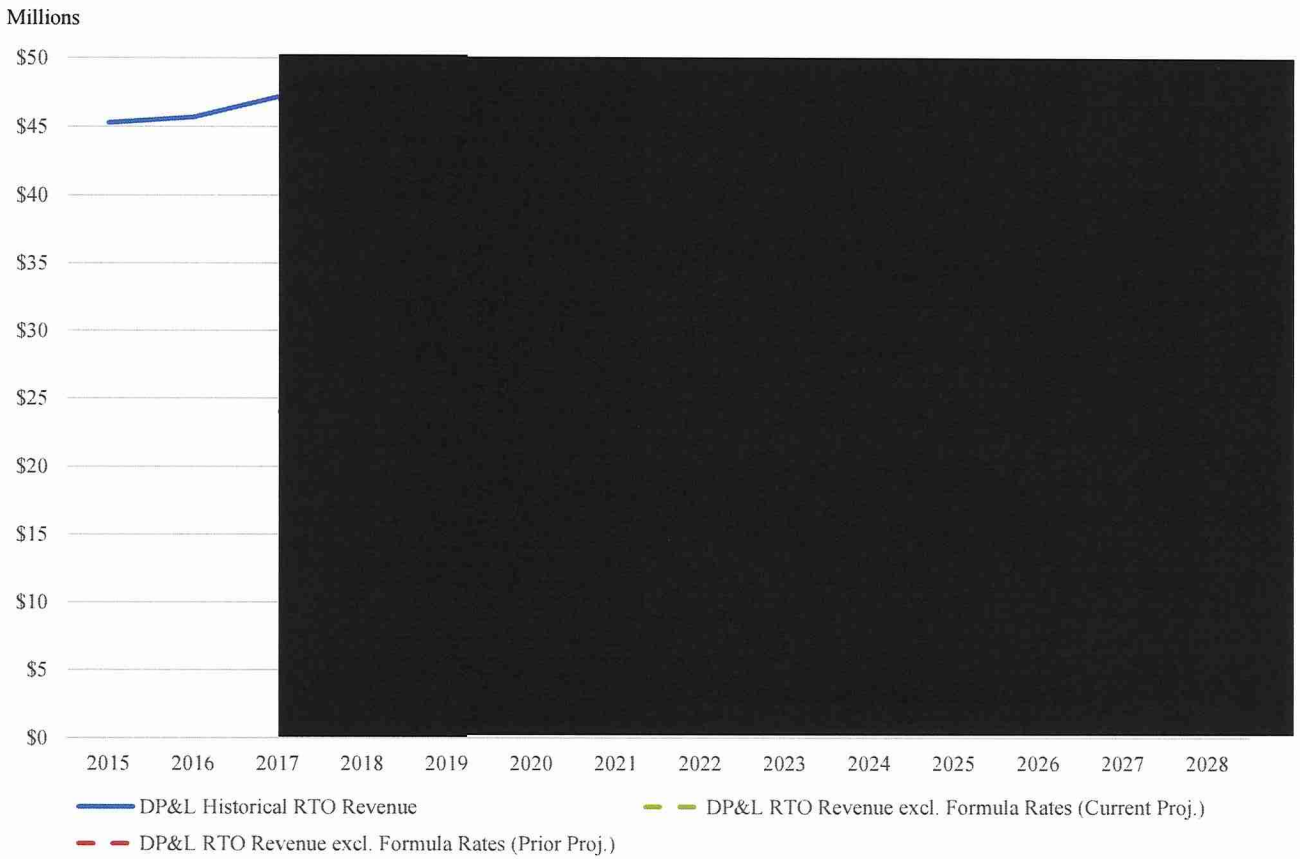
DP&L Historical RTO Revenue from DPL Inc. and The Dayton Power and Light Company Form 10-K for the fiscal year ended December 31, 2017, at 49.

DP&L RTO Revenue (Current Proj.) from December 2018 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

DP&L RTO Revenue (Prior Proj.) from October 2016 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

EXHIBIT RJM-2D

DP&L HISTORICAL AND PROJECTED RTO REVENUE EXCL. FORMULA RATES, 2015 – 2028
STANDARDIZED DMR AND EXCLUDING GENERATION



Notes & Sources:

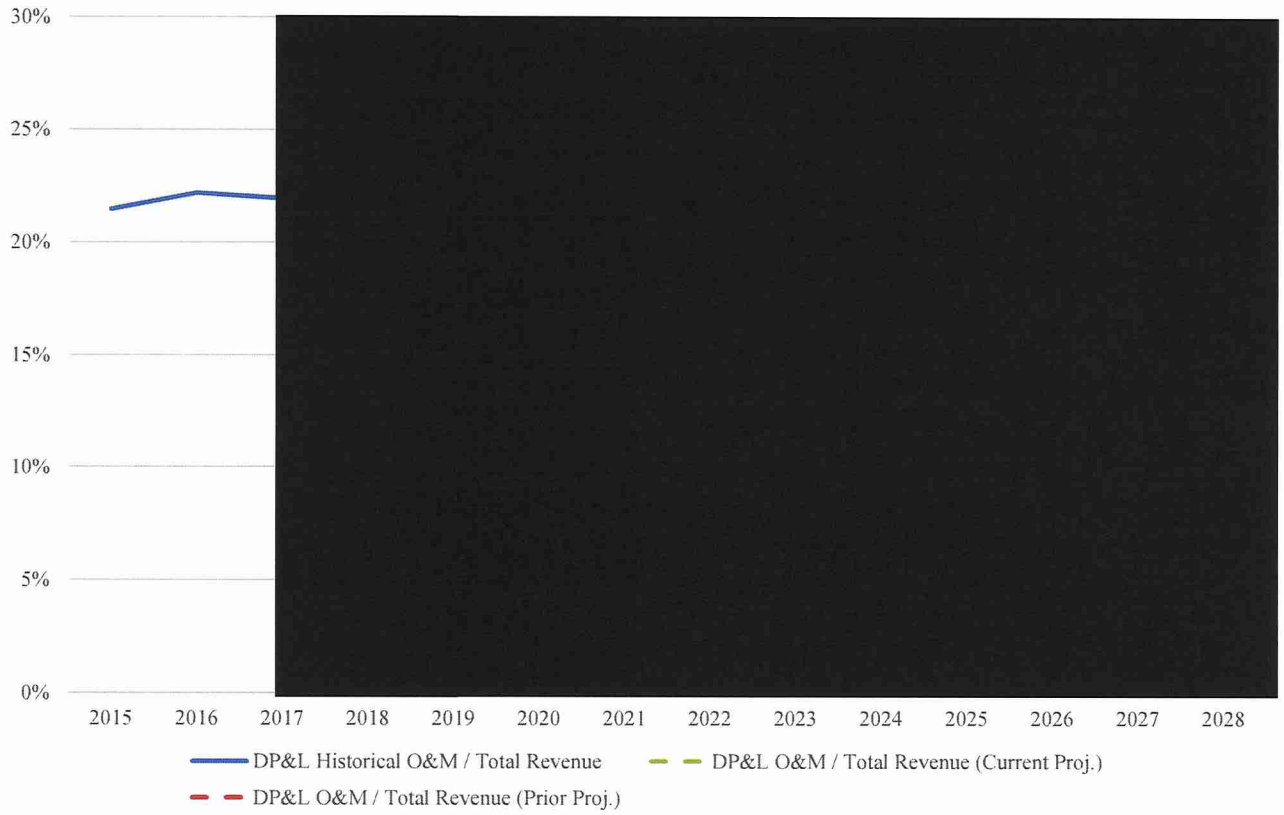
DP&L Historical RTO Revenue from DPL Inc. and The Dayton Power and Light Company Form 10-K for the fiscal year ended December 31, 2017, at 49.

DP&L RTO Revenue excl. Formula Rates (Current Proj.) from December 2018 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

DP&L RTO Revenue excl. Formula Rates (Prior Proj.) from October 2016 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

EXHIBIT RJM-2E

DP&L HISTORICAL AND PROJECTED O&M / TOTAL REVENUE, 2015 – 2028
STANDARDIZED DMR AND EXCLUDING GENERATION



Notes & Sources:

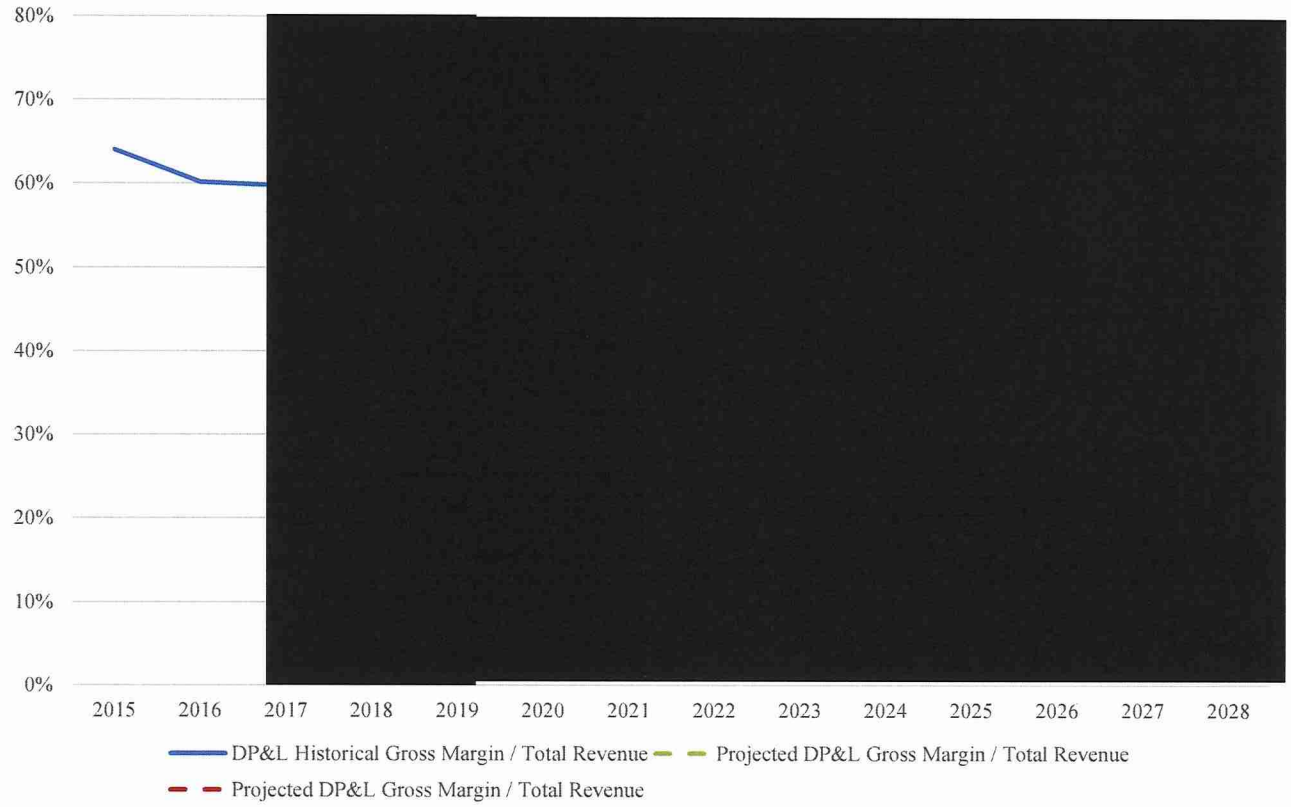
DP&L Historical O&M / Total Revenue from DPL Inc. and The Dayton Power and Light Company Form 10-K for the fiscal year ended December 31, 2017, at 49.

DP&L O&M / Total Revenue (Current Proj.) from December 2018 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

DP&L O&M / Total Revenue (Prior Proj.) from October 2016 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter. Excludes O&M and Revenue from DP&L Generation.

EXHIBIT RJM-2F

DP&L HISTORICAL AND PROJECTED GROSS MARGIN / TOTAL REVENUE, 2015 – 2028
STANDARDIZED DMR AND EXCLUDING GENERATION



Notes & Sources:

DP&L Historical Gross Margin / Total Revenue from DPL Inc. and The Dayton Power and Light Company Form 10-K for the fiscal year ended December 31, 2017, at 49.

Projected DP&L Gross Margin / Total Revenue from December 2018 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter.

Projected DP&L Gross Margin / Total Revenue from October 2016 internal Company projections. Assumes $105 million annual DMR through October 2020 and no DMR-E thereafter. Excludes Gross Margin and Revenue from DP&L Generation.

EXHIBIT RJM-3

COMPARISON OF CURRENT AND PRIOR PROJECTIONS, 2019 – 2028
DPL INC. INTERNAL COMPANY FINANCIAL MODEL
STANDARDIZED DMR AND EXCLUDING GENERATION

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential Distribution Load (MWh)	[redacted]									
Current Projections										
Prior Projections										
% Difference										
Retail Distribution Load (MWh)										
Current Projections										
Prior Projections										
% Difference										
Residential Retained Load % (Retained SSO / Distribution Load)										
Current Projections										
Prior Projections										
% Difference										
Retail Retained Load % (Retained SSO / Distribution Load)										
Current Projections										
Prior Projections										
% Difference										
Residential Distribution Charge ($/MWh)										
Current Projections										
Prior Projections										
% Difference										
Retail Distribution Charge ($/MWh)										
Current Projections										
Prior Projections										
% Difference										
NITS Rate ($/MW)										
Current Projections										
Prior Projections										
% Difference										
Transmission Revenue ($000s)										
Current Projections										
Prior Projections										
% Difference										

EXHIBIT RJM-3

COMPARISON OF CURRENT AND PRIOR PROJECTIONS, 2019 – 2028
DPL INC. INTERNAL COMPANY FINANCIAL MODEL
STANDARDIZED DMR AND EXCLUDING GENERATION

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Distribution Revenues ($000s)	[redacted]									
Current Projections										
Prior Projections										
% Difference										
Transmission O&M ($000s)										
Current Projections										
Prior Projections										
% Difference										
Distribution O&M ($000s)										
Current Projections										
Prior Projections										
% Difference										
(Transmission O&M + Distribution O&M) / (Transmission Revenue + Distri										
Current Projections										
Prior Projections										
% Difference										

Notes & Sources:
Current Projections from 2019 Financial Model - FINAL REDACTED VALUES.xlsx. Assumes $105 million annual DMR in 2019 through October 2020 with no DMR-E thereafter.
Prior Projections from 2017 Financial Model - Round 1 - PUCO Filing Supplemental FINAL.xlsx. Assumes $105 million annual DMR starting in November 2017 through October 2020 with no DMR-E thereafter.

EXHIBIT RJM-4

COMPARISON OF DPL FINANCIAL METRICS
OCTOBER 2016 AND DECEMBER 2018 COMPANY PROJECTIONS

	[A] October 2016 Projections			[B] December 2018 Projections		
	2019	2021	2023	2019	2021	2023
[1] DPL Consolidated Debt	[redacted]					
[2] DMR / DMR-E						
[3] CFO Pre-WC						
[4] Operating EBITDA						
[5] CFO Pre-WC / Debt						
[6] Debt/EBITDA						

Notes & Sources:
In thousands.
[A][1]-[4] From Direct Testimony of R. Jeffrey Malinak, Public Utilities Commission of Ohio Case Nos. 16-0395-EL-SSO, et al., October 31, 2016, at Exhibit RJM-1 and Exhibit RJM-9.
[B][1]-[4] From Exhibit RJM-10.
[5] = [3] / [1].
[6] = [1] / [4].

EXHIBIT RJM-5

MOODY'S RATINGS TABLES

Regulated Electric and Gas Utilities - Low Business Risk Grid

	Interest Coverage		CF/Debt		RCF/Debt		Debt/Capital	
Rating	Min	Max	Min	Max	Min	Max	Min	Max
Aaa	8.0x	≥8.0x	38.0%	≥38.0%	34.0%	≥34.0%	<29.0%	29.0%
Aa	6.0x	8.0x	27.0%	38.0%	23.0%	34.0%	29.0%	40.0%
A	4.5x	6.0x	19.0%	27.0%	15.0%	23.0%	40.0%	50.0%
Baa	3.0x	4.5x	11.0%	19.0%	7.0%	15.0%	50.0%	59.0%
Ba	2.0x	3.0x	5.0%	11.0%	0.0%	7.0%	59.0%	67.0%
B	1.0x	2.0x	1.0%	5.0%	-5.0%	0.0%	67.0%	75.0%
Caa	<1.0x	1.0x	<1.0%	1.0%	<-5.0%	-5.0%	75.0%	≥75.0%

Notes & Sources:

Interest Coverage = (CFO Pre-WC + Gross Interest Expense) / Gross Interest Expense.

CF/Debt = CFO Pre-WC / Total Debt.

RCF/Debt = (CFO Pre-WC - Dividends) / Total Debt.

Debt/Capital = Total Debt / Total Capitalization.

Debt = Short-Term Debt + Long-Term Debt (including Current Portion) + Unamortized Debt Issuance Costs + Pension Liability.

From Moody's Rating Methodology, "Regulated Electric and Gas Utilities," June 23, 2017, p. 22 (Low Business Risk Grid).

EXHIBIT RJM-6

DPL AND DP&L
MOODY'S LONG-TERM RATING[1]
2009 – 2018

	DPL			DP&L		
Date	Rating	Rating Action	Issuer Outlook	Rating	Rating Action	Issuer Outlook
6/26/2009	Baa1	Upgrade	Stable	A2	Upgrade	Stable
4/20/2011	Baa1	On Watch - Possible Downgrade	Ratings Under Review	A2	On Watch - Possible Downgrade	Ratings Under Review
9/1/2011	WR	Withdrawn				
11/28/2011			Stable	Baa2	Downgrade	Stable
11/9/2012			Ratings Under Review	Baa2	On Watch - Possible Downgrade	Ratings Under Review
9/9/2013			Stable	Baa3	Downgrade	Stable
9/15/2014			Ratings Under Review	Baa3	Rating Affirmation	Ratings Under Review
9/19/2014			Stable	Baa3	Rating Affirmation	Stable
9/23/2014	Ba3	New	Stable			
8/7/2015	Ba3	Rating Affirmation	Stable	Baa3	Rating Affirmation	Stable
8/5/2016	Ba3	Rating Affirmation	Negative	Baa3	Rating Affirmation	Negative
10/31/2017	Ba3	Rating Affirmation	Positive	Baa3	Rating Affirmation	Positive
4/4/2018	Ba2	Upgrade	Positive			
10/3/2018	Ba1	Upgrade	Positive	Baa2	Upgrade	Positive

Notes & Sources:

[1] Moody's Long-Term Rating refers to Moody's Senior Unsecured debt rating for DPL and LT Issuer rating for DP&L.
From Moody's.

EXHIBIT RJM-7

DPL INC. PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITHOUT DMR-E

Ratio	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
DMR-E	$105,000	$86,511	-	-	-	-	-	-	-	-
Debt (Moody's Definition)	[redacted]									
DPL Inc. Undrawn Revolver										
Debt/EBITDA										
EBITDA/Interest										
Interest Coverage										
Cash Flow/Debt										
Retained Cash Flow/Debt										
Debt/Capital										
Implied Moody's Rating - Regulated										
Factor 1: Regulatory Framework (25%)										
A) Legislative and Judicial Underpinnings of the Regulatory Framework										
B) Consistency and Predictability of Regulation										
Factor 2: Ability to Recover Costs and Earn Returns (2										
A) Timeliness of Recovery of Operating and Capital Costs										
B) Sufficiency of Rates and Returns										
Factor 3: Diversification (10%)										
A) Market Position										
B) Generation and Fuel Diversity										
Factor 4: Financial Strength (40%)										
A) Interest Coverage										
B) Cash Flow/Debt										
C) Retained Cash Flow/Debt										
D) Debt/Capital										
Weighted Average of Financial Strength Factors										
Weighted Average of Financial Strength Factors (2 Notch Reduction)										
Weighted Average of All Factors										
Indicated Rating (2 Notch Reduction)										
Current Rating/Projected Final Rating										

EXHIBIT RJM-7

DPL INC. PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITHOUT DMR-E

Notes & Sources:
In thousands.
[redacted]
Interest Coverage = (CFO Pre-WC + Gross Interest Expense) / Gross Interest Expense.
Cash Flow/Debt = CFO Pre-WC / DPL Inc. Consolidated Total Debt.
Retained Cash Flow/Debt = (CFO Pre-WC - Dividends) / DPL Inc. Consolidated Total Debt.
Debt/Capital = DPL Inc. Consolidated Total Debt / Total Capitalization.
Financial Strength Ratings and Indicated Ratings calculated using Moody's Rating Methodology, 'Regulated Electric and Gas Utilities,' June 23, 2017, p. 22 (Low Business Risk Grid). See Exhibit RJM-5.
Financial data from Exhibit RJM-10 and Exhibit RJM-12.

EXHIBIT RJM-8

DP&L PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITHOUT DMR-E

Ratio	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
DMR-E	$105,000	$86,511	-	-	-	-	-	-	-	-
Debt (Moody's Definition)	[redacted]									
DP&L Undrawn Revolver										
Debt/EBITDA										
EBITDA/Interest										
Interest Coverage										
Cash Flow/Debt										
Retained Cash Flow/Debt										
Debt/Capital										
Implied Moody's Rating - Regulated										
Factor 1: Regulatory Framework (25%)										
A) Legislative and Judicial Underpinnings of the Regulatory Framework										
B) Consistency and Predictability of Regulation										
Factor 2: Ability to Recover Costs and Earn Returns (25%										
A) Timeliness of Recovery of Operating and Capital Costs										
B) Sufficiency of Rates and Returns										
Factor 3: Diversification (10%)										
A) Market Position										
B) Generation and Fuel Diversity										
Factor 4: Financial Strength (40%)										
A) Interest Coverage										
B) Cash Flow/Debt										
C) Retained Cash Flow/Debt										
D) Debt/Capital										
Weighted Average of Financial Strength Factors										
Weighted Average of Financial Strength Factors (2 Notch Reduction)										
Weighted Average of All Factors										
Indicated Rating (2 Notch Reduction)										
Current Rating/Projected Final Rating										

EXHIBIT RJM-8

DP&L PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITHOUT DMR-E

Notes & Sources:
In thousands.

[redacted]

Interest Coverage = (CFO Pre-WC + Gross Interest Expense) / Gross Interest Expense.
Cash Flow/Debt = CFO Pre-WC / DP&L Total Debt.
Retained Cash Flow/Debt = (CFO Pre-WC - Dividends) / DP&L Total Debt.
Debt/Capital = DP&L Total Debt. / Total Capitalization.
Financial Strength Ratings and Indicated Ratings calculated using Moody's Rating Methodology, 'Regulated Electric and Gas Utilities,' June 23, 2017, p. 22 (Low Business Risk Grid). See Exhibit RJM-5.
Financial data from Exhibit RJM-11 and Exhibit RJM-13.

EXHIBIT RJM-9

SUMMARY OF PRO FORMA DEBT ACTIVITY, 2019 – 2028
WITHOUT DMR-E

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Debt Issued by DPL Inc.										
[1]	New Issuance										
[2]	Contractual Paydown										
[3]	Voluntary Paydown										
[4]	Net Change in LT Debt										
[5]	Revolver Draw (Paydown)										
[6]	Net Change in Debt										
	Debt Issued by DP&L										
[7]	New Issuance										
[8]	Contractual Paydown										
[9]	Voluntary Paydown										
[10]	Net Change in LT Debt										
[11]	Revolver Draw (Paydown)										
[12]	Net Change in Debt										
	DPL Inc. Consolidated Debt										
[13]	New Issuance										
[14]	Contractual Paydown										
[15]	Voluntary Paydown										
[16]	Net Change in LT Debt										
[17]	Revolver Draw (Paydown)										
[18]	Net Change in Debt										
	Cash										
[19]	DPL Parent and Other Sub. Cash										
[20]	DP&L Cash										
[21]	DPL Inc. Consolidated Cash										
[22]	Div. from (Equity to) DP&L										

EXHIBIT RJM-9

SUMMARY OF PRO FORMA DEBT ACTIVITY, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revolvers										
[23] DPL Inc. Drawn Revolver										
[24] DPL Inc. Undrawn Revolver										
[25] Total DPL Inc. Revolver										
[26] DP&L Drawn Revolver										
[27] DP&L Undrawn Revolver										
[28] Total DPL Inc. Revolver										
[29] DPL Inc. Debt/Capital										

Notes & Sources:
In thousands.
[1]-[2] From internal Company projections.
[3], [9] Assumption.
[5] From Exhibit RJM-12B. Excludes Short-Term Debt from DP&L.

[10] = [7] + [8] + [9].
[11] From Exhibit RJM-13B.
[12] = [10] + [11].
[13] = [1] + [7].
[14] = [2] + [8].
[15] = [3] + [9].
[16] = [13] + [14] + [15].
[17] = [5] + [11].
[18] = [16] + [17].
[19] = [21] - [20].
[20] Sum of Unrestricted Cash Held at DP&L and Restricted Cash Held at DP&L from Exhibit RJM-13B.
[21] Sum of Unrestricted Cash and TCIs Held at DPL Inc, Restricted Cash Held at DPL Inc, and Cash Held at Subsidiary Level from Exhibit RJM-12B.
[22] From Exhibit RJM-12B.
[23] Short-Term Debt from Exhibit RJM-12B. Excludes Short-Term Debt from DP&L.
[24] = [25] - [23].

[26] Short-Term Debt from Exhibit RJM-13B.
[27] = [28] - [26].
[29] From Exhibit RJM-7.

EXHIBIT RJM-10

DPL INC. DATA FOR PRO FORMA FINANCIAL RATIO CALCULATIONS, 2019 – 2028
WITHOUT DMR-E

	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Statements of Income	[redacted]									
[1]	Total Revenue										
[2]	Operating EBITDA										
[3]	Operating Income										
[4]	Gross Interest Expense										
[5]	Depreciation and Amortization										
[6]	Net Income										
	Statement of Cash Flows										
[7]	Net Cash Provided by Operating Activities										
[8]	Increase (Decrease) from "Working Capital" Changes										
[9]	CFO Pre-WC										
[10]	Capital Expenditures										
	Balance Sheet										
	DPL Inc. Consolidated Debt (Moody's Definition)										
[11]	Long-Term Debt										
[12]	Current Portion of Long Term Debt										
[13]	Short-Term Debt										
[14]	Pension Liability										
[15]	Total DPL Inc. Consolidated Debt										
	DPL Inc. HoldCo Debt (Moody's Definition)										
[16]	Long-Term Debt										
[17]	Current Portion of Long Term Debt										
[18]	Short-Term Debt										
[19]	Pension Liability										
[20]	Total DPL Inc. Hold Co Debt										
	DP&L Debt (Moody's Definition)										
[21]	Long-Term Debt										
[22]	Current Portion of Long Term Debt										
[23]	Short-Term Debt										
[24]	Pension Liability										
[25]	Total DP&L Debt										
[26]	Shareholders' Equity										
[27]	Deferred Tax Liability										
[28]	Total Capitalization										

EXHIBIT RJM-10

DPL INC. DATA FOR PRO FORMA FINANCIAL RATIO CALCULATIONS, 2019 – 2028
WITHOUT DMR-E

Notes & Sources:

In thousands.

[8] Increase (Decrease) in "Working Capital" calculated as the increase in Accounts Receivable, Inventory, General Taxes Applicable to Future Years, less the increase in Accounts Payable, Accrued Interest, Current Income Taxes Payable, General Taxes Payable, General Taxes Payable - Non-Current, Deferred Income Taxes - Non-Current.

[9] = [7] + [8].

[28] = [15] + [26] + [27].

From Exhibit RJM-12, Exhibit RJM-13, and internal Company Projections.

EXHIBIT RJM-11

DP&L DATA FOR PRO FORMA FINANCIAL RATIO CALCULATIONS, 2019 – 2028
WITHOUT DMR-E

	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Statements of Income										
[1]	Total Revenue										
[2]	Operating EBITDA										
[3]	Operating Income										
[4]	Gross Interest Expense										
[5]	Depreciation and Amortization										
[6]	Net Income										
	Statement of Cash Flows										
[7]	Net Cash Provided by Operating Activities										
[8]	Increase (Decrease) from "Working Capital" Changes										
[9]	CFO Pre-WC										
[10]	Capital Expenditures										
	Balance Sheet										
	DP&L Debt (Moody's Definition)										
[11]	Long-Term Debt										
[12]	Current Portion of Long Term Debt										
[13]	Short-Term Debt										
[14]	Pension Liability										
[15]	Total DP&L Debt										
[16]	Shareholders' Equity										
[17]	Deferred Tax Liability										
[18]	Total Capitalization										
[19]	Debt (excl. Pension) / (Debt (excl. Pension) + Equity)										

Notes & Sources:

In thousands.

[8] Increase (Decrease) in "Working Capital" calculated as the increase in Accounts Receivable, Inventory, General Taxes Applicable to Future Years, less the increase in Accounts Payable, Accrued Interest, Current Income Taxes Payable, General Taxes Payable, General Taxes Payable - Non-Current, and Accumulated Deferred Income Taxes.

[9] = [7] + [8].

[18] = [15] + [16] + [17].

[19] = ([15] - [14]) / ([15] - [14] + [16]).

From Exhibit RJM-13 and internal Company Projections.

EXHIBIT RJM-12A

DPL INC. INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
DMR-E	*$105,000*	*$86,511*	-	-	-	-	-	-	-	-
Total Retail Revenues	[redacted]									
Generation Sales										
Energy Sales										
Ancillary Services										
Net Capacity Sales										
Other Generation Revenues										
Total Generation Revenues										
Total Other Revenues										
Total Revenues										
Cost of Revenues										
Fuel Related Costs										
Electricity Purchased For Resale										
Intercompany and Other Cost Of Sales										
Chemicals, Utilities, Supplies for Production										
Var Transmission Charges and Other Mkt Rel Fees										
Environmental Allowances										
Total Cost of Revenues										
Gross Margin										
Total Operating Expenses										
Operating EBITDA										
Total Depreciation, Depletion, and Amortization										
Operating Income										

EXHIBIT RJM-12A

DPL INC. INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Interest Expense	[redacted]									
Interest (Income) - Other										
Other Expense / (Income)										
Goodwill/Asset Impairment										
Income Before Taxes, MI & EE										
Current Income Tax Expense										
Deferred Income Tax Expense										
Total Income Taxes										
Net Income										
Preferred Stock Dividend (Accrued)										
Net Income Attributable to AES										
Dividend to AES										
Permanent Forgiveness of Income Tax										
Retained Earnings										

Notes & Sources:
In thousands.
[redacted]
From internal Company projections.

EXHIBIT RJM-12B

DPL INC. BALANCE SHEET PROJECTIONS, 2018 – 2028
WITHOUT DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ASSETS	[redacted]										
Unrestricted Cash and TCIs Held at DPL Inc											
Restricted Cash Held at DPL Inc											
Cash Held at Subsidiary Level											
Accounts Receivable											
Inventory - Fuel and Raw Materials											
Inventory - Spare Parts and Supplies											
General Taxes Applicable to Future Years											
Regulatory Assets - Fixed											
Other Current Assets - Fixed											
Total Current Assets											
Property, Plant & Equipment											
Gross Plant in Service											
Construction Work in Progress											
Accumulated Depreciation											
Net PP&E											
Other Non-Current Assets											
TOTAL ASSETS											
LIABILITIES AND SHAREHOLDERS' EQUITY											
Current Liabilities											
Accounts Payable											
Current Portion of Long Term Debt											
Short-Term Debt											
Current Income Taxes Payable											
Accrued Interest											
Customer Deposits											
Accrued Preferred Stock Dividend											
General Taxes Payable											
Other Current Liabilities - Fixed											
Total Current Liabilities											

EXHIBIT RJM-12B

DPL INC. BALANCE SHEET PROJECTIONS, 2018 – 2028
WITHOUT DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Non-Current Liabilities	[redacted]										
Long-Term Debt											
Deferred Income Taxes - Noncurrent											
Other Non-Current Liabilities											
Total Non-Current Liabilities											
Shareholders' Equity											
Additional Paid-in Capital											
Cumulative Parent Equity Infusion											
Retained Earnings (Accumulated Deficit)											
Total Common Shareholders' Equity											
Non-Controlling Interests (Preferred Stock)											
Total Stockholders' Equity (Deficit)											
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY											

Notes & Sources:
In thousands.

[redacted]

From internal Company projections.

EXHIBIT RJM-12C

DPL INC. CASH FLOW PROJECTIONS, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operating Activities	[redacted]									
Net Income (Loss)										
Adjustments										
Depreciation and Amortization										
Provision for Deferred Taxes										
Provision for Current Taxes										
Current Taxes Forgiven by Parent										
(Decrease) Increase in Accounts Payable, Pension										
Contributions, Reg. Asset										
Decrease (Increase) in Accounts Receivable										
Inventory										
Accrued Interest										
Other Operating Cash Flows										
Net Cash Provided by Operating Activities										
Investing Activities										
CapEx										
Other Investing Activities										
Net Cash Used in Investing Activities										
Financing Activities										
Net borrowings Under Revolving Credit Facilities										
Issuance of Non-Recourse Debt										
Repayments of Non-Recourse Debt										
Debt Issuance Fees										
Preferred Stock Dividends Paid										
Dividends Paid to AES Corp										
Net Cash Provided by / (Used for) Financing Activities										
(Decrease) Increase in Cash and Cash Equivalents										

Notes & Sources:
In thousands.

[redacted]

From internal Company projections.

EXHIBIT RJM-13A

DP&L INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Transmission Revenues	[redacted]									
Total Distribution Revenues										
Total SSO Revenues										
DMR-E										
Total Trading Book Revenues										
Total DP&L Generation Revenues										
Total Revenues										
Total Transmission COGS										
Total Distribution COGS										
Total SSO COGS										
Total Trading Book COGS										
Total DP&L Generation COGS										
Total Cost of Revenues										
Gross Margin										
Direct O&M Expense										
Indirect O&M Expense										
General Taxes										
Total Operating Expenses										
Operating EBITDA										
Depreciation and Amortization										
Operating Income										
Interest Expense										
Interest (Income) - Other										
Other Expense / (Income)										

EXHIBIT RJM-13A

DP&L INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Income before taxes, MI & EE	[redacted]									
Current Income Tax Expense										
Deferred Income Tax Expense										
Total Income Taxes										
Net Income										
Preferred Stock Dividend (Accrued)										
Net Income Available to Parent										
Dividend to Parent										
Retained Earnings										

Notes & Sources:
In thousands.

[redacted]

EXHIBIT RJM-13B

DP&L BALANCE SHEET PROJECTIONS, 2018 – 2028
WITHOUT DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ASSETS	[redacted]										
Unrestricted Cash Held at DP&L											
Restricted Cash Held at DP&L											
Accounts Receivable											
Inventory - Fuel and Raw Materials											
Inventory - Spare Parts and Supplies											
General Taxes Applicable to Future Years											
Regulatory Assets - Fixed											
Other Current Assets - Fixed											
Total Current Assets											
Gross Plant in Service											
Construction Work in Progress											
Accumulated Depreciation											
Net PP&E											
Other Non-Current Assets - Fixed											
Loss on Reacquired Debt											
Deferred Financing Costs											
Unrealized Loss on Pension - Fixed											
Other Deferred Assets (Incl. OVEC) - Fixed											
Total Deferred and Non-Current Assets											
TOTAL ASSETS											
LIABILITIES AND SHAREHOLDERS' EQUITY											
Accounts Payable											
Current Portion of Long Term Debt											
Short-Term Debt											
Current Income Taxes Payable											
Accrued Interest											
Customer Deposits											
Accrued Preferred Stock Dividend											
General Taxes Payable											
Other Current Liabilities - Fixed											
Total Current Liabilities											

EXHIBIT RJM-13B

DP&L BALANCE SHEET PROJECTIONS, 2018 – 2028
WITHOUT DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Long Term Debt	[redacted]										
Interest Rate Hedges											
Accumulated Deferred Income Taxes											
Asset Retirement Obligation											
General Taxes Payable - Non-Current											
Unamortized Investment Tax Credit											
Regulatory Liabilities - Fixed											
Pension & Benefit - Fixed											
Other Non-Current Liabilities - Fixed											
Total Deferred Credits & Non-Current Liabilities											
Beginning Equity											
Retained Earnings											
Total Common Shareholder's Equity											
Preferred Stock											
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY											

Notes & Sources:
In thousands.
[redacted]
From internal Company projections.

EXHIBIT RJM-13C

DP&L CASH FLOW PROJECTIONS, 2019 – 2028
WITHOUT DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operating Activities	[redacted]									
Net Income										
Adjustments										
Depreciation and Amortization										
Deferred Income Taxes										
Current Income Taxes										
Accounts Payable and Regulatory Asset										
Accounts Receivable										
Inventory										
Accrued Interest										
Capitalized Interest in Interest Expense										
Equity AFUDC in Other Expense / (Income)										
Customer Deposits										
Net General Taxes Payable										
Investment Tax Credits										
Net cash provided by operating activities										
Investing Activities										
Capital expenditures										
Net cash used for investing activities										
Financing Activities										
Issuance of LT Debt										
(Retirement) of LT Debt										
Debt issuance fees										
Issuance/(Retirement) of Short-term Debt										
Preferred Stock Dividends Paid										
Dividend Paid to Parent										
Net cash provided by financing activities										
Cash and Temporary Cash Investments										
(Decrease) Increase in Cash and Cash Equivalents										

Notes & Sources:
In thousands.

[redacted]

From internal Company projections.

EXHIBIT RJM-14

DPL INC. PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

Ratio	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
DMR-E	$105,000	$121,552	$199,000	$163,976	-	-	-	-	-	-
Debt (Moody's Definition)	[redacted]									
DPL Inc. Undrawn Revolver										
Debt/EBITDA										
EBITDA/Interest										
Interest Coverage										
Cash Flow/Debt										
Retained Cash Flow/Debt										
Debt/Capital										
Implied Moody's Rating - Regulated										
Factor 1: Regulatory Framework (25%)										
A) Legislative and Judicial Underpinnings of the Regulatory Framework										
B) Consistency and Predictability of Regulation										
Factor 2: Ability to Recover Costs and Earn Returns (25										
A) Timeliness of Recovery of Operating and Capital Costs										
B) Sufficiency of Rates and Returns										
Factor 3: Diversification (10%)										
A) Market Position										
B) Generation and Fuel Diversity										
Factor 4: Financial Strength (40%)										
A) Interest Coverage										
B) Cash Flow/Debt										
C) Retained Cash Flow/Debt										
D) Debt/Capital										
Weighted Average of Financial Strength Factors										
Weighted Average of Financial Strength Factors (2 Notch Reduction)										
Weighted Average of All Factors										
Indicated Rating (2 Notch Reduction)										
Current Rating/Projected Final Rating										

EXHIBIT RJM-14

DPL INC. PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

Notes & Sources:
In thousands.
[redacted]
Interest Coverage = (CFO Pre-WC + Gross Interest Expense) / Gross Interest Expense.
Cash Flow/Debt = CFO Pre-WC / DPL Inc. Consolidated Total Debt.
Retained Cash Flow/Debt = (CFO Pre-WC - Dividends) / DPL Inc. Consolidated Total Debt.
Debt/Capital = DPL Inc. Consolidated Total Debt / Total Capitalization.
Financial Strength Ratings and Indicated Ratings calculated using Moody's Rating Methodology, 'Regulated Electric and Gas Utilities,' June 23, 2017, p. 22 (Low Business Risk Grid). See Exhibit RJM-1.
Financial data from Exhibit RJM-17 and Exhibit RJM-19.

EXHIBIT RJM-15

DP&L PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

Ratio	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
DMR-E	$105,000	$121,552	$199,000	$163,976	-	-	-	-	-	-
Debt (Moody's Definition)	[redacted]									
DP&L Undrawn Revolver										
Debt/EBITDA										
EBITDA/Interest										
Interest Coverage										
Cash Flow/Debt										
Retained Cash Flow/Debt										
Debt/Capital										
Implied Moody's Rating - Regulated										
Factor 1: Regulatory Framework (25%)										
A) Legislative and Judicial Underpinnings of the Regulatory Framework										
B) Consistency and Predictability of Regulation										
Factor 2: Ability to Recover Costs and Earn Returns (25%										
A) Timeliness of Recovery of Operating and Capital Costs										
B) Sufficiency of Rates and Returns										
Factor 3: Diversification (10%)										
A) Market Position										
B) Generation and Fuel Diversity										
Factor 4: Financial Strength (40%)										
A) Interest Coverage										
B) Cash Flow/Debt										
C) Retained Cash Flow/Debt										
D) Debt/Capital										
Weighted Average of Financial Strength Factors										
Weighted Average of Financial Strength Factors (2 Notch Reduction)										
Weighted Average of All Factors										
Indicated Rating (2 Notch Reduction)										
Current Rating/Projected Final Rating										

EXHIBIT RJM-15

DP&L PRO FORMA FINANCIAL RATIOS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

Notes & Sources:
In thousands.
[redacted]
Interest Coverage = (CFO Pre-WC + Gross Interest Expense) / Gross Interest Expense.
Cash Flow/Debt = CFO Pre-WC / DP&L Total Debt.
Retained Cash Flow/Debt = (CFO Pre-WC - Dividends) / DP&L Total Debt.
Debt/Capital = DP&L Total Debt. / Total Capitalization.
Financial Strength Ratings and Indicated Ratings calculated using Moody's Rating Methodology, 'Regulated Electric and Gas Utilities,' June 23, 2017, p. 22 (Low Business Risk Grid). See Exhibit RJM-1.
Financial data from Exhibit RJM-18 and Exhibit RJM-20.

EXHIBIT RJM-16

SUMMARY OF PRO FORMA DEBT ACTIVITY, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Debt Issued by DPL Inc.										
[1]	New Issuance										
[2]	Contractual Paydown										
[3]	Voluntary Paydown										
[4]	Net Change in LT Debt										
[5]	Revolver Draw (Paydown)										
[6]	Net Change in Debt										
	Debt Issued by DP&L										
[7]	New Issuance										
[8]	Contractual Paydown										
[9]	Voluntary Paydown										
[10]	Net Change in LT Debt										
[11]	Revolver Draw (Paydown)										
[12]	Net Change in Debt										
	DPL Inc. Consolidated Debt										
[13]	New Issuance										
[14]	Contractual Paydown										
[15]	Voluntary Paydown										
[16]	Net Change in LT Debt										
[17]	Revolver Draw (Paydown)										
[18]	Net Change in Debt										
	Cash										
[19]	DPL Parent and Other Sub. Cash										
[20]	DP&L Cash										
[21]	DPL Inc. Consolidated Cash										
[22]	Div. from (Equity to) DP&L										

EXHIBIT RJM-16

SUMMARY OF PRO FORMA DEBT ACTIVITY, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Revolvers										
[23]	DPL Inc. Drawn Revolver										
[24]	DPL Inc. Undrawn Revolver										
[25]	Total DPL Inc. Revolver										
[26]	DP&L Drawn Revolver										
[27]	DP&L Undrawn Revolver										
[28]	Total DPL Inc. Revolver										
[29]	DPL Inc. Debt/Capital										

Notes & Sources:
In thousands.
[1]-[2] From internal Company projections.
[3], [9] Assumption.
[5] From Exhibit RJM-19B. Excludes Short-Term Debt from DP&L.

[10] = [7] + [8] + [9].
[11] From Exhibit RJM-20B.
[12] = [10] + [11].
[13] = [1] + [7].
[14] = [2] + [8].
[15] = [3] + [9].
[16] = [13] + [14] + [15].
[17] = [5] + [11].
[18] = [16] + [17].
[19] = [21] - [20].
[20] Sum of Unrestricted Cash Held at DP&L and Restricted Cash Held at DP&L from Exhibit RJM-20B.
[21] Sum of Unrestricted Cash and TCIs Held at DPL Inc, Restricted Cash Held at DPL Inc, and Cash Held at Subsidiary Level from Exhibit RJM-19B.
[22] From Exhibit RJM-19B.
[23] Short-Term Debt from Exhibit RJM-19B. Excludes Short-Term Debt from DP&L.
[24] = [25] - [23].

[26] Short-Term Debt from Exhibit RJM-20B.
[27] = [28] - [26].
[29] From Exhibit RJM-14.

EXHIBIT RJM-17

DPL INC. DATA FOR PRO FORMA FINANCIAL RATIO CALCULATIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Statements of Income	[redacted]									
[1]	Total Revenue										
[2]	Operating EBITDA										
[3]	Operating Income										
[4]	Gross Interest Expense										
[5]	Depreciation and Amortization										
[6]	Net Income										
	Statement of Cash Flows										
[7]	Net Cash Provided by Operating Activities										
[8]	Increase (Decrease) from "Working Capital" Changes										
[9]	CFO Pre-WC										
[10]	Capital Expenditures										
	Balance Sheet										
	DPL Inc. Consolidated Debt (Moody's Definition)										
[11]	Long-Term Debt										
[12]	Current Portion of Long Term Debt										
[13]	Short-Term Debt										
[14]	Pension Liability										
[15]	Total DPL Inc. Consolidated Debt										
	DPL Inc. HoldCo Debt (Moody's Definition)										
[16]	Long-Term Debt										
[17]	Current Portion of Long Term Debt										
[18]	Short-Term Debt										
[19]	Pension Liability										
[20]	Total DPL Inc. Hold Co Debt										
	DP&L Debt (Moody's Definition)										
[21]	Long-Term Debt										
[22]	Current Portion of Long Term Debt										
[23]	Short-Term Debt										
[24]	Pension Liability										
[25]	Total DP&L Debt										
[26]	Shareholders' Equity										
[27]	Deferred Tax Liability										
[28]	Total Capitalization										

EXHIBIT RJM-17

DPL INC. DATA FOR PRO FORMA FINANCIAL RATIO CALCULATIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

Notes & Sources:
In thousands.
[8] Increase (Decrease) in "Working Capital" calculated as the increase in Accounts Receivable, Inventory, General Taxes Applicable to Future Years, less the increase in Accounts Payable, Accrued Interest, Current Income Taxes Payable, General Taxes Payable, General Taxes Payable - Non-Current, Deferred Income Taxes - Non-Current.
[9] = [7] + [8].
[28] = [15] + [26] + [27].
From Exhibit RJM-19, Exhibit RJM-20, and internal Company Projections.

EXHIBIT RJM-18

DP&L DATA FOR PRO FORMA FINANCIAL RATIO CALCULATIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	Statements of Income										
[1]	Total Revenue	[redacted]									
[2]	Operating EBITDA										
[3]	Operating Income										
[4]	Gross Interest Expense										
[5]	Depreciation and Amortization										
[6]	Net Income										
	Statement of Cash Flows										
[7]	Net Cash Provided by Operating Activities										
[8]	Increase (Decrease) from "Working Capital" Changes										
[9]	CFO Pre-WC										
[10]	Capital Expenditures										
	Balance Sheet										
	DP&L Debt (Moody's Definition)										
[11]	Long-Term Debt										
[12]	Current Portion of Long Term Debt										
[13]	Short-Term Debt										
[14]	Pension Liability										
[15]	Total DP&L Debt										
[16]	Shareholders' Equity										
[17]	Deferred Tax Liability										
[18]	Total Capitalization										
[19]	Debt (excl. Pension) / (Debt (excl. Pension) + Equity)										

Notes & Sources:
In thousands.
[8] [redacted].
[9] = [7] + [8].
[17] = [redacted]
[18] = [15] + [16] + [17].
[19] = ([15] - [14]) / ([15] - [14] + [16]).
From Exhibit RJM-20 and internal Company Projections.

EXHIBIT RJM-19A

DPL INC. INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
DMR-E	*$105,000*	*$121,552*	*$199,000*	*$163,976*	-	-	-	-	-	-
Total Retail Revenues	[redacted]									
Generation Sales										
Energy Sales										
Ancillary Services										
Net Capacity Sales										
Other Generation Revenues										
Total Generation Revenues										
Total Other Revenues										
Total Revenues										
Cost of Revenues										
Fuel Related Costs										
Electricity Purchased For Resale										
Intercompany and Other Cost Of Sales										
Chemicals, Utilities, Supplies for Production										
Var Transmission Charges and Other Mkt Rel Fees										
Environmental Allowances										
Total Cost of Revenues										
Gross Margin										
Total Operating Expenses										
Operating EBITDA										
Total Depreciation, Depletion, and Amortization										
Operating Income										

EXHIBIT RJM-19A

DPL INC. INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Interest Expense	[redacted]									
Interest (Income) - Other										
Other Expense / (Income)										
Goodwill/Asset Impairment										
Income Before Taxes, MI & EE										
Current Income Tax Expense										
Deferred Income Tax Expense										
Total Income Taxes										
Net Income										
Preferred Stock Dividend (Accrued)										
Net Income Attributable to AES										
Dividend to AES										
Permanent Forgiveness of Income Tax										
Retained Earnings										

Notes & Sources:
In thousands.
[redacted]
From internal Company projections.

EXHIBIT RJM-19B

DPL INC. BALANCE SHEET PROJECTIONS, 2018 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ASSETS	[redacted]										
Unrestricted Cash and TCIs Held at DPL Inc											
Restricted Cash Held at DPL Inc											
Cash Held at Subsidiary Level											
Accounts Receivable											
Inventory - Fuel and Raw Materials											
Inventory - Spare Parts and Supplies											
General Taxes Applicable to Future Years											
Regulatory Assets - Fixed											
Other Current Assets - Fixed											
Total Current Assets											
Property, Plant & Equipment											
Gross Plant in Service											
Construction Work in Progress											
Accumulated Depreciation											
Net PP&E											
Other Non-Current Assets											
TOTAL ASSETS											
LIABILITIES AND SHAREHOLDERS' EQUITY											
Current Liabilities											
Accounts Payable											
Current Portion of Long Term Debt											
Short-Term Debt											
Current Income Taxes Payable											
Accrued Interest											
Customer Deposits											
Accrued Preferred Stock Dividend											
General Taxes Payable											
Other Current Liabilities - Fixed											
Total Current Liabilities											

EXHIBIT RJM-19B

DPL INC. BALANCE SHEET PROJECTIONS, 2018 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Non-Current Liabilities	[redacted]										
Long-Term Debt											
Deferred Income Taxes - Noncurrent											
Other Non-Current Liabilities											
Total Non-Current Liabilities											
Shareholders' Equity											
Additional Paid-in Capital											
Cumulative Parent Equity Infusion											
Retained Earnings (Accumulated Deficit)											
Total Common Shareholders' Equity											
Non-Controlling Interests (Preferred Stock)											
Total Stockholders' Equity (Deficit)											
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY											

Notes & Sources:
In thousands.
[redacted]
From internal Company projections.

EXHIBIT RJM-19C

DPL INC. CASH FLOW PROJECTIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operating Activities	[redacted]									
Net Income (Loss)										
Adjustments										
Depreciation and Amortization										
Provision for Deferred Taxes										
Provision for Current Taxes										
Current Taxes Forgiven by Parent										
(Decrease) Increase in Accounts Payable, Pension										
Contributions, Reg. Asset										
Decrease (Increase) in Accounts Receivable										
Inventory										
Accrued Interest										
Other Operating Cash Flows										
Net Cash Provided by Operating Activities										
Investing Activities										
CapEx										
Other Investing Activities										
Net Cash Used in Investing Activities										
Financing Activities										
Net borrowings Under Revolving Credit Facilities										
Issuance of Non-Recourse Debt										
Repayments of Non-Recourse Debt										
Debt Issuance Fees										
Preferred Stock Dividends Paid										
Dividends Paid to AES Corp										
Net Cash Provided by / (Used for) Financing Activities										
(Decrease) Increase in Cash and Cash Equivalents										

Notes & Sources:
In thousands.

[redacted]

From internal Company projections.

EXHIBIT RJM-20A

DP&L INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total Transmission Revenues	[redacted]									
Total Distribution Revenues										
Total SSO Revenues										
DMR-E										
Total Trading Book Revenues										
Total DP&L Generation Revenues										
Total Revenues										
Total Transmission COGS										
Total Distribution COGS										
Total SSO COGS										
Total Trading Book COGS										
Total DP&L Generation COGS										
Total Cost of Revenues										
Gross Margin										
Direct O&M Expense										
Indirect O&M Expense										
General Taxes										
Total Operating Expenses										
Operating EBITDA										
Depreciation and Amortization										
Operating Income										
Interest Expense										
Interest (Income) - Other										
Other Expense / (Income)										

EXHIBIT RJM-20A

DP&L INCOME STATEMENT PROJECTIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Income before taxes, MI & EE	[redacted]									
Current Income Tax Expense										
Deferred Income Tax Expense										
Total Income Taxes										
Net Income										
Preferred Stock Dividend (Accrued)										
Net Income Available to Parent										
Dividend to Parent										
Retained Earnings										

Notes & Sources:
In thousands.
[redacted]

EXHIBIT RJM-20B

DP&L BALANCE SHEET PROJECTIONS, 2018 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
ASSETS	[redacted]										
Unrestricted Cash Held at DP&L											
Restricted Cash Held at DP&L											
Accounts Receivable											
Inventory - Fuel and Raw Materials											
Inventory - Spare Parts and Supplies											
General Taxes Applicable to Future Years											
Regulatory Assets - Fixed											
Other Current Assets - Fixed											
Total Current Assets											
Gross Plant in Service											
Construction Work in Progress											
Accumulated Depreciation											
Net PP&E											
Other Non-Current Assets - Fixed											
Loss on Reacquired Debt											
Deferred Financing Costs											
Unrealized Loss on Pension - Fixed											
Other Deferred Assets (Incl. OVEC) - Fixed											
Total Deferred and Non-Current Assets											
TOTAL ASSETS											
LIABILITIES AND SHAREHOLDERS' EQUITY											
Accounts Payable											
Current Portion of Long Term Debt											
Short-Term Debt											
Current Income Taxes Payable											
Accrued Interest											
Customer Deposits											
Accrued Preferred Stock Dividend											
General Taxes Payable											
Other Current Liabilities - Fixed											
Total Current Liabilities											

EXHIBIT RJM-20B

DP&L BALANCE SHEET PROJECTIONS, 2018 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Long Term Debt	[redacted]										
Interest Rate Hedges											
Accumulated Deferred Income Taxes											
Asset Retirement Obligation											
General Taxes Payable - Non-Current											
Unamortized Investment Tax Credit											
Regulatory Liabilities - Fixed											
Pension & Benefit - Fixed											
Other Non-Current Liabilities - Fixed											
Total Deferred Credits & Non-Current Liabilities											
Beginning Equity											
Retained Earnings											
Total Common Shareholder's Equity											
Preferred Stock											
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY											

Notes & Sources:
In thousands.
[redacted]
From internal Company projections.

EXHIBIT RJM-20C

DP&L CASH FLOW PROJECTIONS, 2019 – 2028
WITH $199 MILLION ANNUAL DMR-E

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operating Activities	[redacted]									
Net Income										
Adjustments										
Depreciation and Amortization										
Deferred Income Taxes										
Current Income Taxes										
Accounts Payable and Regulatory Asset										
Accounts Receivable										
Inventory										
Accrued Interest										
Capitalized Interest in Interest Expense										
Equity AFUDC in Other Expense / (Income)										
Customer Deposits										
Net General Taxes Payable										
Investment Tax Credits										
Net cash provided by operating activities										
Investing Activities										
Capital expenditures										
Net cash used for investing activities										
Financing Activities										
Issuance of LT Debt										
(Retirement) of LT Debt										
Debt issuance fees										
Issuance/(Retirement) of Short-term Debt										
Preferred Stock Dividends Paid										
Dividend Paid to Parent										
Net cash provided by financing activities										
Cash and Temporary Cash Investments										
(Decrease) Increase in Cash and Cash Equivalents										

Notes & Sources:
In thousands.

[redacted]

From internal Company projections.