STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF NORTHERN INDIANA PUBLIC SERVICE COMPANY FOR (1) AUTHORITY TO MODIFY ITS RATES AND CHARGES FOR GAS UTILITY SERVICE THROUGH A PHASE IN OF RATES; (2) MODIFICATION OF THE SETTLEMENT AGREEMENTS APPROVED IN CAUSE NO. 43894; (3) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, GENERAL RULES AND REGULATIONS, AND RIDERS; (4) APPROVAL OF REVISED DEPRECIATION RATES APPLICABLE TO ITS GAS PLANT IN SERVICE (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING RELIEF; AND (6) AUTHORITY TO IMPLEMENT TEMPORARY RATES CONSISTENT WITH THE PROVISIONS OF IND. CODE CH. 8-1-2-42.7.	)	**CAUSE NO. 44988**

Direct Testimony and Attachments of

Michael P. Gorman

On behalf of

The NIPSCO Industrial Group

March 2, 2018

BRUBAKER & ASSOCIATES, INC.

Project 10487

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Direct Testimony of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and a Managing Principal of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to my testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A The NIPSCO Industrial Group ("Industrial Group"). The Industrial Group consists of large usage customers who purchase natural gas commodity on the market. Northern Indiana Public Service Company ("NIPSCO" or "Company") delivers that gas from the point of delivery in its service territory to the customer's facility.

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

A My testimony will address adjustments to NIPSCO's proposed revenue requirement, the overall rate of return including return on equity, embedded debt cost of NIPSCO, and NIPSCO's proposal to use its fair value net operating income for purposes of the earnings test.

Q DOES THE FACT THAT YOU DID NOT ADDRESS EVERY ISSUE RAISED IN NIPSCO'S TESTIMONY MEAN THAT YOU AGREE WITH NIPSCO'S TESTIMONY ON THOSE ISSUES?

A No. It merely reflects that I did not choose to address all those issues. It should not be read as an endorsement of, or agreement with, NIPSCO's position on such issues.

I. SUMMARY

Q WILL YOU SUMMARIZE YOUR ADJUSTMENTS TO REVENUE REQUIREMENTS AS PRESENTED IN THIS TESTIMONY?

A Yes. As discussed later in this testimony, I recommend several adjustments to NIPSCO's claimed revenue deficiency. Specifically, as reflected in Table 1 below, NIPSCO's original filed revenue deficiency of $143.5 million was reduced to $117.9 million to reflect concessions NIPSCO recognizes related to the federal government's passage of a new federal corporate income tax rate in the Tax Cuts and Jobs Act of 2017 ("TCJA"). Recognizing this changed federal corporate income tax rate, the Company conceded to approximately a $25.6 million reduction to its claimed revenue deficiency.[1]

TABLE 1

Revenue Requirement Adjustments
($Millions)

Description	Amount
NIPSCO's Claimed Deficiency – Revised	$117.9
Adjustments:	
Return on Equity at 9.3%	$13.1
Common Equity Ratio at 52%	$5.2
Embedded Debt Cost	$1.0
Average Rate Base	$16.8
Prepaid Pension Asset	$3.0
Employee Levels	$2.2
NiSource Corporate Service Company Cost	$9.5
TDSIC Deferral Amortization	$3.9
State Income Tax	$2.6
Federal Income Tax	$17.5
Total Adjustments	$74.8
Adjusted Revenue Deficiency	**$43.1**

As outlined in Table 1 above, I believe the Company's revised revenue deficiency of $117.9 million is overstated by at least $74.8 million. This overstatement of the claimed revenue deficiency is created because the Company is requesting an excessive overall rate of return on its capital investments, or rate base in this proceeding, is proposing an inappropriate measurement of a rate base, reflecting an end-of-year forecasted test year, is including certain components in rate

[1] Petitioner's Exhibit No. 3-SD, page 5, line 15.

base which are overstated or unreasonable, is including an unjustified level of service company cost, is not fully reflecting the cost reduction aspects associated with changes in state and federal income tax laws, and is overstating its level of employee payroll and benefits expenses in this proceeding. Each of these adjustments to revenue requirement will be discussed below.

Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCLUSIONS ON RATE OF RETURN.

A I recommend the Indiana Utility Regulatory Commission ("Commission") award a return on common equity within my recommended range of 8.60% to 9.30%. This range reflects NIPSCO's current market cost of equity. My specific recommendation is tied to the capital structure the Commission determines is appropriate to set rates. If the Commission adopts my recommended capital structure for NIPSCO, then I recommend a equity return of 9.3%, the high end of my recommended range. If the Commission adopts NIPSCO's proposed capital structure, then I recommend a return on equity of 9.0%, which is slightly above the midpoint of my recommended range.

At my recommended capital structure, I believe NIPSCO's investment risk is in line with the utility industry generally, and the proxy group specifically, and therefore it would be reasonable to award a return on equity toward the high end of my range. However, under the Company's proposed capital structure, its financial risk is significantly below that of the utility industry and the proxy group specifically and therefore would warrant a return on equity no higher than the midpoint of my estimated range. In effect, in order to approve an overall rate of return that is fair to both ratepayers and investors, the Commission should gauge a return on equity that corresponds with the financial risk implicit in the ratemaking capital structure.

Consistent with this objective, I believe the return on equity should be adjusted to reflect the level of investment risk implicit by the Company's ratemaking capital structure.

My recommended return on equity will fairly compensate the Company for its current market cost of common equity, and it will mitigate the Company's claimed revenue deficiency in this proceeding while providing a return that fairly balances the interests of customers and shareholders.

I also recommend the Commission reject NIPSCO's proposed ratemaking capital structure. NIPSCO's proposed capital structure has an excessive balance of common equity, which unjustifiably inflates its claimed revenue deficiency. NIPSCO's proposed capital structure is also not cost-based because it does not reflect the financial risk that underlies NIPSCO's access to external capital, credit rating, and cost of financing its utility rate base investments.

Specifically, NIPSCO no longer issues debt on its own. Rather, approximately 95% of all of its outstanding debt is issued by an affiliate, NiSource Finance Corporation. Equally as important, NIPSCO's ultimate parent company, NiSource Inc., proposes to terminate NiSource Finance Corporation, and begin issuing debt on behalf of its subsidiaries including NIPSCO.[2]

As discussed in greater detail below, NIPSCO's access to capital and credit rating are largely based on the low operating risk of NIPSCO's retail utility, but its financial risk reflects the far more leveraged risks of its parent company, NiSource Inc. If the Commission requires use of a capital structure that actually reflects NIPSCO's bond rating, access to capital, and cost of capital, then I recommend a

[2]IURC Cause No. 45020, NIPSCO seeking approval to amend its certificate of authority to issue bonds, notes, or other evidence of indebtedness, Petitioner's Exhibit No. 1 at 7-8.

ratemaking capital structure with a 52% common equity ratio which is based on both NIPSCO's and NiSource Inc.'s capital structures.

Based on my recommended return on equity, and more reasonable ratemaking capital structure for NIPSCO, I demonstrate that NIPSCO will be fairly compensated, its financial integrity and credit standing will be supported, but at a much lower cost to customers than the rate of return recommendation supported by NIPSCO witness Mr. Vincent Rea in this proceeding. As shown on my Attachment MPG-1, my recommended return on equity, ratemaking capital structure, and corrected embedded cost of debt will produce an overall ratemaking rate of return of 5.84%.

Finally, I respond to NIPSCO witness Mr. Rea's return on equity recommendation. Mr. Rea recommended an equity return in the range of 10.45% to 10.95%, with a midpoint of 10.70%.[3] Mr. Rea's recommended return on equity for NIPSCO substantially exceeds a fair return on equity for NIPSCO's investment risk specifically, and the utility industry's below market risk generally. Mr. Rea's return on equity is simply excessive and results in unjust and unreasonable prices to NIPSCO's retail customers.

<u>II. REVENUE REQUIREMENT ADJUSTMENTS</u>

Q PLEASE DESCRIBE THIS PORTION OF YOUR TESTIMONY.

A In this portion of my testimony, I describe each of my revenue requirement adjustments to NIPSCO's claimed revenue deficiency, other than my recommended overall rate of return – return on equity and capital structure. Those adjustments will be described and supported in Section III of my testimony.

[3]Direct testimony of Vincent Rea at 5.

II.A. Average Versus Year-End Rate Base

Q PLEASE DESCRIBE HOW NIPSCO HAS DEVELOPED ITS COST OF SERVICE IN THE TEST PERIOD RELATED TO ITS RATE BASE INVESTMENTS.

A NIPSCO is proposing a year-end December 31, 2018 rate base with exceptions for amounts associated with materials and supplies and gas storage, which are based on averages.

Q IS THE COMPANY'S PROPOSAL TO DEVELOP RATE BASE WITH COMPONENT BALANCES AS OF THE END OF THE FUTURE TEST YEAR REASONABLE?

A No. The Company's rate case is based on a future test year in this proceeding. In the future test year, the Company projects revenues and operating costs that will take place during a period when the rates determined in this proceeding will be in effect. When using a future test year, it is important to recognize that rate base is growing relative to the historical base year, but the growth in rate base does not all come at the beginning of the future test year. Rather, rate base additions occur throughout the year. Therefore, in order to provide only a return on investments that are in-service during the future test year, the Company should correspondingly use an average rate base methodology when it sets rates using a future test year.

An average rate base methodology provides a return on plant investments during the period the investments are actually in-service and being used to provide service. This ensures that customers' rates reflect fair compensation on prudently incurred plant investments that are used and useful in providing service within the test year. The Company's proposal for an end-of-year future test year rate base will allow for a full year return on plant investment that is not in-service and used and useful for the full 12-month period of the future test year. As such, the Company's proposed use of a future test year inflates rate base, inflates the claimed revenue deficiency, and results in rates that are not just and reasonable.

Moreover, using an average year rate base during the projected test year will provide a more accurate estimate of NIPSCO's cost of service in the future test year, and for all subsequent years where the rates are in effect. This is true because rate base changes from month to month based on plant additions, and accumulated depreciation reserve changes. Throughout the year, the utility will declare new plant as in-service and include it in its gross plant amount. This increases net plant balances. However, during this same time, the utility will recover depreciation expense and record that as an increase in the accumulated depreciation reserve. This will decrease net plant on a monthly basis throughout the future test period. The net effect is that net plant in-service will change each month based on these additions and reductions to net plant in-service. In order to accurately measure the Company's cost of service during the 2018 test year, one must reflect this change in net plant based on an average throughout the year. By measuring rate base at the end of the 2018 test year, the Company's actual investment during the year and the resulting cost of service are overstated.

Q IS IT IMPORTANT TO SELECT AN APPROPRIATE TEST YEAR THAT PROPERLY MEASURES A UTILITY'S COST OF SERVICE?

A Yes. When using a historical test year, the plant in-service at the end of the year will be fully in-service during the period rates will be in effect. Therefore, use of a historical test year will ensure the measurement of a rate base that will reflect investments that are fully in-service when the rates are in effect. In contrast, a future test year uses a projected test year with projected plant additions. When setting rates using a future test year, an average rate base is necessary in order to properly match the projected revenues and expenses in the future test year with the plant in-service in the future test year. This proper matching ensures that the rates customers pay when rates are in effect provide the utility a return on investments that are currently used and useful and providing service to retail customers. As such, the selection of the test year impacts the proper measurement of rate base in order to ensure rates are just and reasonable, and investors are fairly compensated.

Q CAN YOU PROVIDE AN EXAMPLE TO ILLUSTRATE WHY AN AVERAGE YEAR RATE BASE BALANCE WILL MORE ACCURATELY ESTIMATE THE UTILITY'S COST OF SERVICE IN A FUTURE TEST YEAR?

A Yes. A utility makes investment in plant and equipment throughout the year. Therefore, it is adding to its plant in-service each month of the year and therefore its actual cost of service reflects a build-up, or a decline, to its plant in-service throughout the year. Hence, an average year rate base more accurately describes a utility's cost of service in the future test year.

A simple illustration using a bank account will help explain why estimating the annual capital cost on an average investment balance will more accurately estimate NIPSCO's actual rate year cost of capital.

In this bank account, the depositor had an initial balance at the beginning of the year of $100 and makes a $100 deposit to the account at the end of each month. Hence, in month 2 the beginning balance is $200 and so on throughout the end of year. By the end of year the account balance is $1,200.

The bank pays interest on the account at an annual rate of 12%, or a monthly rate of 1% (12% = 12 months). The monthly amount of interest income is calculated based on the balance of the account in the month times the monthly interest rate.

TABLE 2

Annual Return Example

Month	Beginning of Month Balance	End Of Month Deposit	Interest	Interest Rate
	(1)	(2)	(3)	(4)
1	$100	$100	$1	1.0%
2	$200	$100	$2	1.0%
3	$300	$100	$3	1.0%
4	$400	$100	$4	1.0%
5	$500	$100	$5	1.0%
6	$600	$100	$6	1.0%
7	$700	$100	$7	1.0%
8	$800	$100	$8	1.0%
9	$900	$100	$9	1.0%
10	$1,000	$100	$10	1.0%
11	$1,100	$100	$11	1.0%
12	$1,200		$12	1.0%
Annual Interest			$78	12.0%
Avg. Annual Balance	$ 650			
Annual Return	$78/$650	equals	12.0%	

The interest earned each month is shown under Column 3 based on a monthly interest rate of 1%, and the account balance in Column 1. The amount of interest earned on the account throughout the year is $78. The average annual balance for the 12-month period is $650. The annual interest of $78 divided by the average balance on the account equals the 12% stated interest rate on the account. Stated differently, applying the annual rate of return, 12%, on the annual average account balance, $650, will correctly estimate the actual interest earned on the account of $78 ($650 x 12%).

In significant contrast, if the annual interest were calculated based on the end-of-year balance of $1,200, then the estimate of the account's annual interest would be $144, a clear overstatement of the account's actual earnings. Using the end-of-year balance will overstate the account balance in 11 months of the 12-month annual period.

This illustration clearly shows that NIPSCO will over-recover its cost of capital if it uses an end-of-year rate base instead of an average year rate base. As such, NIPSCO would recover more than its actual prudent and reasonable cost of service within the test year if its rate base methodology is not corrected to reflect an average rate base.

Q SHOULD THE CAPITAL STRUCTURE SUPPORTING THE RATE BASE ALSO REFLECT AN AVERAGE THROUGHOUT THE YEAR?

A Yes. The actual investment of shareholders and bondholders in financing the Company's operations changes throughout the year. Use of an end-of-year capital structure will create a mismatch compared to the actual level of investment throughout the year.

Q IS THE USE OF AN END-OF-YEAR RATE BASE AND CAPITAL STRUCTURE CONSISTENT WITH THE OTHER COMPONENTS OF THE COST OF SERVICE?

A No. NIPSCO's net income is largely based on its budgeted revenues and expenses during 2018. This net income reflects events that are expected to occur throughout 2018 and do not reflect an annualization of the levels that exist at year-end.

Revenues, for example, reflect expected customer levels during 2018, rather than an annualization of the growth during the year. As a result there is a mismatch between the level of net income included in the cost of service, which is based on an annual 2018 budgeted level and an end-of-year investment level.

Q HAVE YOU CALCULATED THE REVENUE REQUIREMENT EFFECT OF USING AVERAGE RATHER THAN END-OF-YEAR AMOUNTS FOR THE RATE BASE AND CAPITAL STRUCTURE?

A Yes. As shown on my Attachment MPG-2, based on using an average of the 2017 and 2018 budgeted rate bases and capital structures, rather than end-of-year 2018 amounts, the revenue requirement declines by $16.8 million. $12.0 million of the revenue requirement reduction is associated with the decline in rate base and $4.8 million of the revenue requirement reduction is associated with the change in capital structure. The return on equity for this calculation reflects my recommendation of 9.3%.

Ideally, the average rate base and capital structure would reflect 13-month averages of the end of month balances beginning December 31, 2017, through December 31, 2018. Unfortunately, I do not have individual month end balances to calculate a 13-month average. However, my calculation shows the significant cost overstatement associated with developing a revenue requirement based on the use of inconsistent data.

II.B. Prepaid Pension Asset

Q HAS NIPSCO PROPOSED TO INCLUDE A PREPAID PENSION ASSET IN THE COST OF SERVICE?

A Yes. NIPSCO proposes to include a prepaid pension asset as a component of the weighted average cost of capital. As shown in Mr. Derric J. Isensee's Supplemental Testimony on Attachment 3-A-SD, page 5, the Company has included a $261 million prepaid pension asset as a reduction to its capital structure in the determination of the weighted average cost of capital. Including this asset in the capital structure, net of the associated accumulated deferred income taxes ("ADIT"), also included in the capital structure, increases the Company's claimed revenue deficiency by $3.0 million. Effectively, including a prepaid pension asset as a negative component of capital has the effect of increasing the weight of investor capital and customer deposits, and increases the overall rate of return. Specifically, removing the negative capital component for a prepaid pension asset lowers the overall cost of capital from 6.10% (pre-tax of 7.68%) at my return on equity to 5.94% (pre-tax of 7.48%), and thus increases the revenue requirement to support rate base and related income tax expense.

Q IS THE COMPANY'S PROPOSAL TO INCLUDE A PREPAID PENSION ASSET IN THE DETERMINATION OF THE WEIGHTED COST OF CAPITAL REASONABLE?

A No. Mr. Isensee claims, at page 55 of his direct testimony, that the contributions to the trust fund, in excess of pension expense, represent investor supplied funds. He attempts to justify this claim by stating that the pension expense recorded in the Company's books and records is the amount that was included in customer rates.

Q HAS MR. ISENSEE SUPPORTED THE REASONABLENESS OF THE COMPANY'S REQUEST TO INCLUDE A PREPAID PENSION ASSET IN RATE BASE?

A No. Contrary to Mr. Isensee's claims, he has not demonstrated that the prepaid pension asset was funded by investor capital, rather than collections of pension-related costs from retail customers. If a prepaid pension asset is shown to be prudently incurred and funded by investor capital, it may be reasonable to allow it to be included in rate base. However, if the prepaid pension asset was funded by collections from customers over time for pension-related expenses, then the Company is simply not entitled to a return on this asset.

Q WHY DO YOU BELIEVE THAT MR. ISENSEE HAS NOT SUPPORTED HIS BELIEF THAT THE PREPAID PENSION ASSET WAS FUNDED BY INVESTOR CAPITAL?

A He simply was not able to provide proof to support this contention.

Specifically, the Company does not know how much of the pension expense, used in the calculation of the prepaid pension asset, was included in rates. In response to the Industrial Group's Data Requests 7-001 and 7-002, the Company states that it is unable to determine the amount of pension expense that was included in rates prior to Cause No. 43894. The effective date of rates from that case was November 4, 2010. At the end of 2010, NIPSCO had already accumulated a prepaid pension asset of over $200 million.[4] The financial accounting requirement to establish a prepaid pension asset began in 1988, yet NIPSCO is unable to provide data regarding the build-up of the asset prior to 2008. Simply stated, the Company does not know how much of its contributions, in excess of its recorded pension expense have been collected from ratepayers, because it does not know the level of

[4]NIPSCO's supplemental response to Industrial Group's Data Requests 7-001 and 7-002 and 7-001-s Attachment A.

expense included in rates, since it began tracking the prepaid pension asset. As a result NIPSCO does not know, or has not proven, what amount, if any, of the prepaid pension asset represents investor supplied capital.

Q HAS THE COMPANY MADE ANY ADDITIONAL ARGUMENTS FOR INCLUDING THE PREPAID PENSION ASSET IN THE COST OF SERVICE?

A Yes. Also on page 55 of his testimony, Mr. Isensee states that earnings on excess pension trust fund cash contributions serve to reduce pension expense. While I would not dispute that a prepaid pension asset will reduce pension expense, what Mr. Isensee has not proven is that the pension-related cost of service (including revenue requirement for prepaid pension asset) and lower pension expense were reduced because of the existence of the prepaid pension asset. That is, if the pension expense that would prevail without a prepaid pension asset would result in a lower cost of service than the combination of a prepaid pension asset and lower pension expense, then customers are not better off because the Company made a large contribution to the pension trust. In other words, the Company has failed to prove that the prepaid pension asset was a prudent and reasonable investment needed to support either the integrity of the pension trust or to reduce cost of service to retail customers. Again, Mr. Isensee simply has not supported the reasonableness of his request to include a prepaid pension asset in rate base.

Q MR. ISENSEE CITES TWO CASES AT PAGE 60 OF HIS TESTIMONY TO SUPPORT NIPSCO's POSITION TO INCLUDE A PREPAID PENSION ASSET IN THE CAPITAL STRUCTURE. WAS THE RATEMAKING TREATMENT FOR THE PREPAID PENSION ASSET IN THESE CASES THE RESULT OF A SPECIFIC RULING BY THE COMMISSION?

A No. In both Cause Nos. 44450 and 44688, the parties to the case resolved the prepaid pension asset issue through a stipulation and settlement agreement.

Q HAS THE COMMISSION PREVIOUSLY DENIED NIPSCO'S REQUEST TO INCLUDE A PREPAID PENSION ASSET IN THE COST OF SERVICE IN A CONTESTED CASE?

A Yes. In its Final Order on page 9 in Cause No. 43526 the Commission stated the following. "A prepaid pension asset could be a voluntary payment by shareholders to supplement the required pension expenses. NIPSCO has presented no justification for including the prepaid pension asset in rate base, and without additional supporting evidence, we decline to include it in NIPSCO's rate base."

Q WHAT IS YOUR RECOMMENDATION WITH REGARD TO INCLUDING THIS PREPAID PENSION ASSET IN NIPSCO'S RATE BASE?

A I recommend that the Company's proposal to include a $216 million prepaid pension asset in its capital structure be rejected. This prepaid pension asset should be removed from the capital structure along with the associated ADIT balance. This will reduce the Company's claimed revenue requirement by $3.0 million.

II.C. Employee Levels and Payroll Cost

Q PLEASE EXPLAIN THIS ISSUE.

A NIPSCO has included a budgeted level of employees in the determination of its 2018 revenue requirement. A budgeted level of employees includes both actual employee payroll and benefits expenses and expenses associated with employee positions that are budgeted for, but not yet filled. To the extent the Company includes budgeted employee positions, without a verifiable plan to fill the positions, then its budgeted employee cost simply does not reasonably measure what its actual cost of employee expense incurred to provide utility services during the future test year will be. For this reason, budgeted employee positions that have not and likely will not be filled should not be included in test year cost of service.

Q ARE YOU PROPOSING AN ADJUSTMENT TO NIPSCO'S BUDGETED EMPLOYEE LEVELS TO REFLECT ACTUAL EMPLOYEE EXPENSE?

A Yes. The 2018 budget level of employees is overstated compared to the actual number of employees.

I am proposing an adjustment to reduce the Company's operating expenses associated with wages, payroll taxes and benefits, to reflect the last known level of actual employees.

Q WHAT LEVEL OF EMPLOYEES HAS NIPSCO INCLUDED IN ITS 2018 COST OF SERVICE?

A Based on its response to the Industrial Group's Data Request 7-010, NIPSCO included 3,107 employees in the cost of service. This level of employees is associated with $93 million of payroll and benefits cost.

Q HOW DOES THE EMPLOYEE LEVEL NIPSCO INCLUDED IN THE COST OF SERVICE COMPARE WITH THE ACTUAL LEVEL OF EMPLOYEES?

A As of January 2018, NIPSCO had only 3,032 employees, 75 employees less than the level the Company included in the cost of service.

Q WHAT ADJUSTMENT TO THE COST OF SERVICE ARE YOU RECOMMENDING?

A I recommend a reduction to the 2018 revenue requirement proposed by NIPSCO, based on reflecting the actual level of employees as of January 2018. My recommendation reduces NIPSCO's revenue requirement by $2.2 million.

Q WHY DO YOU BELIEVE YOUR ADJUSTMENT IS REASONABLE?

A In my opinion, it is unreasonable to include unfilled employee positions in the cost of service. NIPSCO did not budget any increase in employees from 2017 to 2018. Therefore, the last known employee count as of January 2018 should be reflective of ongoing employee levels. In addition, NIPSCO has not achieved its 2017 budgeted employee levels and only experienced a modest increase of 34 employees from the end of 2016 through January of 2018.

II.D. NiSource Corporate Service Company Cost

Q PLEASE EXPLAIN THIS ISSUE.

A NIPSCO incurred $39.8 million of NiSource Corporate Service Company ("NCSC") cost in 2016. In the 2018 test year, as shown on Petitioner's Exhibit No. 8, Attachment 8-D, page 4, NIPSCO is proposing to increase this level of cost to $46.6 million, based on its 2018 budget.

Q HOW HAS NIPSCO JUSTIFIED THIS INCREASE IN COST?

A NIPSCO witness Ronald J. Harper discusses the various cost items that support the increase in NCSC cost from the 2016 historical basis to the 2018 budget.

Q WHILE NIPSCO PROVIDES TESTIMONY REGARDING THE BUILD-UP IN COST FROM 2016 TO ITS 2018 BUDGETED LEVEL, HAS IT JUSTIFIED THE BASE 2016 LEVEL?

A No. The 2016 level of NCSC cost is significantly higher than the historical levels. From 2012 through 2015, NCSC costs ranged from $29.52 million to $30.96 million. This range reflects only a difference of $1.44 million from the highest to the lowest level during the four-year period.

However, in 2016, the level of NCSC costs jumped to $39.84 million. This level reflects an over 31% increase in the NCSC costs compared to the average of the prior four historical year levels.

Q HAS NIPSCO OFFERED ANY EXPLANATION OF THE 2016 NCSC COST LEVELS?

A Company witness Harper states that 2016 expenses were in fact understated by approximately $1 million. This understatement only adds to the unjustified increase in the 2016 base level.

Q ARE YOU PROPOSING AN ADJUSTMENT TO NCSC COSTS?

A Yes. NIPSCO has used 2016 as its base cost level and provided adjustments from that level to the 2018 budget amount. However, NIPSCO has not justified its 2016 cost basis. Therefore, I am proposing an adjustment to reduce the 2016 historical NCSC, which NIPSCO uses as the basis for its 2018 test year level.

Q HOW DID YOU CALCULATE YOUR ADJUSTMENT AND WHAT IS THE EFFECT ON THE COMPANY'S REVENUE REQUIREMENT IN THIS CASE?

A I am proposing an adjustment equal to the difference between the 2016 NCSC costs incurred and the average NCSC costs experienced during the prior four-year period, 2012 through 2015. My proposed adjustment reduces the NCSC costs by $9.5 million.

<u>II.E. Transmission and Distribution Deferral</u>

Q HAS NIPSCO INCLUDED DEFERRED COSTS ASSOCIATED WITH THE TRANSMISSION, DISTRIBUTION AND STORAGE SYSTEM IMPROVEMENT CHARGE ("TDSIC") REGULATORY ASSET IN THE DETERMINATION OF REVENUE REQUIREMENT?

A Yes. NIPSCO has included deferred costs associated with certain transmission, distribution and storage plant placed in service, and is proposing a four-year amortization of these costs. As shown in Petitioner's Exhibit No. 3-SD, Attachment 3-D-SD, Schedule AMTZ 3-SD-18R, NIPSCO proposes to increase amortization expense by $6,484,047 to reflect a four-year amortization of the deferred TDSIC plant cost. NIPSCO also proposes to include a $20,763,169 regulatory asset in rate base.

Q WHAT IS NIPSCO'S JUSTIFICATION FOR A FOUR-YEAR AMORTIZATION?

A NIPSCO witness Isensee proposes a four-year amortization because it is consistent with the period of time over which these amounts were deferred.

Q **DO YOU AGREE WITH NIPSCO'S PROPOSAL?**

A No. I believe the amortization period should be significantly longer than the period NIPSCO has proposed. These costs are related to T&D plant, which can have lives in excess of 25 years. Suggesting an amortization period based simply on the period of deferral gives no consideration to the period the related assets will be in service.

Q **WHAT IS YOUR RECOMMENDATION WITH REGARD TO INCLUDING THE DEFERRED T&D COSTS IN THE DETERMINATION OF REVENUE REQUIREMENT?**

A While I believe a much longer period can be justified, I am recommending an amortization period of ten years. Ten years reflects a reasonable recovery period, while recognizing that these costs are associated with long-lived plant facilities. If the Commission determines that a shorter amortization period is more appropriate, I would propose that the TDSIC regulatory asset cost be removed from rate base and receive no return component, or only a carrying cost equal to the long-term debt rate. Allowing a return on the deferred cost in addition to an extremely short amortization period inappropriately accelerates the recovery of these assets.

Q **WHAT EFFECT DOES YOUR RECOMMENDATION HAVE ON THE REVENUE REQUIREMENT IN THIS CASE?**

A My recommendation reduces the amount of the amortization expense associated with this deferral and the revenue requirement in this case by $3.9 million.

<u>II.F. Indiana Corporate Income Tax Rate Change</u>

Q PLEASE EXPLAIN THIS ISSUE.

A A phased-in reduction of the Indiana corporate income tax rate began in 2012. As a result the rate will continue to decline to 4.9% beginning in 2022. One impact of this state tax rate change is a reduction in the ongoing income tax expense included in NIPSCO's revenue requirement.

Q WHAT INDIANA CORPORATE INCOME TAX RATE IS NIPSCO UTILIZING IN ITS REVENUE REQUIREMENT CALCULATIONS?

A NIPSCO is using a blended rate reflecting 2017 and 2018 of 5.875%.

Q DO YOU AGREE WITH THIS RATE?

A No. The Indiana corporate income tax rate is scheduled to be 5.75% beginning July 1, 2018. In addition, on January 22, 2018, the Commission ordered an extension of the 300-day suspension period to September 24, 2018. As a result, I believe the Indiana corporate income tax rate as of July 1, 2018 of 5.75% better aligns with the date rates from this case will become effective. The impact of using this rate as opposed to NIPSCO's blended rate is approximately $0.2 million.

Q ARE THERE OTHER IMPACTS RESULTING FROM THE DECLINE IN STATE TAX RATES?

A Yes. The reduction in the tax rate results in the creation of an excess balance of state accumulated deferred income taxes ("ADIT"). This excess is the result of deferring state taxes at a higher historical income tax rate than the rate at which these taxes will eventually be paid. Through December 31, 2018, NIPSCO has identified $6.4 million of excess state ADIT. As the Indiana corporate income tax rate continues to decline, this amount will increase to $12.7 million at December 31, 2022, when the tax rate is 4.9%. The excess state ADIT represents income taxes that are not owed and will not be paid as a result of the reduction in the Indiana corporate income tax rate.

Q DO YOU BELIEVE THERE ARE ANY RESTRICTIONS ON THE RATEMAKING TREATMENT FOR THIS EXCESS STATE ADIT?

A No. Excess federal accumulated deferred income taxes related to accelerated depreciation methods are required to be amortized over the remaining life of the related investments. This Average Rate Assumption Method ("ARAM") is specified by the Internal Revenue Code ("IRC") as a requirement for using accelerated depreciation with regard to the calculation of federal income taxes. However, it is my understanding that such restriction does not exist for excess state ADIT.

Q PLEASE EXPLAIN YOUR UNDERSTANDING REGARDING THE RETURN OF EXCESS DEFERRED STATE INCOME TAXES.

A I am relying on my review of the Indiana Code, specifically, the statute that establishes the corporate income tax rate, I.C. § 6-3-2-1. This section does not use the term "Internal Revenue Code" or otherwise invoke its rules.

Q HOW HAS NIPSCO PROPOSED TO REFLECT THE EXCESS STATE ADIT FOR REGULATORY PURPOSES?

A NIPSCO is proposing to return the dollars to customers using the ARAM method. NIPSCO's proposal results in waiting, potentially decades, for the return of all the deferred state income taxes collected from ratepayers that have already been identified as excess.

Q DO YOU AGREE WITH THIS PROPOSAL?

A No. I do not agree with using the ARAM method to return the excess deferred state income taxes to ratepayers. Since the return of these excess state taxes is not restricted, I think it is appropriate to return these taxes to ratepayers over a reasonable period, beginning with this rate case. The rates from this case will go into effect sometime after mid 2018. The final reduction in the Indiana corporate income tax rate occurs on July 1, 2021. As a result, the full excess will be realized during the five years following the implementation of rates from this case.

Therefore, I propose a five-year amortization of the excess state ADIT amount, which has been identified through December 31, 2022, of $12.7 million. This proposal allows NIPSCO to return these excess funds, which it will have collected from ratepayers and utilizes as a zero cost source of capital. My proposal returns these funds to ratepayers gradually during a five-year period that is more reasonable than the decades-long wait proposed by NIPSCO. I believe my recommendation strikes a balance between the interests of both the Company and its ratepayers.

Q ARE YOU PROPOSING ANY SPECIAL REGULATORY TREATMENT FOR ADDITIONAL EXCESS STATE ADIT IDENTIFIED AFTER THIS CASE?

A Yes. I recommend that any additional excess state ADIT that is later identified by NIPSCO should be accumulated in a regulatory liability. These additional deferrals can be addressed in a general NIPSCO rate proceeding at some point in the future.

Q WHAT EFFECT DOES YOUR RECOMMENDATION HAVE ON THE REVENUE REQUIREMENT IN THIS CASE?

A As I previously stated, NIPSCO has identified $12.7 million of excess state ADIT based on the final implementation of the 4.9% Indiana corporate income tax rate. This amount should be reduced by the effect associated with federal income taxes. Based on the 21% federal income tax rate, this effect is a reduction of $2.7 million to $10 million. A five-year amortization of this net amount will decrease deferred income taxes by $2 million annually. Since this is a tax expense and affects net operating income, the amount of the amortization must be increased by applying the net operating income conversion factor to determine the revenue requirement. The total reduction in the revenue requirement is $2.7 million annually.

Q HOW DOES YOUR CALCULATION OF THE ANNUAL AMORTIZATION OF THE EXCESS STATE INCOME TAX COMPARE TO THE AMOUNT BASED ON NIPSCO'S METHOD?

A I have calculated an amortization using the ARAM method which is supported by NIPSCO. This method would result in an annual revenue requirement reduction of only $0.3 million. Therefore, my proposal would reduce NIPSCO's revenue requirement by $2.4 million.

Q PLEASE SUMMARIZE YOUR TESTIMONY REGARDING THE REDUCTION IN THE INDIANA CORPORATE INCOME TAX RATE.

A I am proposing to use the state income rate that will be effective as of July 1, 2018 to calculate the revenue requirement for determining rates in this case. In addition, I propose the use of a five-year amortization of the excess state ADIT balance that will be realized during the period of amortization. The total revenue requirement associated with my proposals regarding the decline in the state income tax rate is a reduction of $2.6 million.

II.G. Tax Cuts and Jobs Act of 2017

Q HAS NIPSCO UPDATED ITS DETERMINATION OF THE COST OF SERVICE TO REFLECT THE FEDERAL INCOME TAX CHANGES RESULTING FROM THE TAX CUTS AND JOBS ACT OF 2017 ("TCJA")?

A Yes. NIPSCO filed supplemental direct testimony on January 26, 2018, to address federal income tax changes as a result of the TCJA.

Q BASED ON YOUR EXAMINATION AND ANALYSIS OF NIPSCO'S SUPPLEMENTAL TESTIMONY, DO YOU AGREE WITH THE COMPANY'S CALCULATION OF THE REVENUE REQUIREMENT IMPACTS RESULTING FROM THE TCJA?

A While I agree with most of NIPSCO's revenue requirement calculations and its approach to determining the TCJA impacts, I recommend a different amortization period with regard to the unprotected excess ADIT. In addition, based on the Commission's findings with regard to the return on equity, capital structure and other elements in this proceeding, the value of the impact of the TCJA will change.

Q HOW IS THE EXCESS FEDERAL ADIT RETURNED TO CUSTOMERS?

A There are two types of excess ADIT, which have been referred to by NIPSCO in its testimony, as protected and unprotected. The protected excess ADIT must be returned to customers, amortized over the remaining plant lives reflected in the depreciation rates approved by the Commission. This is referred to as the Average Rate Assumption Method ("ARAM") method previously discussed in the state income tax section of my testimony. NIPSCO is using a 2.18% rate to amortize the protected excess ADIT. The non-normalized excess ADIT can be returned to customers over any period approved by the Commission.

NIPSCO is proposing the ARAM method also be used for the unprotected excess ADIT. Attachment A of NIPSCO's response to Industrial Group DR 9-1 identifies property-related protected and unprotected amounts of excess ADIT, grossed up for taxes, which I show below:

Property Excess ADIT
($ Million)

Fed	Fed	FBOS	Total
Method/Life	$37.6	$0.4	$38.0
Other	$102.8	($5.0)	$97.8
	$140.4	$4.6	$135.8

The row designated as "Other" represents unprotected excess ADIT, and thus may be amortized over a different period than what is reflected using the ARAM method, a period that can be set by the Commission in this proceeding.

Q WHAT AMORTIZATION PERIOD ARE YOU PROPOSING FOR THE UNPROTECTED EXCESS ADIT?

A I recommend a five-year amortization period for the unprotected excess ADIT. As I previously stated, unprotected excess federal ADIT can be amortized over any period approved by the Commission.

Q WHY IS FIVE YEARS A REASONABLE PERIOD FOR AMORTIZATION OF UNPROTECTED EXCESS FEDERAL ADIT?

A I recommend a shorter amortization period as a method of mitigating the significant increase in rates proposed by NIPSCO in this case. While an even shorter period, for example a three-year amortization, could be implemented and should be considered by the Commission as a further means of rate mitigation, I believe a five-year amortization of the unprotected excess federal ADIT is a reasonable approach.

These funds have been provided by customers for the specific purpose of paying income taxes. As I discussed earlier regarding excess state ADIT, the excess federal ADIT represents income taxes that are no longer due and will not be paid as a result of the TCJA. Therefore, a five-year amortization returns these funds to customers in a reasonable and expeditious manner.

Q WHAT IS THE VALUE OF YOUR RECOMMENDATION TO REDUCE THE AMORTIZATION PERIOD FOR NON-NORMALIZED EXCESS ADIT TO FIVE YEARS?

A NIPSCO's witness Michael D. McCuen, in his supplemental testimony, valued the amortization of unprotected federal ADIT as a $2.1 million reduction to income tax expense.[5] Grossing this amount up to a revenue requirement level results in a decrease of $2.84 million. My recommendation to amortize the unprotected excess federal ADIT over a five-year period results in a reduction to income tax expense of $20.3 million grossed up to a revenue requirement. My recommendation to reduce the amortization period to five years from 20 years for the unprotected portion

[5]Petitioner's Exhibit No. 2-SD, Attachment 12-F-SD.

reduces NIPSCO's revenue requirement by an additional $17.5 million ($20.3 million less $2.8 million).

Q ARE YOU PROPOSING TO ESTABLISH ADDITIONAL REGULATORY ACCOUNTING TO CAPTURE ANY ADDITIONAL IMPACTS RESULTING FROM THE TCJA THAT ARE DETERMINED AFTER THIS PROCEEDING?

A Yes. The TCJA is a complex overhaul of the income tax system. As a result I believe it is very likely that further analysis and guidance from the Internal Revenue Service and NIPSCO's accountants will result in the identification of additional TCJA impacts in the future. I recommend, that the Commission establish regulatory accounting to capture all TCJA impacts determined in the future.

In addition, I propose NIPSCO use regulatory accounting to capture any TCJA impacts prior to the implementation of rates in this case. This proposed regulatory accounting would capture all the TCJA impacts on NIPSCO's cost of service from the January 1, 2018 legislation implementation date through the date new rates are established in this proceeding. The question of ratemaking treatment for TCJA impacts between January 1, 2018, and the date new rates are implemented through this proceeding is also being addressed in the pending Commission investigation under Cause No. 45032. My proposal in this regard is not meant to supersede or displace any relief the Commission may determine to be appropriate in Cause No. 45032, but rather addresses the impact in the context of this rate case without knowing what position NIPSCO may take in the investigation docket or how the Commission might handle NIPSCO's gas rates specifically in the other proceeding.

Q HOW DO YOU PROPOSE TO REFLECT THE DECLINE IN THE COST OF SERVICE RESULTING FROM THE TCJA IMPACTS, PRIOR TO THE IMPLEMENTATION OF RATES IN THIS PROCEEDING?

A I recommend a one-time credit to customers, or a negative surcharge during the first 12 months following the rate implementation date, to return this reduction in the cost of service.

Q WHY IS YOUR RECOMMENDATION TO REFLECT IN RATES THE DECLINE IN THE COST OF SERVICE AS A RESULT OF THE TCJA FROM THE JANUARY 1, 2018 LEGISLATIVE IMPLEMENTATION DATE APPROPRIATE?

A The TCJA represents a significant change in the cost of service for every public utility company in the United States as a result of an historic overhaul of the tax system. The associated revenue requirement is due to income tax impacts, which are embedded in current rates. It is unreasonable to allow NIPSCO to retain this windfall. I believe my recommendation to capture this reduction in the cost of service and return it to customers is reasonable and equitable to both NIPSCO and its utility customers. Further, the amount of income tax collected through rates has no impact on a utility's NOI, as it is simply a pass-through calculated using the appropriate gross revenue conversion factor.

III. RATE OF RETURN

Q PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.

A In this section, I will provide some observable market evidence, provide credit metrics to assess the reasonableness of rate of return positions, and provide a detailed analysis to demonstrate a rate of return will support NIPSCO's financial integrity and access to capital. I also comment on market-based models to estimate the current market-required rate of return investors demand to assume the risk of an investment similar to NIPSCO's common equity securities.

III.A. Current Capital Market

Q DO YOU BELIEVE MARKET-BASED MODELS PRODUCE REASONABLE ESTIMATES OF NIPSCO'S CURRENT COST OF EQUITY?

A Yes. I believe the application of a Discounted Cash Flow ("DCF") analysis, risk premium, and Capital Asset Pricing Model ("CAPM") produces reasonable and accurate estimates of the current market cost of equity for NIPSCO and other utility companies of similar investment risk. More specifically, I disagree with NIPSCO witness Mr. Rea's suggestion that the DCF model is understating the current market cost of equity. (Rea Direct at 57).

Q PLEASE EXPLAIN WHY YOU BELIEVE THE DCF MODELS PRODUCE A REASONABLE ESTIMATE OF NIPSCO'S MARKET COST OF COMMON EQUITY.

A The results of the DCF model are economically logical in comparison to alternative income investments and exhibit robust growth outlooks.

The DCF results generally produce economically logical results by comparison of the two major components of the DCF return: (1) the dividend yield, and (2) the growth rate. The utility stock investments are both income investments and growth investments. Hence, the stock yield component of the DCF model can be compared to alternative income investments of comparable risk to assess how it compares to alternative market investments.

On my Attachment MPG-3, pages 4 and 8, I show a comparison of utility stock dividend yields compared to A-rated utility bond yields. This is an approximate risk comparable investment for the income component of a utility stock DCF return. As shown on this schedule, utility dividend yields are around 2.5% to 3.4%, which compares to A-rated utility bond yields of around 4.0%. This spread of approximately 60 to 150 basis points is relatively low in comparison to the 13-year average shown on this schedule. A high utility stock yield relative to an A-rated utility bond yield is an indication that the DCF model yield component is higher than normal and thus is a robust income return relative to alternative similar risk income investments.

From a DCF growth perspective, utility stocks are also producing strong growth outlooks relative to the past. The industry historical growth in dividends has been around 4.0% to 4.5%. (Attachment MPG-3). This compares to outlooks for future growth in utility dividends and earnings of around 4.0% to 5.0%. These growth outlooks will be discussed in more detail later in this testimony. As such, a DCF return on utility stocks reflects a yield component and a growth component that both reflect robust return outlooks for utility stock investors, and are economically logical in comparison to alternative investments of comparable risk.

Further, as discussed in more detail later in this testimony, the CAPM return also reflects a relatively low risk-free rate by historical standards, but this low risk-free rate is combined with a market risk premium that is above historical actual achieved market risk premiums relative to Treasury bond investments. Thus, the CAPM return estimate is also economically logical based on observable market fundamentals and alternative investments.

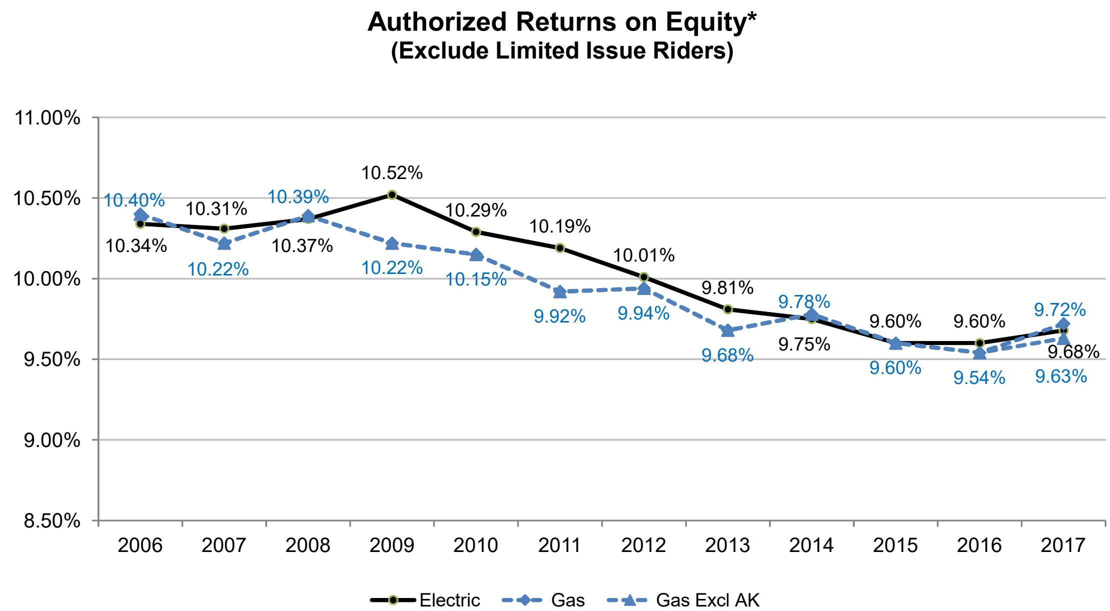
For these reasons, NIPSCO witness Rea's contention that the DCF and CAPM models are not producing reasonable results simply is without merit and should be disregarded.

III.B. Utility Industry Authorized Returns on Equity, Access to Capital, and Credit Strength

Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN AUTHORIZED RETURNS ON EQUITY FOR REGULATED UTILITIES, UTILITIES' CREDIT STANDING, AND UTILITIES' ACCESS TO CAPITAL USED TO FUND INFRASTRUCTURE INVESTMENT.

A Authorized returns on equity for both electric and gas utilities have been steadily declining over the last ten years, as illustrated in Figure 1 below. Many recent authorized returns on equity for electric and gas utilities have declined downward to about 9.60%.

FIGURE 1



Source and Note:
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions -- January - December 2017, January 30, 2018 at pages 6 and 7.
* Electric Returns exclude Limited Issue Riders.
* RRA excludes the Alaska NSTAR decision from its calculations.

While the declines in authorized returns on equity are public knowledge and align with declining capital market costs, utilities have been able to maintain a stable outlook and have been able to attract large amounts of capital at low cost to fund very large capital programs.

I would note, that while the industry average returns on equity increase slightly at year-end 2017 relative to the previous 18 months, the majority of authorized returns on equity over the last 24 months have been relatively stable. As shown on my Attachment MPG-4, approximately 80% of authorized returns on equity have fallen in the range of 9.3% to 9.8%.

Q HAVE CREDIT RATING AGENCIES COMMENTED ON THE DECLINING TREND IN AUTHORIZED RETURNS ON EQUITY?

A Yes. Credit rating agencies have recognized the declining trend in authorized returns. Specifically, Moody's states:

> **Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles**
>
> The credit profiles of US regulated utilities will remain intact over the next few years despite our expectation that regulators will continue to trim the sector's profitability by lowering its authorized returns on equity (ROE).[6]

Further, in a report, Standard & Poor's ("S&P") states:

> **2. Earned returns will remain in line with authorized returns**
>
> Authorized returns on equity granted by U.S. utility regulators in rate cases this year have been steady at about <u>9.5%</u>. Utilities have been adept at earning at or very near those authorized returns in today's economic and fiscal environment. A slowly recovering economy, natural gas and electric prices coming down and then stabilizing at fairly low levels, and the same experience with interest rates have led to a perfect "non-storm" for utility ratepayers and regulators, with utilities benefitting alongside those important constituencies. Utilities have largely used this protracted period of favorable circumstances to consolidate and institutionalize the regulatory practices that support earnings and cash flow stability.[7]

Q PLEASE DESCRIBE THE RATINGS ACTIVITY THAT CREDIT RATING AGENCIES HAVE TAKEN WITH RESPECT TO THE REGULATED UTILITY INDUSTRY DURING THE PERIOD OF DECLINING RETURNS ON EQUITY.

A The credit rating changes for the electric and gas utility industry reflect a significant strengthening of the industry credit outlook.

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[6]*Moody's Investors Service*, "US Regulated Utilities: Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," March 10, 2015.

[7]*Standard & Poor's Ratings Services*: "Corporate Industry Credit Research: Industry Top Trends 2016, Utilities," December 9, 2015, at 23, emphasis added.

The natural gas utility industry credit rating changes are shown in Table 3 below. The gas industry changes in credit ratings are similar to the electric utilities. In 2009, 42% of the gas industry had a credit rating in the BBB category with 28% below BBB+. By the end of 2016, all gas utilities' credit ratings improved to BBB+ or higher.

TABLE 3

S&P Ratings by Category
Natural Gas Utilities
(Year End)

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017
Regulated Gas									
A or higher	57%	57%	50%	50%	38%	33%	33%	44%	56%
A-	0%	0%	0%	0%	38%	33%	33%	22%	11%
BBB+	14%	14%	38%	38%	13%	22%	33%	33%	33%
BBB	14%	14%	0%	0%	0%	0%	0%	0%	0%
BBB-	14%	14%	13%	13%	13%	11%	0%	0%	0%
Below BBB-	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

As of December 31, 2017.
Source: S&P CAPITAL IQ, dowloaded 2/15/18.
Note: Subsidiary rating is used if parent not rated.

Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT INFRASTRUCTURE CAPITAL PROGRAMS?

A Yes. In its October 23, 2017 Capital Expenditure Update report, *RRA Financial Focus*, a division of S&P Global Market Intelligence, made several comments about utility capital investments:

> • Projected 2017 capital expenditures for the 53 gas and electric utilities in the RRA universe has stayed steady at about $117.5 billion, which would be an all-time high for the sector.
>
> • CapEx projections for the longer term increased modestly from our previous analysis in March 2017, rising to $111.8 billion for 2018 and $102.4 billion for 2019, as companies' plans for future projects solidified and new opportunities arose.
>
> The nation's electric and gas utilities are investing in infrastructure to upgrade aging transmission and distribution systems, build new natural

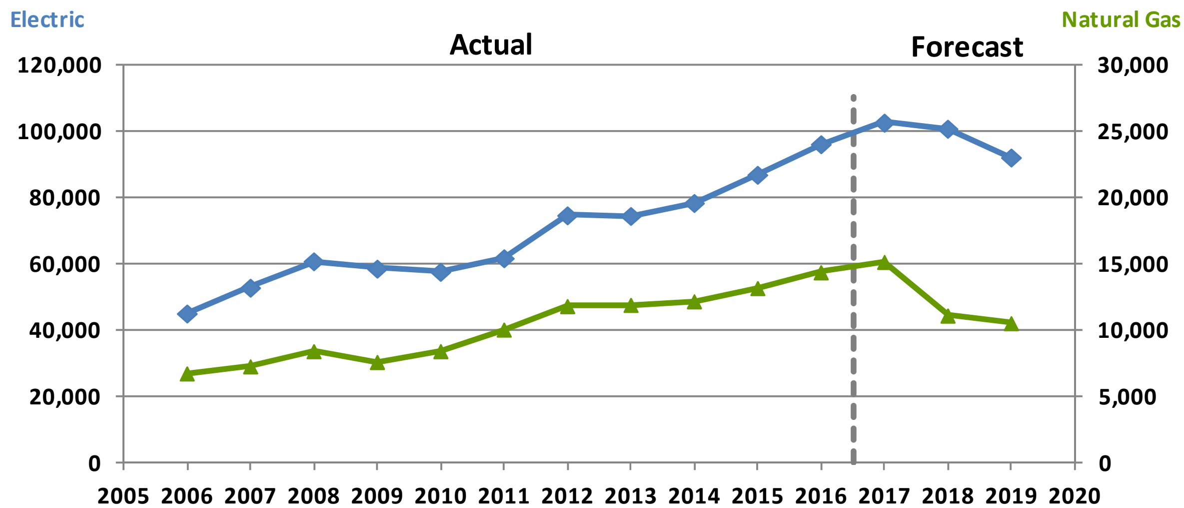
> gas, solar and wind generation and implement new technologies. We expect considerable levels of spending to serve as the basis for solid profit expansion for the foreseeable future.
>
> * * *
>
> From a natural gas perspective, many utilities are participating in the sizable and ongoing expansion of the nation's gas midstream network. In addition, replacement of mature gas distribution infrastructure has gained widespread momentum and is likely to continue at material levels for many years, considering state and federal mandates to address safety.
>
> * * *
>
> For gas utilities, the CapEx/OCF ratio has fluctuated far more substantially than for electric utilities. Gas utilities saw large swings in the ratio from 2000 through 2012, with a peak of 1.5x in 2000 and a low of 0.7 in 2009. Since reaching 1.4x in 2012, the ratio appears to have stabilized somewhat, although 2015 was slightly lower at 1.0x, before jumping up again to 1.3x in 2016, and dipping down to 1.1x in the first half of 2017.[8]

Indeed, historical versus projected outlooks for the electric and gas industries' capital investments are shown in Figure 2 below. As shown in this graph, gas industry investment outlooks are expected to be considerably higher in the forecast (2017-2019), relative to the last ten-year historical period. As noted by S&P Global Market Intelligence, capital investment is exceeding internal sources of funds to the gas utilities, requiring them to seek external capital to fund capital investments.

[8] S&P Global Market Intelligence, RRA Financial Focus: "Utility Capital Expenditures: 2017 CapEx projections hold steady, 2018 and 2019 edge up," October 23, 2017, at 1 and 4.

FIGURE 2

Utility Capital Expenditures
Dollars (in millions)



Source: *S&P Global Market Intelligence, Financial Focus*, Capital Expenditure Update, October 23, 2017, Page 7

As shown in Figure 2 above, the capital investments for the electric utility industry are significantly higher than the capital investments for the gas industry but they follow the same trend over the historical and forecasted period.

Q DO YOU BELIEVE NIPSCO'S REGULATORY MECHANISMS APPROVED BY THE COMMISSION SUPPORT ITS ABILITY TO RECOVER ITS COST OF PLANT INVESTMENTS?

A Yes. NIPSCO is currently able to use a transmission and distribution infrastructure surcharge to recover incremental plant investment costs from retail customers. This allows for greater assurance that NIPSCO will charge customers for its actual outstanding plant investment when rates are currently in effect. The existence of the TDSIC significantly reduces investment risk, because cost recovery risk of new investment is transferred to retail customers from the utility. Indeed, credit rating agencies have noted the supportive regulatory treatment provided to NIPSCO from the Commission. The TDSIC is an example of this risk reduction regulatory mechanism. Because the Company's risk of capital investment is reduced with this regulatory mechanism, the return on equity should be adjusted to reflect this risk reduction aspect.

Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF GAS UTILITY SECURITIES?

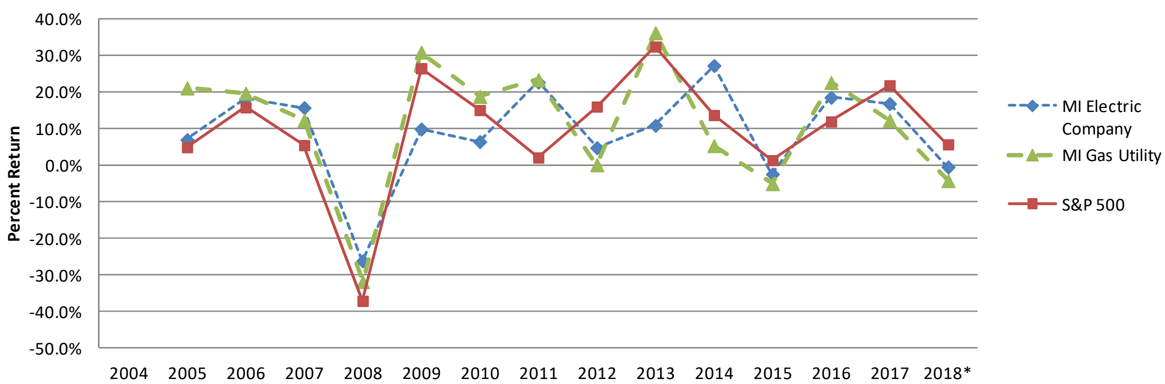
A Yes. Robust valuations are an indication that utilities can sell securities at high prices, which is a strong indication that they can access equity capital under reasonable terms and conditions, and at relatively low cost. As shown on Attachment MPG-3, the historical valuation of the electric and gas utilities followed by *Value Line*, based on a price-to-earnings ("P/E") ratio, price-to-cash flow ("P/CF") ratio, and market price-to-book value ("M/B") ratio, indicates utility security valuations today are very strong and robust relative to the last 11-15 years. These strong valuations of utility stocks indicate that utilities have access to equity capital under reasonable terms and at lower costs.

Q PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE LAST SEVERAL YEARS.

A As shown in Figure 3 below, S&P Global Market Intelligence ("MI") has recorded utility stock price performance compared to the market. The industry's stock performance data from 2004 through January 2018 shows that the MI Electric Company and Gas Utility Indexes have followed the market through downturns and recoveries. However, utility investments have exhibited less volatile movement during extreme market downturns. This more stable price performance for utilities supports my conclusion that utility stock investments are regarded by market participants as moderate- to low-risk investments.

FIGURE 3

Index Comparison



Source: S&P Global Market Intelligence.
***Data through January 2018**

Q HOW SHOULD THE COMMISSION USE THIS MARKET INFORMATION IN ASSESSING A FAIR RETURN FOR NIPSCO?

A Market evidence is quite clear that capital market costs are near historically low levels. Authorized returns on equity have fallen to the mid 9.0% area; utilities continue to have access to large amounts of external capital to fund large capital programs; and utilities' investment grade credit standings are mostly stable. The Commission should carefully weigh all this important observable market evidence in assessing a fair return on equity for NIPSCO.

<u>III.C. Federal Reserve and Market Capital Costs Outlook</u>

Q HAVE YOU CONSIDERED CONSENSUS MARKET OUTLOOKS FOR CHANGES IN INTEREST RATES IN FORMING YOUR RECOMMENDED RETURN ON EQUITY IN THIS CASE?

A Yes. The outlook for changes in interest rates, inflation, and Gross Domestic Product ("GDP") growth have been impacted by expectations that the Federal Reserve Bank Open Market Committee ("FOMC") will raise short-term interest rates. Consensus economists are expecting continued increases in the Federal Funds Rate as the FOMC continues to normalize interest rates in response to the strengthening of the U.S. economy.

This is evident from a comparison of current and forecasted changes in the Federal Funds Rate, as shown in Table 4 below. However, while the Federal Funds Rate is expected to increase over the next several years, consensus economists are not projecting significant increases in long-term interest rates. This is also illustrated in Table 4 below.

TABLE 4

Blue Chip Financial Forecasts
Projected Federal Funds Rate, 30-Year Treasury Bond Yields, and GDP Price Index

Publication Date	**2Q 2017**	**3Q 2017**	**4Q 2017**	**1Q 2018**	**2Q 2018**	**3Q 2018**	**4Q 2018**	**1Q 2019**	**2Q 2019**
Federal Funds Rate									
Aug-17	**0.9**	1.2	1.3	1.5	1.6	1.8	2.0		
Sep-17	**0.9**	1.2	1.3	1.5	1.6	1.8	2.0		
Oct-17		1.2	1.2	1.4	1.6	1.8	2.0	2.2	
Nov-17		**1.2**	1.2	1.4	1.6	1.8	2.0	2.1	
Dec-17		**1.2**	1.2	1.4	1.6	1.8	2.0	2.2	
Jan-18			1.2	1.5	1.7	1.9	2.0	2.2	2.4
Feb-18			**1.2**	1.5	1.7	1.9	2.1	2.3	2.5
T-Bond, 30 yr.									
Aug-17	**2.9**	3.0	3.1	3.3	3.4	3.6	3.7		
Sep-17	**2.9**	2.9	3.1	3.2	3.4	3.5	3.6		
Oct-17		2.8	2.9	3.1	3.3	3.4	3.5	3.6	
Nov-17		**2.8**	3.0	3.1	3.3	3.4	3.5	3.6	
Dec-17		**2.8**	2.9	3.1	3.3	3.4	3.5	3.6	
Jan-18			2.8	3.0	3.1	3.3	3.4	3.5	3.6
Feb-18			**2.8**	3.0	3.1	3.3	3.4	3.5	3.6
GDP Price Index									
Aug-17	**1.0**	1.7	2.0	2.1	2.1	2.1	2.2		
Sep-17	**1.0**	1.7	2.0	2.1	2.0	2.1	2.1		
Oct-17		1.7	2.0	1.9	1.9	2.1	2.1	2.2	
Nov-17		**2.2**	2.0	1.9	2.0	2.1	2.1	2.2	
Dec-17		**2.2**	2.2	2.0	1.9	2.1	2.1	2.2	
Jan-18			2.2	2.0	1.9	2.0	2.1	2.2	2.0
Feb-18			**2.4**	2.0	2.0	2.1	2.1	2.2	2.1

Source and Note:
Blue Chip Financial Forecasts, August 2017 through February 2018.
Actual Yields in Bold

I note that the five increases in the Federal Funds Rate experienced over the last few years have not caused comparable changes in outlooks for changes in long-term interest rates. This is illustrated on my Attachment MPG-5. As shown on that schedule, the actions taken by the FOMC to increase the Federal Funds Rate have simply flattened the yield curve, and have not resulted in an equal increase in long-term interest rates. This is significant because cost of common equity is impacted by long-term interest rates, not short-term interest rates. As a result, the recent increases in the Federal Funds Rate, and the expectation of continued increases in the Federal Funds Rate, have not, and are not expected to, significantly impact long-term interest rates.

The Federal Reserve has also recently implemented a strategy to begin to unwind its balance sheet position in long-term securities. The Federal Reserve built up approximately $4.7 trillion of Treasury and mortgage-backed security holdings as part of a quantitative easing ("QE") program that spanned 2008 to 2014. During this QE program, the Federal Reserve procured long-term securities in an effort to support the Federal Reserve's monetary policy, mitigate long-term interest rates, and to support a recovering economy.

The Federal Reserve recently started to unwind its balance sheet positions of mortgage-backed securities and Treasury bonds. The Fed now engages in a slow and systematic reduction to its balance sheet position. This Fed balance sheet action has been fully disclosed to the market, and the impact on capital markets valuation and interest rates is captured in current and projected interest rates.

For these reasons, the Federal Reserve actions on short-term interest rates have not resulted in matched increases in long-term interest rates. Further, the Federal Reserve's proposed plan for unwinding its balance sheet position is not expected to have a significant impact on long-term interest rates. All this indicates that the Federal Reserve's monetary policy changes related to a strengthening economy have not and are not expected to increase long-term interest rates. Further, this outlook is reflected in consensus economists' forecasts of long-term interest rates, which indicate a relatively low capital market cost period for at least the intermediate period.

Q HAVE LONGER-TERM PROJECTIONS OF INTEREST RATES MODERATED MORE RECENTLY RELATIVE TO THE LAST FEW YEARS?

A Yes. This is shown below in Table 5. There, I show the prevailing quarterly average Treasury bond yield, and the projections of Treasury bond yields two years out, and five to ten years out. Significantly, Treasury bond yields in 2017 have been relatively moderate and comparable to those in 2015 and 2016; however, projections of future Treasury bond yields are now much lower five to ten years out than they were over the last three years. Indeed, in 2014, Treasury bond yields five to ten years out were projected to increase to 5.6% from 3.26% to 3.79% prevailing yields. These five to ten-year projections have steadily declined through 2015 and 2016. Most recently, long-term projected Treasury bond yields are now expected to remain relatively low in the 4.2% to 4.5% area.

While the accuracy of projected increases in interest rates is at best problematic, what is significant is that consensus market economists now are projecting out relatively low levels of capital market costs over the next five to ten years. This outlook represents a material moderation in capital market costs over this intermediate forecast period.

TABLE 5

30-Year Treasury Bond Yield Actual Vs. Projection

Description	Quarterly Average	2-Year Projected	5- to 10-Year Projected
2014			
Q1	3.79%	4.40%	5.0% - 5.5%
Q2	3.69%	4.50%	
Q3	3.44%	4.40%	5.3% - 5.6%
Q4	3.26%	4.30%	
2015			
Q1	2.97%	4.00%	4.9% - 5.1%
Q2	2.55%	3.70%	
Q3	2.83%	4.00%	4.8% - 5.0%
Q4	2.84%	3.90%	
2016			
Q1	2.96%	3.80%	4.5% - 4.8%
Q2	2.72%	3.60%	
Q3	2.64%	3.40%	4.3% - 4.6%
Q4	2.29%	3.10%	
2017			
Q1	2.82%	3.70%	4.2% - 4.5%
Q2	3.05%	3.80%	
Q3	2.91%	3.70%	4.3% - 4.5%
Q4	2.80%	3.60%	

Sources:

Blue Chip Financial Forecasts ,
December 2013 through December 2017.

III.D. NIPSCO'S Investment Risk

Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT RISK OF NIPSCO.

A The market's assessment of NIPSCO's investment risk is described by credit rating analysts' reports. NIPSCO's current corporate bond ratings from S&P and Moody's are BBB+ and Baa1, respectively.[9] NIPSCO's outlook from both S&P and Moody's is "Stable." NIPSCO has its own credit ratings, but nevertheless, its ratings at S&P and Moody's are significantly influenced by its affiliation with the ratings of NiSource Inc. due to the lack of financial separation between the two.

Q WHY DO YOU BELIEVE THAT NIPSCO'S CREDIT RATING IS LARGELY INFLUENCED OR DIRECTLY IMPACTED BY THE CREDIT RATING OF ITS PARENT COMPANY, NISOURCE?

A This is disclosed in credit reports on NiSource and NIPSCO by all major credit rating agencies. Specifically, in 2015, both NiSource's and NIPSCO's credit ratings were upgraded from BBB- up to BBB+. This credit rating upgrade affected NiSource Inc. and all of its regulated utility affiliates including NIPSCO and Bay State Gas Company, and the NIPSCO financing affiliate, NiSource Finance Corporation. At the time of the rating upgrade, S&P stated that "NiSource is nearing the spinoff of the higher risk pipeline and midstream energy business, Columbia Pipeline Group (CPG), resulting in sufficient improvement in business risk to revise the company's business risk profile to 'Excellent' from 'Strong.'" S&P also noted that "Following this divestiture, NiSource's pro forma operating earnings will be about two-thirds low risk regulated natural gas distribution utility operations and one-third vertically integrated

[9]S&P Global Market Intelligence.

electric utility operations." S&P also noted the favorable regulatory cost recovery mechanisms in Indiana and other regulated utility affiliates of NiSource as supporting reduced credit risk at NiSource and NIPSCO.[10]

Moody's also made positive comments regarding NiSource and NIPSCO in 2015 leading up to NiSource Inc.'s divestiture of CPG. In June 2015, Moody's stated that NiSource's bond rating was affirmed and outlook remained stable based on the anticipated imminent completion of the corporate restructuring based on the sale of CPG. Moody's went on to say that the Baa2 bond rating for NiSource "primarily reflects its rate-regulated, low business risk utility assets," which included NIPSCO. Further, Moody's stated that NiSource's credit rating reflected its "weak financial profile" primarily related to significant leverage.[11]

More recent credit reports further demonstrate that NIPSCO's bond rating is highly influenced or tied to its affiliation with its parent company, NiSource Inc. Specifically, in March of 2017, NIPSCO's bond rating was rated at BBB+ with a business profile ranking of "Strong" and a financial risk ranking of "Intermediate." In comparison, in March 2017, NiSource also had an S&P bond rating of BBB+ with a business risk ranking of "Excellent" and a financial risk ranking of "Significant." Based on S&P's bond rating, the stand-alone credit profile of NiSource was bbb+, whereas the stand-alone credit profile for NIPSCO was a-. The group influence of NiSource and its corporate structure ultimately determined NIPSCO's and NiSource's published bond ratings of BBB+. Importantly, NIPSCO's bond rating is lower than its stand-alone rating, whereas NiSource's bond rating is the same as its stand-alone rating.

[10]*Standard & Poor's RatingsDirect*: "Research Update: NiSource Inc. And Subsidiaries Ratings Raised To 'BBB+' From 'BBB-' On Spin-Off; Outlook Stable," June 18, 2015, provided by NIPSCO in response to Industrials Request 2-002 Attachment A, pgs 2-3.

[11]*Moody's Investors Service*: "Rating Action: Moody's Affirms the ratings for NiSource Inc. and its subsidiaries; rating outlooks remain stable," June 17, 2015, provided by NIPSCO in response to Industrials Request 2-002 Attachment B, pgs 1-2.

This demonstrates that NIPSCO's bond rating is largely influenced negatively by NiSource's credit standing.

Q CAN YOU OUTLINE OTHER COMMENTS S&P HAS MADE CONCERNING NIPSCO'S CREDIT STANDING?

A Yes. Specifically, S&P states:

> **Outlook: Stable**
>
> S&P Global Ratings' stable outlook on Northern Indiana Public Service Co. (NIPSCO) and parent NiSource Inc. reflects our expectation that management will focus on its fully regulated utilities. The outlook also reflects our expectations that cash flow protection and debt leverage measures will be appropriate for the rating.
>
> * * *
>
> **Business Risk: Strong**
>
> Our assessment of NIPSCO's business risk profile reflects the utility's low-risk, regulated electric and gas distribution operations.
>
> **Financial Risk: Intermediate**
>
> Our assessment of NIPSCO's stand-alone financial risk profile reflects a base-case scenario forecast that includes adjusted FFO to debt ranging from about 24% to 26%, at the lower end of the intermediate category. The supplemental ratio of operating cash flow to debt is expected to be over 23% during the forecast period, solidly supporting the financial risk assessment.
>
> * * *
>
> **Group Influence**
>
> Under our group rating methodology, we assess <u>NIPSCO to be a core subsidiary to NiSource</u>, reflecting our view that NIPSCO is highly unlikely to be sold, has a strong long-term commitment from senior management, is successful at what it does, and contributes meaningfully to the group. <u>There are no meaningful insulation measures in place that protect NIPSCO from its parent and therefore,</u>

> the issuer credit rating on NIPSCO is in line with NiSource's group credit profile of 'bbb+'.[12]

III.E. NIPSCO's Proposed Capital Structure

Q WHAT IS THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A NIPSCO witness Mr. Rea sponsors the Company's proposed capital structure, which is shown below in Table 6.

TABLE 6

NIPSCO's Proposed Capital Structure

Description	Investor Weight
Long-Term Debt	42.12%
Common Equity	57.88%
Total Regulatory Capital Structure	100.00%

Source: Mr. Rea's Attachment 13-A, Schedule 2; Direct at 85.

Q WHAT REASONS DOES MR. REA GIVE FOR THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A In his Direct Testimony at pages 85-94, Mr. Rea states that the Company's forecasted test year capital structure at year-end 2018 is reasonable. He tested the "reasonableness" of the Company's future test year capital structure by comparing it to the actual and projected equity capitalization levels reported by *Value Line* for his Combination Utility Group companies.[13] He contends that since NIPSCO's requested equity capitalization levels fall within the range of his Combination Utility Group's

[12] *Standard & Poor's RatingsDirect*: "Summary: Northern Indiana Public Service Co.," March 3, 2017, at 3-4, emphasis added.

[13] His Combination Utility Group's equity ratios, per *Value Line*, are shown in his Table 5 on page 31 of his Direct Testimony.

historical and projected equity capitalization levels from 33.0% to 66.5%, NIPSCO's request is reasonable.

Q WHY DOES MR. REA'S OWN EVIDENCE SHOW THAT NIPSCO'S PROPOSED CAPITAL STRUCTURE CONTAINS AN EXCESSIVE AMOUNT OF COMMON EQUITY?

A At page 31 of Mr. Rea's testimony in Table 5, he shows the equity ratios of the companies included in his proxy group, which he relies on to support why he believes NIPSCO's capital structure is reasonable. Importantly, only one utility has a common equity ratio above 55% and that is MGE Energy. That company has a common equity ratio of over 65%, and is a significant outlier relative to the other utilities in the proxy group. While two utilities have very low equity ratios, what is significant is that the majority of the companies have common equity ratios in the range of 48% up to approximately 54%. NIPSCO's proposed common equity ratio of 57.88% is simply not reasonable in comparison to the proxy group companies relied on by Mr. Rea.

Q DO YOU BELIEVE THAT NIPSCO'S PROPOSED CAPITAL STRUCTURE IS REASONABLE?

A No. I believe it is unreasonable for the following reasons:

1. NIPSCO's stand-alone capital structure is simply not representative of the financial risk which underlies NIPSCO's cost of debt, credit standing and financial integrity. Rather, because there is no separation between NIPSCO and its parent company, NiSource Inc., and its parent company issues virtually all debt on behalf of NIPSCO, the two entities are interrelated.

2. A comparison of NIPSCO's proposed capital structure used for ratemaking purposes to industry authorized capital structures shows that NIPSCO's proposed capital structure contains an excessive amount of common equity, and therefore would unjustifiably inflate its claimed cost of service and retail rates.

3. A comparison of NIPSCO's level of debt leverage considered by credit rating agencies in assessing the utility bond rating, shows that NIPSCO has too little debt and far too much common equity than necessary to support its BBB+ investment grade bond rating. Indeed, NIPSCO's heavily weighted common equity ratio makes it far too expensive to support its bond rating.

4. Using an unjustifiably equity thick capital structure will inflate NIPSCO's cost of service and result in rates that are not just and reasonable.

Q WHY DO YOU BELIEVE THAT NIPSCO'S CAPITAL STRUCTURE IS NOT THE PRIMARY DRIVER OF THE FINANCIAL RISK CONSIDERED BY CREDIT RATING AGENCIES IN ASSESSING NIPSCO'S COST OF DEBT CAPITAL?

A About 95% of NIPSCO's embedded debt is issued by NiSource Finance Corporation.[14] Also, NIPSCO has requested authority to amend its financing plan and have the ability to issue notes to NiSource Inc. Further, about half of NIPSCO's equity capital is paid-in capital from its parent.

NIPSCO does not issue its own long-term debt, except for tax exempt debt and medium-term notes, and a significant portion of its equity is paid-in capital from NiSource Inc. NIPSCO is not a financially stand-alone entity. For these reasons, setting rates based on NIPSCO's "capital structure" does not accurately reflect its financing structure and cost of capital.

Q WHAT IS NISOURCE'S CAPITAL STRUCTURE?

A As of September 30, 2017, NiSource had a permanent capital structure consisting of approximately 36.7% common equity and 63.3% long-term debt.

[14]Total debt is approximately $2.0 billion. Of this amount $1.915 billion was issued by NiSource Finance Corporation, Attachment 13(A), Schedule 2.

TABLE 7

NiSource Capital Structure

Description	Investor Weight
Long-Term Debt	63.3%
Common Equity	36.7%
Total Regulatory Capital Structure	100.0%

Source: S&P Capital IQ, downloaded on February 21, 2018.

Q WHY DO YOU BELIEVE NIPSCO'S PROPOSED CAPITAL STRUCTURE INCLUDES AN EXCESSIVE COMMON EQUITY RATIO RELATIVE TO ACCEPTED INDUSTRY PRACTICE?

A NIPSCO's capital structure has a far greater common equity ratio in comparison to authorized rate-setting capital structures allowed for natural gas and electric utilities over the last eight years.

The reported common equity ratios of the capital structures used to set rates of return for regulated natural gas companies and electric utility companies by regulatory commissions are summarized in Table 8 below. As shown in this table, the gas utility industry average and median common equity ratios have generally fallen to around 51% over the period 2010-2017. The industry medians generally support common equity ratios of 49.90% up to 52.45%.

TABLE 8

Trends in State Authorized Common Equity Ratios (Industry)

		Natural Gas[1]		Electric[1]	
Line	**Year**	**Average**	**Median**	**Average**	**Median**
	(1)	(2)	(3)	(4)	(5)
1	2010	49.25%	49.90%	49.49%	49.79%
2	2011	52.49%	52.45%	49.09%	49.10%
3	2012	51.13%	51.47%	51.45%	52.00%
4	2013	51.16%	50.43%	50.12%	51.03%
5	2014	51.90%	51.99%	50.28%	50.00%
6	2015	49.79%	50.33%	50.24%	50.48%
7	2016	51.85%	51.35%	49.70%	49.99%
8	2017	51.13%	51.76%	50.02%	49.85%
9	Average	51.09%	51.21%	50.05%	50.28%
10	Min	49.25%	49.90%	49.09%	49.10%
11	Max	52.49%	52.45%	51.45%	52.00%
12	Midpoint	50.87%	51.17%	50.27%	50.55%
13	**NIPSCO**		**57.9%[2]**		

Source and Notes:
[1] S&P Global Market Intelligence, downloaded 2/1/2018
[2] Rea Exhibit No. 13, Attachment 13-A, Schedule 2
57.9% CE reflects Investor Supplied Capital
[3] Data through December 2017
[4] Excludes Arkansas, Florida, Indiana and Michigan

The industry median and average common equity ratios for the electric utility industry over this same time period are 50% and 51%, respectively. Again, the overwhelming majority of regulatory approved capital structures include a common equity ratio of approximately 50% to 52% common equity. This trend in the gas and electric utility industry illustrates just how excessive NIPSCO's proposed common equity ratio of 57.88% is in this proceeding. I excluded the reported authorized common equity ratios from Arkansas, Florida, Indiana, and Michigan because these states utilize ratemaking capital structures that include no cost of capital items such as accumulated deferred income taxes. Since the reported authorized common equity ratios are not adjusted to reflect permanent capital, including these states would bias the industry average and median downward.

Q WHAT CAPITAL STRUCTURE DO YOU RECOMMEND BE USED FOR RATEMAKING PURPOSES FOR NIPSCO IN THIS PROCEEDING?

A NIPSCO's access to capital is based on both its parent company's capital structure and that of its own. As noted above, NiSource's and NIPSCO's operating risks are both impacted by low-risk regulated utility operations. However, NiSource's financial risk reflects significantly more leverage than that reflected on NIPSCO's balance sheet. NiSource issues all debt on behalf of NIPSCO, with the exception of certain tax exempt debt opportunities when made available to NIPSCO. Therefore, a combination of NIPSCO's and NiSource's capital structures would be the most accurate estimate of the actual capital structure mix that reflects the type of financing used to finance all of NiSource's subsidiaries including NIPSCO. The average equity ratio between NiSource (36.7%) and NIPSCO (57.88%) would be an equity ratio of approximately 47.3%. Additionally, because the industry equity ratios generally range between approximately 49% up to 52%, I believe it would be appropriate to reflect an equity ratio for ratemaking purposes for NIPSCO toward the high-end of this range, or 52%. I do not believe this reflects a hypothetical capital structure for setting rates, because the actual capital structure underlying NIPSCO's bond rating and access to capital reflects a hybrid between its parent company and itself. Therefore, my recommended capital structure is within the range of NiSource's and NIPSCO's actual capital structures, and otherwise reasonably reflects NIPSCO's actual financial capital structure risk and costs rather than the discretionary construct of a stand-alone capital structure of NIPSCO.

TABLE 9

Gorman's Proposed Capital Structure

Description	Weight
Long-Term Debt	48.0%
Common Equity	52.0%
Total Regulatory Capital Structure	100.0%

Source: Attachment MPG-1.

Q WOULD SETTING RATES USING A 52% COMMON EQUITY RATIO RATHER THAN THE COMPANY'S PROPOSED CAPITAL STRUCTURE IMPACT ITS COST OF SERVICE IN THIS PROCEEDING?

A Yes. At NIPSCO's proposed 10.7% return on equity, adjusting its capital structure will reduce the claimed revenue deficiency by $5.2 million in 2018. Therefore, adjusting the ratemaking capital structure, without impairing NIPSCO's ability to maintain its investment grade bond rating will allow customers to receive the benefits of NIPSCO's financial integrity and ability to attract capital to support its capital program, but at a much lower cost to retail customers.

Q WILL YOUR RECOMMENDED CAPITAL STRUCTURE SUPPORT NIPSCO'S CREDIT RATING AND MAINTAIN ITS FINANCIAL INTEGRITY?

A Yes.

Q IF THE COMMISSION ADOPTS YOUR PROPOSED CAPITAL STRUCTURE, WILL NIPSCO BE PREVENTED FROM EARNING ITS AUTHORIZED RETURN ON EQUITY?

A No, not if NIPSCO responds to the Commission's findings on a reasonable capital structure for rate-setting purposes, and adjusts its projected test year capital structure to conform to what the Commission finds to be appropriate. This rate-setting discipline in a regulated industry is comparable to what deregulated companies face if their cost of capital cannot be recovered at prevailing market prices. In deregulated companies, the company must adjust its actual cost of service in order to achieve its profit outlooks while taking market prices.

III.F. Embedded Cost of Debt

Q WHAT IS NIPSCO'S EMBEDDED COST OF LONG-TERM DEBT?

A NIPSCO is proposing an embedded cost of long-term debt of 5.25% as developed on Mr. Rea's Schedule 2, page 2. I have used NIPSCO's proposed embedded cost of long-term debt in my calculation of an overall weighted cost of capital.

Q DO YOU HAVE ANY COMMENTS CONCERNING NIPSCO'S PROPOSED EMBEDDED COST OF LONG-TERM DEBT?

A Yes. Also shown on page 2 of Mr. Rea's Schedule 2, he has included three projected debt issuances at a cost of 5.15% to 5.20%. Also shown in the footnote (1) of the same Schedule, Mr. Rea states that "Actual 30-year debt issuance in the amount of $40.0 million occurred on June 30, 2017, with a coupon rate of 4.16%." It is not exactly clear why Mr. Rea uses a higher coupon rate than what he acknowledges as the actual coupon rate in the footnote of the same schedule.

Further, in NIPSCO's Verified Petition of Cause No. 45020, NIPSCO shows that not only were the $40.0 million bonds issued at a rate of 4.16%, it shows that the $162.5 million bonds were issued at a coupon rate of 4.11%, or 1.04% points below Mr. Rea's forecasted embedded cost rate for these bond screens.

Mr. Rea's projections are not accurate and overstate reasonable debt costs for NIPSCO. The Commission should reject the Company's proposed embedded cost of debt.

Q WHAT EMBEDDED DEBT COST DO YOU RECOMMEND BE USED TO SET RATES IN THIS CAUSE?

A Correcting the two projected coupon rates for the $40.0 million and $162.5 million issuances to the 4.16% and 4.11% coupon rates, respectively, as well as lowering the coupon rate of the $330 million planned issuance for June 2018 to a more reasonable 4.75% would lower NIPSCO's embedded cost of debt from 5.25% to 5.07% as shown on page 2 of my Attachment MPG-1.

Q HOW DOES YOUR ADJUSTMENT TO NIPSCO'S ESTIMATED EMBEDDED DEBT COST IMPACT ITS CLAIMED REVENUE DEFICIENCY?

A Adjusting NIPSCO's embedded debt cost from 5.25% down to 5.07% lowers its claimed revenue deficiency by $1.0 million based on its proposed rate base.

III.G. Return on Equity

Q PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON EQUITY."

A A utility's cost of common equity is the expected return that investors require on an investment in the utility. Investors expect to earn their required return from receiving dividends and through stock price appreciation.

Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED UTILITY'S COST OF COMMON EQUITY.

A In general, determining a fair cost of common equity for a regulated utility has been framed by two hallmark decisions of the U.S. Supreme Court: <u>Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va.</u>, 262 U.S. 679 (1923) and <u>Fed. Power Comm'n v. Hope Natural Gas Co.</u>, 320 U.S. 591 (1944).

These decisions identify the general financial and economic standards to be considered in establishing the cost of common equity for a public utility. Those general standards provide that the authorized return should: (1) be sufficient to maintain financial integrity; (2) attract capital under reasonable terms; and (3) be commensurate with returns investors could earn by investing in other enterprises of comparable risk.

Q PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE NIPSCO'S COST OF COMMON EQUITY.

A I have used several models based on financial theory to estimate NIPSCO's cost of common equity. These models are: (1) a constant growth Discounted Cash Flow ("DCF") model using consensus analysts' growth rate projections; (2) a constant growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF model; and (4) a Capital Asset Pricing Model ("CAPM"). I have applied these models to a group of publicly traded utilities with investment risk similar to NIPSCO.

III.H. Risk Proxy Group

Q PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP TO ESTIMATE NIPSCO'S CURRENT MARKET COST OF EQUITY.

A My combination utility proxy group is the same as the proxy group relied on by NIPSCO's witness, Mr. Rea.

Q PLEASE DESCRIBE WHY YOU BELIEVE YOUR PROXY GROUP IS REASONABLY COMPARABLE IN INVESTMENT RISK TO NIPSCO.

A The proxy group shown in Attachment MPG-6, has an average corporate credit rating from S&P of A-, which is a notch higher than NIPSCO's BBB+ credit rating from S&P. The proxy group has an average corporate credit rating from Moody's of A3, which is also a notch higher than NIPSCO's credit rating from Moody's of Baa1. Based on this information, I believe my proxy group is reasonably comparable in investment risk to NIPSCO.

I also note that the proxy group has an average common equity ratio of 45.2% (including short-term debt) from S&P Global Market Intelligence ("MI") and 48.0% (excluding short-term debt) from *The Value Line Investment Survey* ("*Value Line*"). The Company's proposed common equity ratio of 57.9% is high relative to the average proxy group common equity ratio. Because the proxy group has less common equity and more debt, it has greater financial risk than NIPSCO would have at its proposed capital structure with a much higher common equity percentage and a much lower debt percentage of total capital. However, the capital structure I propose to use to set NIPSCO's overall rate of return is reasonably comparable to that of the proxy group, and would produce a total financial risk profile for NIPSCO that is more in line with the investment risk of the proxy group. For these reasons, my recommended common equity ratio of 52.0% is reasonable and conservative, and aligns NIPSCO's investment risk to that of the proxy group.

III.I. Discounted Cash Flow Model

Q PLEASE DESCRIBE THE DCF MODEL.

A The DCF model posits that a stock price is valued by summing the present value of expected future cash flows discounted at the investor's required rate of return or cost of capital. This model is expressed mathematically as follows:

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \;.\;.\;.\;.\; \frac{D_\infty}{(1+K)^\infty} \qquad \text{(Equation 1)}$$

P_0 = Current stock price
D = Dividends in periods 1 - ∞
K = Investor's required return

This model can be rearranged in order to estimate the discount rate or investor-required return otherwise known as "K." If it is reasonable to assume that earnings and dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

$$K = D_1/P_0 + G \qquad \text{(Equation 2)}$$

K = Investor's required return
D_1 = Dividend in first year
P_0 = Current stock price
G = Expected constant dividend growth rate

Equation 2 is referred to as the annual "constant growth" DCF model.

Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.

A As shown in Equation 2 above, the DCF model requires a current stock price, expected dividend, and expected growth rate in dividends.

Q WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH DCF MODEL?

A I relied on the average of the weekly high and low stock prices of the utilities in the proxy group over a 13-week period ending on January 26, 2018. An average stock price is less susceptible to market price variations than a price at a single point in time. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not reflect the stock's long-term value.

A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflects current market expectations but the period is not so short as to be susceptible to market price variations that may not reflect the stock's long-term value. In my judgment, a 13-week average stock price is a reasonable balance between the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.

Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?

A I used the most recently paid quarterly dividend as reported in *Value Line*.[15] This dividend was annualized (multiplied by 4) and adjusted for next year's growth to produce the D_1 factor for use in Equation 2 above.

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[15] *The Value Line Investment Survey*, November 17, and December 15, 2017 and January 26, 2018.

Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, for purposes of determining the market-required return on common equity, one must attempt to estimate investors' consensus about what the dividend, or earnings growth rate, will be and not what an individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[16] That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence investors' decisions, which are captured in observable stock prices more so than growth rates derived only from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, MI,[17] and Reuters. All such projections were available on January 31, 2018, as reported online.

Each consensus growth rate projection is based on a survey of security analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst's projection does not as reliably predict consensus investor outlooks as does a consensus of market analysts' projections. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth

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[16] *See, e.g.,* David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

[17] S&P Global Market Intelligence.

forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

Q WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A The growth rates I used in my DCF analysis are shown in Attachment MPG-7. The average growth rate for my proxy group is 4.81%.

Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

A As shown in Attachment MPG-8, the average and median constant growth DCF returns for my proxy group for the 13-week analysis are 7.89% and 8.59%, respectively.

Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

A Yes. The constant growth DCF analysis for my proxy group is based on a group average long-term sustainable growth rate of 4.81%. The three- to five-year growth rates are higher than my estimate of a maximum long-term sustainable growth rate of 4.14%, which I discuss later in this testimony. I believe the constant growth DCF analysis produces a reasonable high-end return estimate from my DCF studies.

Q HOW DID YOU ESTIMATE A MAXIMUM LONG-TERM SUSTAINABLE GROWTH RATE?

A A long-term sustainable growth rate for a utility stock cannot exceed the growth rate of the economy in which it sells its goods and services. Hence, the long-term maximum sustainable growth rate for a utility investment is best proxied by the projected long-term Gross Domestic Product ("GDP"). *Blue Chip Financial Forecasts* projects that over the next five and ten years, the U.S. nominal GDP will grow approximately 4.14%. These GDP growth projections reflect a real growth outlook of 2.0% and an inflation outlook of 2.1% going forward. As such, the average growth rate over the next ten years is approximately 4.14%, which is a reasonable proxy of long-term sustainable growth.[18]

In my multi-stage growth DCF analysis, I discuss academic and investment practitioner support for using the projected long-term GDP growth outlook as a maximum sustainable growth rate projection. Hence, recognizing the long-term GDP growth rate as a maximum sustainable growth is logical, and is generally consistent with academic and economic practitioner accepted practices.

III.J. Sustainable Growth DCF

Q PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.

A A sustainable growth rate is based on the percentage of the utility's earnings that is retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base). Earnings grow when plant funded by

[18]*Blue Chip Financial Forecasts,* December 1, 2017, at 14.

reinvested earnings is put into service, and the utility is allowed to earn its authorized return on such additional rate base investment.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings.

The payout ratios of the proxy group are shown in my Attachment MPG-9. These dividend payout ratios and earnings retention ratios can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long-term earnings retention ratio will help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

The data used to estimate the long-term sustainable growth rate is based on NIPSCO's current market-to-book ratio and on *Value Line*'s three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in Attachment MPG-10, the average sustainable growth rate for the proxy group using this internal growth rate model is 5.43%.

Q DO YOU HAVE ANY COMMENTS CONCERNING YOUR SUSTAINABLE GROWTH RATE?

A Yes. As shown on my Attachment MPG-10, page 1, the internal growth by reinvesting retained earnings is about 4.39%. This growth rate is reasonably consistent with a long-term sustainable growth. However, after reflecting sales of additional shares, the sustainable growth rate is increased from 4.39% up to 5.43%.

While this growth rate may be achieved over the relatively short run, this significant impact on the internal growth caused by sales of additional shares is not sustainable. Therefore, I conclude that the three- to five-year projection of growth does not produce a reasonable estimate of sustainable growth.

Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM GROWTH RATES?

A A DCF estimate based on these sustainable growth rates is developed in Attachment MPG-11. As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results for the 13-week period of 8.52% and 8.43%, respectively.

III.K. Multi-Stage Growth DCF Model

Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

A Yes. My first constant growth DCF is based on consensus analysts' growth rate projections so it is a reasonable reflection of rational investment expectations over the next three to five years. The limitation on this constant growth DCF model is that it cannot reflect a rational expectation that a period of high or low short-term growth can be followed by a change in growth to a rate that is more reflective of long-term sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect this outlook of changing growth expectations.

Q WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

A Analyst-projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which in turn accelerates earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows and its earnings growth slows from an abnormally high three- to five-year rate to a lower sustainable growth rate.

As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because rate base growth will slow and the utility has limited human and capital resources available to expand its construction program. Therefore, the three- to five-year growth rate projection could be used as a long-term sustainable growth rate but not without making a reasonable informed judgment to determine whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

A The multi-stage growth DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage growth DCF model reflects three growth periods: (1) a short-term growth period consisting of the first five years; (2) a transition period, consisting of the next five years (6 through 10); and (3) a long-term growth period starting in year 11 through perpetuity.

For the short-term growth period, I relied on the consensus analysts' growth projections described above in the discussion of my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor reflecting the difference between the analysts' growth rates and the long-term sustainable growth rate. For the long-term growth period, I assumed each company's growth would converge on the maximum sustainable long-term growth rate.

Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth. Sales growth, in turn, is tied to economic growth in their service areas.

The U.S. Department of Energy, Energy Information Administration ("EIA") has observed utility sales growth tracks the U.S. GDP growth, albeit at a lower level, as shown in Attachment MPG-12. Utility sales growth has lagged behind GDP growth for more than a decade. Therefore, the U.S. GDP nominal growth rate is a conservative (i.e., generous to the utility) proxy for the highest sustainable long-term growth rate of a utility.

Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

A Yes. This concept is supported in published analyst literature and academic work. Specifically, in a textbook titled "Fundamentals of Financial Management," published by Eugene Brigham and Joel F. Houston, the authors state as follows:

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations.

> Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[19]

The use of the economic growth rate is also supported by investment practitioners as outlined as follows:

> **Estimating Growth Rates**
>
> One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.
>
> * * *
>
> Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.[20]

Q IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE THEORY THAT THE CAPITAL APPRECIATION FOR STOCK INVESTMENTS WILL NOT EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?

A Yes. This is evidenced by a comparison of the compound annual growth of the U.S. GDP compared to the geometric growth of the U.S. stock market. Morningstar measures the historical geometric growth of the U.S. stock market over the period

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[19] *Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298, emphasis added.

[20] *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 51 and 52.

1926-2016 to be approximately 5.8%.[21] During this same time period, the U.S. nominal compound annual growth of the U.S. GDP was approximately 6.4%.[22]

As such, the compound geometric growth of the U.S. nominal GDP has been higher but comparable to the nominal growth of the U.S. stock market capital appreciation. This historical relationship indicates the U.S. GDP growth outlook is a conservative estimate of the long-term sustainable growth of U.S. stock investments.

Q HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE THAT REFLECTS THE CURRENT CONSENSUS OUTLOOK OF THE MARKET?

A I relied on the consensus analysts' projections of long-term GDP growth. *Blue Chip Financial Forecasts* publishes consensus economists' GDP growth projections twice a year. These consensus analysts' GDP growth outlooks are the best available measure of the market's assessment of long-term GDP growth. These analyst projections reflect all current outlooks for GDP and are likely the most influential on investors' expectations of future growth outlooks. The consensus economists' published GDP growth rate outlook is 4.14% over the next five to ten years.[23]

Therefore, I propose to use the consensus economists' projected five- and ten-year average GDP consensus growth rates of 4.14%, as published by *Blue Chip Financial Forecasts*, as an estimate of long-term sustainable growth. *Blue Chip Financial Forecasts* projections provide real GDP growth projections of 2.0% and GDP inflation of 2.1%[24] over the five-year and ten-year projection periods. These consensus GDP growth forecasts represent the most likely views of market participants because they are based on published consensus economist projections.

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[21] *Duff & Phelps, 2017 SBBI Yearbook* at 6-17.
[22] U.S. Bureau of Economic Analysis, February 28, 2017.
[23] *Blue Chip Financial Forecasts*, December 1, 2017, at 14.
[24] *Id.*

Q DID YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP GROWTH?

A Yes, and these sources corroborate my consensus analysts' projections, as shown below in Table 10.

TABLE 10

GDP Forecasts

Source	Term	Real GDP	Inflation	Nominal GDP
Blue Chip Financial Forecasts	5-10 Yrs	2.0%	2.1%	4.1%
EIA – Annual Earnings Outlook	29 Yrs	2.0%	2.1%	4.2%
Congressional Budget Office	6 Yrs	1.9%	2.0%	4.0%
Moody's Analytics	25 Yrs	2.0%	1.8%	3.8%
Social Security Administration	49 Yrs			4.4%
The Economist Intelligence Unit	25 Yrs	1.7%	1.9%	3.6%

The EIA, in its *Annual Energy Outlook,* projects real GDP out until 2050. In its 2017 Annual Report, the EIA projects real GDP through 2050 to be 2.0% and a long-term GDP price inflation projection of 2.1%. The EIA data supports a long-term nominal GDP growth outlook of 4.2%.[25]

Also, the Congressional Budget Office ("CBO") makes long-term economic projections. The CBO is projecting real GDP growth to be 1.9% during the next 6 years with a GDP price inflation outlook of 2.0%. The CBO 6-year outlook for nominal GDP based on this projection is 4.0%.[26]

[25]DOE/EIA Annual Energy Outlook 2017 With Projections to 2050, downloaded March 1, 2017.

[26]*CBO: The Budget and Economic Outlook: 2017 to 2027*, January 2017, downloaded March 1, 2017.

Moody's Analytics also makes long-term economic projections. In its recent 25-year outlook, Moody's Analytics is projecting real GDP growth of 2.0% with GDP inflation of 1.8%. Based on these projections, Moody's is projecting nominal GDP growth of 3.8% over the next 25 years.[27]

The Social Security Administration ("SSA") makes long-term economic projections out to 2095. The SSA's nominal GDP projection, under its intermediate cost scenario of 49 years, is 4.4%.[28]

The Economist Intelligence Unit, a division of *The Economist* and a third-party data provider to S&P Global Market Intelligence, makes a long-term economic projection out to 2050. The Economist Intelligence Unit is projecting real GDP growth of 1.7% with an inflation rate of 1.9% out to 2050. The real GDP growth projection is in line with the consensus economists. The long-term nominal GDP projection based on these outlooks is approximately 3.6%.[29]

The real GDP and nominal GDP growth projections made by these independent sources support the use of the consensus economists' five-year and ten-year projected GDP growth outlooks as a reasonable estimate of market participants' long-term GDP growth outlooks.

Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR MULTI-STAGE GROWTH DCF ANALYSIS?

A I relied on the same 13-week average stock prices and the most recent quarterly dividend payment data discussed above. For stage one growth, I used the consensus analysts' growth rate projections discussed above in my constant growth

[27] www.economy.com, *Moody's Analytics Forecast*, January 24, 2018.
[28] www.ssa.gov, "2017 OASDI Trustees Report," Table VI.G4, downloaded July 20, 2017.
[29] *S&P Global Market Intelligence, Economist Intelligence Unit*, downloaded on March 1, 2017.

DCF model. The first stage growth covers the first five years, consistent with the term of the analyst growth rate projections. The second stage, or transition stage, begins in year 6 and extends through year 10. The second stage growth transitions the growth rate from the first stage to the third stage using a linear trend. For the third stage, or long-term sustainable growth stage, starting in year 11, I used a 4.14% long-term sustainable growth rate based on the consensus economists' long-term projected nominal GDP growth rate.

Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?

A As shown in Attachment MPG-13, the average and median DCF returns on equity for my proxy group using the 13-week average stock price are 7.33% and 7.47%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A The results from my DCF analyses are summarized in Table 11 below:

TABLE 11

Summary of DCF Results

	Proxy Group	
Description	**Average**	**Median**
Constant Growth DCF Model (Analysts' Growth)	7.89%	8.59%
Constant Growth DCF Model (Sustainable Growth)	8.52%	8.43%
Multi-Stage Growth DCF Model	7.33%	7.47%

I conclude that my DCF studies support a return on equity of up to 8.60%. I consider the results of all my studies, along with my assessment of the inputs and results as described above. Based on this assessment, I find a return on equity of around 8.60% generally reflects results of my proxy group DCF studies, and a sustainable DCF return estimate for the proxy group, but should be regarded as a conservative high-end DCF return for the reasons outlined above.

III.L. Risk Premium Model

Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A This model is based on the principle that investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be riskier than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I estimated the difference between the required return on utility common equity investments and U.S. Treasury bonds. The difference between the required return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over the period January 1986 through 2017. The common equity required returns were based on regulatory commission-authorized returns for electric and gas utility companies. Authorized returns are typically based on expert witnesses' estimates of the contemporary investor-required return.

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields by Moody's. I selected the period January 1986 through

2017 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Attachment MPG-14, which shows the market-to-book ratio since 1986 for the utility industry was consistently above a multiple of 1.0x. Over this period, regulatory authorized returns were sufficient to support market prices that at least exceeded book value. This is an indication that regulatory authorized returns on common equity supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Attachment MPG-15, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.41% for gas and 5.51% for electric. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity for a risk premium methodology.

I incorporated five-year and ten-year rolling average risk premiums over the study period to gauge the variability over time of risk premiums. These rolling average risk premiums mitigate the impact of anomalous market conditions and skewed risk premiums over an entire business cycle. As shown on my Attachment MPG-15, the five-year gas rolling average risk premium over Treasury bonds ranged from 4.17% to 6.68%, while the ten-year rolling average risk premium ranged from 4.30% to 6.44%. Similarly, the electric five-year rolling average risk premium is 4.25% to 6.72%, while the ten year rolling average risk premium ranged from 4.38% to 6.53%.

As shown on my Attachment MPG-16, the average indicated equity risk premium over contemporary Moody's utility bond yields was 4.04% for gas and 4.14% for electric. The five-year and ten-year rolling gas average risk premiums ranged from 2.80% to 5.52% and 3.11% to 5.09%, respectively. Similarly, the five- and ten-year rolling average for electric ranged from 2.88% to 5.57% and 3.20% to 5.18%, respectively

Q DO YOU BELIEVE THAT THE TIME PERIOD USED TO DERIVE THESE EQUITY RISK PREMIUM ESTIMATES IS APPROPRIATE TO FORM ACCURATE MEASURE OF CONTEMPORARY MARKET CONDITIONS?

A Yes. The time period I use in this risk premium study is a generally accepted period to develop a risk premium study using "expectational" data.

Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time where stock valuations reflect premiums to book value is an indication the authorized returns on equity and the corresponding equity risk premiums were supportive of investors' return expectations and provided utilities access to the equity markets under reasonable terms and conditions. Further, this time period is long enough to smooth abnormal market movement that might distort equity risk premiums. While market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums.

Alternatively, some studies, such as Duff & Phelps referred to later in this testimony, have recommended that use of "actual achieved investment return data" in a risk premium study should be based on long historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to unexpected and abnormal stock price performance. Short-term, abnormal actual returns would be smoothed over time and the achieved actual investment returns over long time periods would approximate investors' expected returns. Therefore, it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors' expected returns.

My risk premium study is based on expectational data, not actual investment returns, and, thus, need not encompass a very long historical time period.

Q WHAT RISK PREMIUM HAVE YOU USED TO ESTIMATE NIPSCO'S COST OF COMMON EQUITY IN THIS PROCEEDING?

A The equity risk premium should reflect the relative market perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Attachment MPG-17, where I show the yield spread between utility bonds and Treasury bonds over the last 38 years. As shown in this schedule, the average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.51% and 1.95%, respectively. The utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utilities for 2017 are 1.10% and 1.48%, respectively. The current average "A" rated utility bond yield spread over Treasury bond yields is now lower than the 38-year average spread. The current "Baa" rated utility bond yield spread over Treasury bond yields is also lower than the 38-year average spread.

The current 13-week average "A" rated utility bond yield is 3.82% and compares to the current Treasury bond yield of 2.80%, as shown in Attachment MPG-18. This current utility to Treasury bond yield spread of 1.02% is lower than the

38-year average spread for "A" rated utility bonds of 1.51%. The current spread for the "Baa" rated utility bond yield to Treasury bond yield of 1.35% is also lower than the 38-year average spread of 1.95%.

These utility bond yield to Treasury bond yield spreads are evidence that the market perception of utility risk is about average relative to this historical time period and demonstrate that utilities continue to have strong access to capital in the current market.

Q HOW DID YOU DETERMINE WHAT A REASONABLE RISK PREMIUM IS IN THE CURRENT MARKET?

A I observed the spread of Treasury securities relative to public utility bonds and corporate bonds in gauging whether or not the risk premium in current market prices is stable relative to the past. What this observation of market evidence clearly demonstrates is that the valuations in the current market place an above average risk premium on securities that have greater risk.

This market evidence is summarized below in Table 12, which shows the utility bond yield spreads over Treasury bond yields on average for the period 1980 through 2017, and the corporate bond yield spreads for Aaa corporates and Baa corporates.

TABLE 12

Comparison of Yield Spreads Over Treasury Bonds

Description	**Utility A**	**Utility Baa**	**Corporate Aaa**	**Corporate Baa**
Average Historical Spread	1.51%	1.95%	0.84%	1.93%
2016 Spread	1.33%	2.08%	1.07%	2.12%
2017 Spread	1.10%	1.48%	0.85%	1.55%

Source:
Attachment MPG-17.

The observable yield spreads shown in the table above illustrate that securities of greater risk have recently had average risk premiums relative to the long-term historical average risk premium. Specifically, A-rated utility bonds to Treasuries, a relatively low-risk investment, have a yield spread in 2017 that has been lower than, though comparable to that of, its long-term historical yield spread. This is an indication that low risk investments like A-rated utility bonds have premium values relative to minimal risk Treasury securities.

Only recently have Baa-rated utility bond yield spreads gone below the 38-year average of 1.95%. For example, in 2016, the Baa-rated yield spread averaged 2.08%, which is approximately 13 basis points above the long-term average of 1.95%, shown in Attachment MPG-17. While the higher risk Baa utility and corporate bond yields currently have a below-average yield spread of 40 basis points (1.48% vs. 1.95%), there appears to be more volatility in the spread. The higher risk Baa utility bond yields do not have the same premium valuations as their lower risk A-rated utility bond yields, and thus the yield spread for greater risk investments is wider than lower risk investments.

This illustrates that securities with greater risk, such as Baa-rated bonds versus A-rated bonds, have recently commanded above average risk premium spreads in the marketplace. Utility equity securities are greater risk than Baa utility bonds. Because greater risk securities appear to support an above-average risk premium relative to historical averages, this would support an above-average risk premium in measuring a fair return on equity for a utility stock or equity security.

Q WHAT IS YOUR RECOMMENDED RETURN FOR NIPSCO BASED ON YOUR RISK PREMIUM STUDY?

A To be conservative, I am recommending more weight to the high-end risk premium estimates than the low-end. I state this because of the relatively low level of interest rates now but relative upward movements of utility yields more recently. Hence, I propose to provide 70% weight to my high-end risk premium estimates and 30% to the low-end. Applying these weights, the risk premium for Treasury bond yields would be approximately 5.9% for gas and 6.0% for electric,[30] which is considerably higher than the 31-year average risk premium of 5.41% for gas and 5.51% for electric and reasonably reflective of the 3.6% projected Treasury bond yield. A Treasury bond risk premium of 6.0% and projected Treasury bond yield of 3.6% produce a risk premium estimate of 9.6%.

Similarly, applying these weights to the utility risk premium indicates a risk premium of 4.7% for gas and 4.8% for electric.[31] This risk premium is above the

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[30]Gas: (4.17% x 30%) + (6.68% x 70%) = 5.9%, Electric: (4.25% x 30%) + (6.72% x 70%) = 6.0%.

[31]Gas: (2.80% x 30%) + (5.52% x 70%) = 4.7%, Electric: (2.88% x 30%) + (5.57 x 70%) = 4.8%.

31-year historical average risk premium of 4.04% for gas and 4.14% for electric. This risk premium in combination with the current observable Baa utility bond yield of 4.15% rounded to 4.20% produces an estimated return on equity of 9.00%.

Based on this methodology, my Treasury bond risk premium and my utility bond risk premium indicate a return in the range of 9.00% to 9.60%, with a midpoint of 9.30%.

III.M. Capital Asset Pricing Model ("CAPM")

Q PLEASE DESCRIBE THE CAPM.

A The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

$R_i = R_f + B_i \times (R_m - R_f)$ where:

R_i = Required return for stock i
R_f = Risk-free rate
R_m = Expected return for the market portfolio
B_i = Beta - Measure of the risk for stock

The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

The risks that cannot be eliminated when held in a diversified portfolio are non-diversifiable risks. Non-diversifiable risks are related to the market in general and are referred to as systematic risks. Risks that can be eliminated by diversification are non-systematic risks. In a broad sense, systematic risks are market risks and non-systematic risks are business risks. The CAPM theory suggests the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk investors will be compensated for are systematic or non-diversifiable risks. The beta is a measure of the systematic or non-diversifiable risks.

Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

A The CAPM requires an estimate of the market risk-free rate, NIPSCO's beta, and the market risk premium.

Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?

A Currently, as published in the *Blue Chip Financial Forecasts*, the consensus economists have projected the 30-year Treasury bond yield to be 3.60%.[32] I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.60% for my CAPM analysis.

Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE OF THE RISK-FREE RATE?

A Treasury securities are backed by the full faith and credit of the United States government so long-term Treasury bonds are considered to have negligible credit risk. Also, long-term Treasury bonds have an investment horizon similar to that of common stock. As a result, investor-anticipated long-run inflation expectations are reflected in both common stock required returns and long-term bond yields. Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate)

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[32] *Blue Chip Financial Forecasts*, February 1, 2018, at 2.

included in a long-term bond yield is a reasonable estimate of the nominal risk-free rate included in common stock returns.

Treasury bond yields, however, do include risk premiums related to unanticipated future inflation and interest rates. A Treasury bond yield is not a risk-free rate. Risk premiums related to unanticipated inflation and interest rates are systematic market risks. Consequently, for companies with betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A As shown in Attachment MPG-19, the proxy group average *Value Line* beta estimate is 0.69.

Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?

A I derived two market risk premium estimates: a forward-looking estimate and one based on a long-term historical average.

The forward-looking estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the risk-free rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

Duff & Phelps' *2017 SBBI Yearbook* estimates the historical arithmetic average inflation-adjusted market return over the period 1926 to 2016 as 8.9%.[33] A

[33]*Duff & Phelps, 2017 SBBI Yearbook* at 6-18.

current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.20%.[34] Using these estimates, the expected market return is approximately 11.30%.[35] The market risk premium then is the difference between the 11.30% expected market return and my 3.60% risk-free rate estimate, or approximately 7.70%.

My historical estimate of the market risk premium was also calculated by using data provided by Duff & Phelps in its *2017 SBBI Yearbook*. Over the period 1926 through 2016, the Duff & Phelps study estimated that the arithmetic average of the achieved total return on the S&P 500 was 12.0%[36] and the total return on long-term Treasury bonds was 6.0%.[37] The indicated market risk premium is 6.0% (12.0% - 6.0% = 6.0%).

Q HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO THAT ESTIMATED BY DUFF & PHELPS?

A The Duff & Phelps analysis indicates a market risk premium falls somewhere in the range of 5.5% to 6.9%. My market risk premium falls in the range of 6.0% to 7.7%. My average market risk premium of approximately 6.9% is at the high-end of the Duff & Phelps range.

Q HOW DOES DUFF & PHELPS MEASURE A MARKET RISK PREMIUM?

A Duff & Phelps makes several estimates of a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through 2016 as well as normalized data. Using this data, Duff & Phelps estimates a market risk premium

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[34] *Blue Chip Financial Forecasts*, February 1, 2018 at 2.
[35] $\{ [(1 + 0.089) * (1 + 0.022)] - 1 \} * 100$.
[36] *Duff & Phelps, 2017 SBBI Yearbook* at 6-17.
[37] *Id.*

derived from the total return on large company stocks (S&P 500), less the income return on Treasury bonds. The total return includes capital appreciation, dividend or coupon reinvestment returns, and annual yields received from coupons and/or dividend payments. The income return, in contrast, only reflects the income return received from dividend payments or coupon yields. Duff & Phelps claims the income return is the only true risk-free rate associated with Treasury bonds and is the best approximation of a truly risk-free rate.[38] I disagree with this assessment from Duff & Phelps because it does not reflect a true investment option available to the marketplace and therefore does not produce a legitimate estimate of the expected premium of investing in the stock market versus that of Treasury bonds. Nevertheless, I will use Duff & Phelps' conclusion to show the reasonableness of my market risk premium estimates.

Duff & Phelps' range is based on several methodologies. First, Duff & Phelps estimates a market risk premium of 6.9% based on the difference between the total market return on common stocks (S&P 500) less the income return on Treasury bond investments over the 1926-2016 period.

Second, Duff & Phelps updated the Ibbotson & Chen supply-side model, which found that the 6.9% market risk premium based on the S&P 500 was influenced by an abnormal expansion of price-to-earnings ("P/E") ratios relative to earnings and dividend growth during the period, primarily over the last 30 years. Duff & Phelps believes this abnormal P/E expansion is not sustainable.[39] Therefore, Duff & Phelps adjusted this market risk premium estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings. Based on this

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[38]*Duff & Phelps, 2017 Valuation Handbook* at 3-32.
[39]*Id.* at 3-36.

alternative methodology, Duff & Phelps published a long-horizon supply-side market risk premium of 5.97%.[40]

Finally, Duff & Phelps develops its own recommended equity, or market risk premium by employing an analysis that takes into consideration a wide range of economic information, multiple risk premium estimation methodologies, and the current state of the economy by observing measures such as the level of stock indices and corporate spreads as indicators of perceived risk. Based on this methodology, and utilizing a "normalized" risk-free rate of 3.5%, Duff & Phelps concludes the current expected, or forward-looking, market risk premium is 5.5%, implying an expected return on the market of 9.0%.[41]

Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A As shown in Attachment MPG-20 using the CAPM equation above, based on my prospective market risk premium of 7.7% and my low market risk premium of 6.0%, a risk-free rate of 3.6%, and a beta of 0.69, my CAPM analysis produces return estimates of 8.90% and 7.73%, respectively. Based on my assessment of risk premiums in the market, as discussed above, I will place primary reliance on my high-end CAPM return estimate of 8.90%.

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[40] *Id.*
[41] *Id.* at 3-48.

III.N. Return on Equity Summary

Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO YOU RECOMMEND FOR NIPSCO?

A Based on my analyses, I estimate NIPSCO's current market cost of equity to be 9.30%.

TABLE 13

Return on Common Equity Summary

Description	Results
DCF	8.60%
Risk Premium	9.30%
CAPM	8.90%

A return on common equity of 9.00% is at the high end of my estimated range of 8.60% to 9.30%. As shown in Table 13 above, the high-end of my estimated range is based on my risk premium result. My recommendation is tied to the determination of the proper capital structure. Using the capital structure reflecting the actual relationship between NIPSCO and NiSource, I recommend a return on equity at the high end of 9.3%. In the event the Commission uses NIPSCO's proposed capital structure, a return on equity at the mid-point of 9.0% would be the appropriate determination.

My return on equity estimates reflect observable market evidence, the impact of Federal Reserve policies on current and expected long-term capital market costs, an assessment of the current risk premium built into current market securities, a general assessment of the current investment risk characteristics of the utility industry, and the market's demand for utility securities.

IV. FINANCIAL INTEGRITY

Q WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN INVESTMENT GRADE BOND RATING FOR NIPSCO?

A Yes. I have reached this conclusion by comparing the key credit rating financial ratios for NIPSCO at my proposed return on equity and my recommended capital structure to S&P's benchmark financial ratios using S&P's new credit metric ranges.

Q PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT METRIC METHODOLOGY.

A S&P publishes a matrix of financial ratios corresponding to its assessment of the business risk of utility companies and related bond ratings. On May 27, 2009, S&P expanded its matrix criteria by including additional business and financial risk categories.[42]

Based on S&P's most recent credit matrix, the business risk profile categories are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable." Most utilities have a business risk profile of "Excellent" or "Strong."

The financial risk profile categories are "Minimal," "Modest," "Intermediate," "Significant," "Aggressive," and "Highly Leveraged." Most of the utilities have a financial risk profile of "Aggressive." Based on the most recent S&P report, NIPSCO has a "Strong" business risk profile and an "Intermediate" financial risk profile.

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[42]S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN ITS CREDIT RATING REVIEW.

A S&P evaluates a utility's credit rating based on an assessment of its financial and business risks. A combination of financial and business risks equates to the overall assessment of NIPSCO's total credit risk exposure. On November 19, 2013, S&P updated its methodology. In its update, S&P published a matrix of financial ratios that defines the level of financial risk as a function of the level of business risk.

S&P publishes ranges for primary financial ratios that it uses as guidance in its credit review for utility companies. The two core financial ratio benchmarks it relies on in its credit rating process include: (1) Debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); and (2) Funds From Operations ("FFO") to Total Debt.[43]

Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?

A I calculated two of S&P's core financial ratios based on NIPSCO's cost of service for its retail jurisdictional operations. I estimated credit metrics for NIPSCO's retail cost of service by combining NIPSCO's gas retail cost of service in this proceeding with an allocated share of NiSource Inc.'s, NIPSCO's parent company's, off-balance sheet obligations and capitalized interest costs. Because NIPSCO's bond rating is intertwined with NiSource Inc.'s credit rating and its financial obligations and affiliates, I believe this provides the best gauge of whether or not the proposed ratemaking cost of service provides fair compensation and supports the financial integrity for NIPSCO retail gas operations, without providing subsidies to other NiSource businesses.

[43] *Standard & Poor's RatingsDirect*: "Criteria: Corporate Methodology," November 19, 2013.

To accomplish this, I allocated a portion of NiSource Inc.'s off-balance sheet debt to NIPSCO. This was accomplished by using NiSource Inc.'s and NIPSCO's calendar year 2017 financial data provided by S&P Capital IQ. In its most recent credit metric report, S&P increased NiSource Inc.'s on-balance sheet debt by off-balance sheet obligations by approximately 4.5%. This same percentage (4.5%) was used to estimate NIPSCO's off-balance sheet debt obligations based on its balance sheet debt. The allocation of capitalized and off-balance sheet debt interest and imputed amortization expense was based on a percentage of NiSource Inc.'s off-balance sheet amortization and cash flows to NIPSCO. This was done by using NIPSCO's permanent investor-supplied capital as a percentage of NiSource Inc.'s permanent investor-supplied capital. This produced an allocation factor of 36% for NIPSCO of NiSource's total amount. For NIPSCO Gas Operations, I adjusted this allocation to reflect NIPSCO Gas's plant in-service from total NIPSCO plant in-service. This process produced an allocation for NIPSCO Gas cost of service of approximately 7.7% of total NiSource Inc. imputed amortization and interest expense. This same methodology was used to estimate the amount of capitalized interest expense reflected on NiSource Inc.'s balance sheet to NIPSCO Gas.

All of these estimates of NIPSCO Gas's financial obligations and related off-balance sheet obligations are summarized on my Attachment MPG-21.

Q PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS AS IT RELATES TO NIPSCO.

A The S&P financial metric calculations for NIPSCO at a 9.30% return are developed on Attachment MPG-21. The credit metrics produced below, with NIPSCO's financial risk profile from S&P of "Intermediate" and business risk profile by S&P of "Strong," will be used to assess the strength of the credit metrics based on NIPSCO's retail operations in the state of Indiana.

NIPSCO's adjusted total debt ratio, based on my recommended capital structure, is approximately 49%. As shown on Attachment MPG-21, this adjusted debt ratio is within the range of S&P ratios for A-rated utilities. Hence, I concluded this capital structure reasonably supports NIPSCO's current investment grade bond rating.

Based on an equity return of 9.30%, NIPSCO will be provided an opportunity to produce a debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA") ratio of 3.7x. This ratio is within S&P's "Significant" guideline range of 3.5x to 4.5x.[44] This ratio supports an investment grade credit rating.

NIPSCO's retail operations FFO to total debt coverage at a 9.30% equity return is 20%, which is within S&P's "Significant" metric guideline range of 13% to 23%. This FFO/total debt ratio will support an investment grade bond rating.

At my recommended return on equity of 9.30%, my recommended capital structure, and the Company's embedded long-term debt cost, NIPSCO's financial credit metrics continue to support credit metrics at an investment grade level.

[44] *Id.*

V. RESPONSE TO NIPSCO WITNESS MR. VINCENT REA

V.A. Summary of Mr. Rea's Results

Q WHAT IS NIPSCO'S RETURN ON EQUITY RECOMMENDATION?

A Mr. Rea recommends a return on equity of 10.70%, which is the midpoint of his recommended range of 10.45% to 10.95%. Mr. Rea's recommended range and return on equity were developed based on the results of his DCF method, traditional CAPM method, empirical CAPM ("ECAPM") method, Risk Premium Method ("RPM"), and comparable earnings analysis that were applied to a combination utility proxy group and non-regulated proxy group. In the development of his return estimates, Mr. Rea included an adjustment of 9 basis points for flotation costs.

In developing his range, Mr. Rea states that his recommendation is most heavily influenced by the results of his DCF, CAPM, and RPM and that he has given additional consideration to the results of his comparable earnings analysis. In addition, Mr. Rea states that he has taken into consideration that the DCF model very likely understates the cost of equity during the recent anomalous capital markets environment that has been influenced by Federal Reserve actions and monetary policy. The results of Mr. Rea's analyses are summarized in the first column of Table 14 below.

TABLE 14

Mr. Rea's ROE Analysis

Model	Average (1)	Corrected (2)
DCF – Analyst Growth	8.6% - 9.5%	8.2% - 9.2%
DCF – Retention Growth	7.6%	
DCF – Hist. EPS Growth	10.1%	
CAPM		
Unadjusted	9.65%	8.6%
Size Adjusted	10.67%	Reject
ECAPM		
Unadjusted	10.19%	8.1%
Size Adjusted	11.21%	Reject
Risk Premium		
Projected	10.48%	9.3%
Non-Utility Range	10.1% - 13.0%	Reject
Flotation Cost Adjustment	0.09%	Reject
Adjusted Range	**10.45% - 10.90%**	**8.0% - 9.6%**
Recommended ROE	**10.70%**	**9.35%**

Source: Exhibit No. 2.

V.B. Flotation Cost Adjustment

Q DID MR. REA INCLUDE A FLOTATION COST ADJUSTMENT IN HIS RECOMMENDED RETURN FOR NIPSCO?

A Yes. Mr. Rea included an upward adjustment of nine basis points to his Combination Utility Group's results, and 10 basis points to his Non-Regulated Group's results, to compensate for flotation costs to his return on equity recommendation.[45] Mr. Rea developed his flotation cost adjustment by observing the cost NiSource (NIPSCO's parent company) incurred in issuing equity securities in the last 15 years. The costs incurred on the two historical issuances were in the range of 3.0% to 3.25% of the issuance amount. He also considered the future equity offerings publicly disclosed by NiSource. Mr. Rea states that these future offerings will incur flotation costs of between 1% and 2%. Based on the historical and future equity offerings, Mr. Rea determines a composite flotation cost rate of 2% is reasonable.

Next, Mr. Rea observes that of NIPSCO's common equity capital, approximately 46% is contributed, or paid-in capital from its parent company, while the other 54% of total common equity is attributed to undistributed retained earnings. To calculate the flotation cost adder, Mr. Rea then multiplies the 46% associated with paid-in capital by his composite flotation cost rate of 2%. The product is 0.09%, or 9 basis points.

Q IS MR. REA'S FLOTATION COST ADDER REASONABLE?

A No. Mr. Rea's flotation cost adder is not reasonable or justified for at least one reason. Mr. Rea's flotation cost adder is not based on the recovery of prudent and verifiable actual flotation costs incurred by NIPSCO. As discussed in Appendix D of Mr. Rea's direct testimony, he derives a flotation cost adder based on the 46% of NIPSCO's common equity attributed to paid-in capital. While that capital may be "paid-in" by NiSource, it is not necessarily capital that incurred flotation costs. For example, NiSource receives dividend payments from its various subsidiaries and can do whatever it wants with that capital, like redistributing it to another subsidiary. Paid-

[45] Rea Direct at 56 (Table 7) and 59 (Table 8).

in capital at NIPSCO can also be derived from debt capital issued at NiSource. Mr. Rea has failed to show that the entirety of NIPSCO's paid-in capital portion of its common equity balance derived from common equity issuances at NiSource.

Because he does not show that his adjustment is based on NIPSCO's actual and verifiable flotation expenses, there are no means of verifying whether Mr. Rea's proposal is reasonable or appropriate. Stated differently, Mr. Rea's flotation cost return on equity adder is not based on known and measurable NIPSCO costs. Therefore, the Commission should reject a flotation cost return on equity adder for NIPSCO.

Q PLEASE DESCRIBE MR. REA'S DCF ANALYSIS.

A Mr. Rea applied several forms of the DCF model. He applied the traditional DCF model using three different analyst earnings estimates, a DCF based on the historical earnings growth rate, and a retention growth rate forecast DCF. For his combination utility proxy group, the average "bare-bones" DCF results fall in the range of 7.6% to 10.1%. Based on this range, Mr. Rea determines an unadjusted DCF estimate of 9.45% to be appropriate.

Mr. Rea then makes two adjustments to his unadjusted DCF result of 9.45%. The first adjustment is the flotation cost adder of 9 basis points, which I described above. The second adjustment Mr. Rea makes is a market-to-book adjustment of 0.38%, or 38 basis points. These two adders increase his DCF estimate of 9.45% to 9.92%.

In developing his recommended DCF range, Mr. Rea excluded what he found to be outlier results. Mr. Rea used a manipulated form of the Federal Energy Regulatory Commission's ("FERC") low-end outlier test to determine outlier DCF results. As a result of this methodology, Mr. Rea removed five low-end outliers from his Combination Utility group DCF study.[46]

Q WHAT ISSUES DO YOU HAVE WITH MR. REA'S DCF ANALYSIS?

A I have several issues with Mr. Rea's DCF analysis. However, to limit issues in this case, I will only comment on the following: (1) his application of a market-to-book ratio adjustment, or financial risk adder; (2) his flotation cost adder; and, (3) Mr. Rea's use of a manipulated form of the explicit FERC low-end outlier threshold. Since I have commented at length above on why the flotation cost adder is inappropriate, I will not comment on it any further here. In addition to the issues outlined above, I also take issue with Mr. Rea's contention that the DCF is currently producing results that understate the cost of equity.

Q HOW DID MR. REA DEVELOP HIS MARKET-TO-BOOK ADJUSTMENT TO COMPENSATE FOR FINANCIAL RISK?

A Mr. Rea explains in his Appendix C that he relied on the findings of Modigliani and Miller ("M&M Theory") as a basis for his calculation. M&M Theory demonstrated a relationship between a company's capital structure, valuation, and cost of capital. In his Appendix C, he offers an equation (Equation C.1), with no explanation of each input into the formula. He ultimately comes up with what I believe he represents to be the hypothetical market value cost of equity (9.83%) required to produce the same after-tax weighted average cost of capital ("ATWACC") that is produced using his DCF estimate of 9.45%. The difference between 9.83% and 9.45% is 0.38%, or 38 basis points.

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[46]Schedule 5, pages 1-2.

To further "support" his adjustment, he merely states that the Pennsylvania Public Utility Commission has previously allowed adjustments for differences in financial risk between market value and book value capital structures. However, he does not cite any particular order, docket, or otherwise to support this claim.

Q WHAT CONCERNS DO YOU HAVE WITH MR. REA'S PROPOSED ATWACC METHODOLOGY?

A This methodology simply is flawed and produces an unjust result for NIPSCO. Mr. Rea's adjustment is actually more of a market-to-book ratio adjustment rather than a financial risk adjustment. Essentially, he is estimating the return on equity on a market value capital structure that needs to be applied to a book value capital structure in order to support his recommended return on equity based on market value capital structure weight. Stated differently, this is a market-to-book ratio adjustment to the estimated return on common equity. A market-to-book ratio adjustment is designed to maintain a targeted market value of the stock, rather than to ensure that utility investors are fairly compensated for making investment in utility plant and equipment. The concept is fundamentally flawed and imbalanced.

Additionally, this methodology is not commonly relied on in determining utility returns on equity. In the United States, regulated utility authorized returns on equity are almost uniformly set based on book-value capital structures. As I have explained in detail above, these authorized returns have not been a deterrent for investors supplying capital to utilities. Utility investors are largely institutional investors that are well informed and manage very well diversified portfolios. As can be seen in our proxy group's dividend yields, and other valuation metrics provided in my Attachment MPG-3, utility capital costs have been, and continue to be, very low.

Q HOW DID MR. REA IMPLEMENT A LOW-END OUTLIER TEST IN HIS DCF ANALYSES?

A In his Appendix B, Mr. Rea explains how he manipulated the FERC "low-end" outlier threshold. Mr. Rea created his own version of the test by adding a 100 basis point spread to the average of the implied forecasts for "A-/A3" rated utility bond yields, and the interpolated forecasts for "A-/A3" rated corporate bond yields for the five-year and six-year periods covering 2018-2023. The five-year period of 2019-2023 produced an average forecasted rate of 5.90%. The six-year period of 2018-2023 produced an average forecasted rate of 5.79%. The average of the two is approximately 5.85%. Mr. Rea then adds 100 basis points to the 5.85% forecasted rate to produce a low-end outlier threshold of 6.85%. For all cost of equity estimates that fall below 6.85%, Mr. Rea excludes them from his analysis.

Q PLEASE EXPLAIN WHY YOU HAVE AN ISSUE WITH MR. REA'S APPLICATION OF A LOW-END OUTLIER TEST.

A Mr. Rea grossly manipulated the application of FERC's longstanding use of a 100 basis point spread added to the *historical* utility bond yield during the six-month period in which the study was performed. While Mr. Rea relied solely on FERC precedent to introduce the concept of a low-end outlier test in a Commission proceeding, he completely ignored how FERC uses the methodology.

Q WHAT WOULD THE RESULT BE IF MR. REA WERE TO HAVE APPLIED FERC'S LOW-END OUTLIER TEST CORRECTLY?

A While I disagree with the application of a low-end outlier test in general, corrections can be made to Mr. Rea's analysis to make it a more reasonable approach that follows FERC precedent. If Mr. Rea were to adhere to FERC precedent on implementing its low-end outlier test, he would have used the average A-rated and Baa-rated utility bond yields of 4.18% and 4.60%, respectively, for the six-month period of December 2016-May 2017. Adding FERC's 100 basis point spread to these bond yields would produce a low-end outlier threshold of 5.18% and 5.60%. As such, had Mr. Rea adhered to the FERC precedent in which he relied on, he would not have removed any of his DCF results due to failing the low-end outlier threshold because all of his unadjusted DCF results are above these thresholds.

By including all of his DCF results, the averages of his three analyst growth rate DCF results would be in the range of 8.3% to 9.1%. The medians of his three analyst growth rate DCF results would be in the range of 8.6% to 9.5%.

Q PLEASE DESCRIBE MR. REA'S TRADITIONAL CAPM ANALYSIS.

A Mr. Rea developed a traditional CAPM analysis based on the average of a projected and historical market risk premium. His projected market risk premium is based on a DCF-derived return on the market of 12.37% (2.09% dividend yield plus a projected 10.28% growth rate) and an intermediate term projected 30-year Treasury bond yield of 4.19%. The difference between his projected market return of 12.37% and the forecasted Treasury yield of 4.19% produces a projected market risk premium of 8.18%.

Next, Mr. Rea calculated the historical market risk premium by subtracting the historical Treasury bond income return of 5.0% from the historical average total market return of 12.0%. This produced a historical market risk premium of 7.0%. Mr. Rea then takes that average of his two market risk premiums which is 7.59% ([8.18%+7.00%]÷2=7.59%).

Next, Mr. Rea makes a leverage adjustment, referred to as the Hamada adjustment, to account for the differences in financial risk to the observed *Value Line* betas for his proxy group. Mr. Rea states this adjustment is required since the betas were calculated based on market values and are being applied to book value common equity. This has the effect of increasing the proxy group's average *Value Line* beta from 0.67 to 0.72.[47] Multiplying his leverage adjusted beta of 0.72 by his market risk premium of 7.59% produces a risk-adjusted market risk premium of 5.46%.

Mr. Rea relies on the projected 30-year Treasury yield of 4.19% as described above. Adding the adjusted market risk premium of 5.46% to the projected yield of 4.19% produces a CAPM return estimate of 9.65%.

Finally, Mr. Rea adds a 0.09% premium for flotation costs and a 1.02% premium for a size adjustment to his CAPM return estimate to arrive at his cost of equity for the combination utility proxy group of 10.67%.

Q ARE MR. REA'S TRADITIONAL CAPM ANALYSES REASONABLE?

A No. Once again, there are several flaws with Mr. Rea's analyses. Specifically with regard to his traditional CAPM analysis, his projected risk-free rate of 4.19% is projected for the 2018-2022 period, the Hamada adjustment to his *Value Line* beta was inappropriate, the flotation cost adder is unwarranted, and the size premium added to his CAPM estimate is not based on firms of comparable risk to NIPSCO and should be rejected. While I disagree with the derivation of his DCF-based market risk premium of 8.18%, to limit the issues with Mr. Rea's testimony, I will focus my rebuttal on the leveraged beta adjustment and size adjustment.

[47]Rea Direct at 69 and Schedule 7.

Q PLEASE EXPLAIN MR. REA'S LEVERAGED BETA ADJUSTMENT.

A Mr. Rea measures an additional return on equity adder based on leveraged adjustments to the beta component of the CAPM study. In producing this adder, he applies the Hamada method for de-levering and re-levering the beta component in both the CAPM and the ECAPM with and without the effect of income taxes. This Hamada beta leverage adjustment is described by Mr. Rea at pages 68-70 of his direct testimony.

Applying the Hamada formula increases the *Value Line* beta from 0.67 to 0.72 for his combination utility group.[48] This adjustment has the effect of increasing his traditional CAPM analysis results by approximately 0.38%.[49]

Q IS MR. REA'S APPLICATION OF THE LEVERAGED BETA RETURN ON EQUITY ADDER REASONABLE?

A No. Mr. Rea's proposal to de-lever and then re-lever the beta suggests that utilities' financial risk can be measured only by changes in common equity weights of capital structure, and that financial risk is the only relevant systematic risk reflected in beta. Neither of these assumptions is accurate. First, a utility company's financial risk is a component of capital structure mix, but also can be impacted by its embedded cost of debt, debt maturity and other liquidity factors. For example, a utility that has lower cost debt and a higher debt percentage of total capital, may have lower financial risk than a utility with a lower debt ratio if its cash flow coverage of interest and total debt are stronger than the latter company. Mr. Rea's analysis is not based on a complete assessment of financial risk. Other factors affecting financial risk also relate to cash flow generation relative to financial obligation, and financial instruments' terms and

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[48]Rea Direct at 69.
[49](0.72 - 0.67) x 7.59% = 0.38%.

conditions as well as regulatory terms and conditions that support the generation of cash for the utility. All of this is set aside in Mr. Rea's financial risk adjustment to beta based on leverage risk alone.

Also, financial risk is not the only systematic risk that should be considered in adjusting beta. Systematic risk can include many factors that were not properly considered by Mr. Rea. Applying the Hamada methodology is just another way of unjustly increasing the CAPM results. Therefore, Mr. Rea's results based on this approach should be completely disregarded by the Commission because they serve only one purpose, to inflate revenue requirements for NIPSCO's ratepayers.

Q WHY DO YOU FIND MR. REA'S SIZE ADJUSTMENT INAPPROPRIATE?

A Mr. Rea's size adjustment return on equity adder is based on estimates made by Duff & Phelps' *2017 SBBI Yearbook*. Duff & Phelps estimates various size adjustments based on differentials in beta estimates tied to the size of a company. There are two problems with this size adjustment. First, the size adjustment, as applied by Mr. Rea, is not risk comparable for NIPSCO. Second, Mr. Rea did not fully apply all of the risk premiums described in another Duff & Phelps book.

In its *2017 Valuation Handbook*, Duff & Phelps includes CAPM adjustments including: (1) a size adjustment as recognized by Mr. Rea, and (2) also an industry risk premium adjustment to reflect the unique risk characteristics of the industry in which the company operates. Mr. Rea ignored the industry risk premium factor recommended by Duff & Phelps. Rather than recognizing all relevant adjustments provided by Duff & Phelps, Mr. Rea cherry-picked the size adjustment to increase the results of his CAPM return estimates.

Q WHY IS MR. REA'S SIZE ADJUSTMENT TO HIS CAPM RETURN NOT RISK COMPARABLE TO NIPSCO?

A His size adjustment reflects risks that are not comparable to that of NIPSCO. The size adjustment recommended by Mr. Rea reflects companies that have beta estimates in excess of 1.00.[50] For example, Mr. Rea relies on the size premium of 1.02% for the mid-cap group that falls within the 3-5 deciles range. The raw beta estimate associated with this group is 1.12. This raw beta estimate is substantially higher than the average adjusted *Value Line* beta of 0.67 for the combination utility proxy group used by Mr. Rea as reflective of NIPSCO's investment risk. Because of this disparity in beta, Mr. Rea's size adjustment produces a CAPM return estimate that does not produce a risk-appropriate return for NIPSCO and therefore, is not a reasonable and fair return for NIPSCO.

Q CAN YOU EXPLAIN HOW BETA CORRESPONDS WITH THE LEVEL OF INVESTMENT RISK FOR A COMPANY AND THEREFORE PRODUCES AN APPROPRIATE RISK-ADJUSTED RETURN FOR A SUBJECT COMPANY?

A Yes. Beta represents a measure of systematic or non-diversifiable risk. All subject companies' betas are measured relative to that of the overall market. The market beta is considered to be 1.0. For companies that have betas greater than 1, they are regarded as having more risk than the overall market. For companies that have betas less than 1, they are regarded to have risk less than the overall market.

For these reasons, utility companies which consistently and predictably have adjusted betas far less than 1 (usually in the range of 0.6 to 0.8 depending on market conditions) are generally reflective as lower risk investment options.

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[50]The size adjustment is based on a small company portfolio included in *Duff & Phelps* 2017 SBBI Yearbook at 7-16, Exhibit 7.8, which have beta in excess of 1.0.

Q PLEASE DESCRIBE WHY MR. REA'S PROPOSED SIZE ADJUSTMENT IS AN INCOMPLETE APPLICATION OF THE DUFF & PHELPS PROPOSED CAPM BUILD-UP METHODOLOGY.

A Duff & Phelps' CAPM build-up methodology includes adjustments to the raw CAPM estimate for size, industry risk differentials, and other material risks. Mr. Rea selectively included only one CAPM risk adder – the size risk adder – to his CAPM return. However, Mr. Rea failed to reflect the reduced risk associated with being in the low-risk regulated utility industry, which results in a significant overstatement of a fair CAPM return estimate for NIPSCO.

Specifically, Mr. Rea estimates a size adjustment that is appropriate for NIPSCO of a CAPM return adder of approximately 1.02%. However, the regulated utility industry risk premium estimate calculated by Duff & Phelps would be a reduction of approximately 4.0% to the CAPM and ECAPM return estimates.[51] As such, a balanced application of Duff & Phelps' proposed CAPM build-up methodology would have a medium increase in the CAPM return estimate for a size adjustment, but a significant decrease in the CAPM return estimate to reflect the low-risk nature of the regulated utility industry. Mr. Rea's proposed size adjustment is imbalanced and inaccurate, without reflecting the return on equity reduction appropriate with low-risk regulated industries as proposed by Duff & Phelps.

Q HOW WOULD MR. REA'S TRADITIONAL CAPM RETURN ESTIMATES CHANGE IF A COMPLETE BUILD-UP METHODOLOGY IS APPLIED?

A Reflecting a complete build-up methodology as recommended by Duff & Phelps on a basic CAPM return estimate, which includes Mr. Rea's risk-free rates, market risk

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[51] *Duff & Phelps 2017 Valuation Handbook* at Appendix 3a.

premiums, a size adjustment and an industry risk premium, Mr. Rea's size-adjusted CAPM return estimates would decline from 9.2% and 9.6% to 8.8% for his utility proxy group.

TABLE 15

Buildup Return Estimates

Description	**CAPM**
Risk-Free Rate[1]	4.19%
Equity RP[1]	7.59%
Avg Size RP[1]	1.02%
Industry RP[2]	(4.0%)
Estimate	8.8%

Sources:
[1]Rea Schedule 7.
[2]*Duff & Phelps 2017 Valuation Handbook* at Appendix 3a.

It should be noted that the market risk premium is not adjusted by beta in the completed build-up model because the industry risk premium is already adjusted by a full-information beta.

Q DID MR. REA ALSO PERFORM AN EMPIRICAL CAPM ("ECAPM") ANALYSIS?

A Yes. Mr. Rea performed an ECAPM analysis that relied on the same market risk premium of 7.59%, the same projected risk-free rate of 4.19%, and the same average *Value Line* betas that he used in his current and projected CAPM analyses.

He then uses an ECAPM model that applies a 25% weighting factor to the market beta of 1, and a 75% weighting factor to the utility beta. This produces an ECAPM estimate of 10.19%.

Finally, Mr. Rea applied a size adjustment of 1.02% to his ECAPM estimate. His size-adjusted ECAPM result is 11.21%.[52]

Q ARE MR. REA'S CURRENT AND PROJECTED ECAPM ANALYSES REASONABLE?

A No. Mr. Rea's ECAPM analyses share some of the same flaws as his traditional CAPM analyses. Mr. Rea's proposal to adjust the ECAPM result upward applying a size adjustment is inappropriate and should be rejected for the same reasons discussed in response to his traditional CAPM.

Q DO YOU HAVE ANY OTHER ISSUES WITH MR. REA'S ECAPM ANALYSES?

A Yes. Mr. Rea's ECAPM analysis is flawed because his model was developed using adjusted utility betas. An ECAPM analysis flattens the security market line, and is designed for raw beta estimates, not adjusted betas such as the ones published by *Value Line*. Beta adjustments, on their own, accomplish virtually the same thing as an ECAPM analysis. They flatten the security market line, and increase the intercept at the risk-free rate. An ECAPM analysis is not designed to be used with adjusted betas, but rather is designed to be used with unadjusted betas. Mr. Rea's proposal to use adjusted betas within an ECAPM analysis is unreasonable and double counts the attempt to flatten the security market line and increase CAPM return estimates for companies with betas below 1, and decrease CAPM return estimates for companies with betas greater than 1.

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[52]Schedule 7.

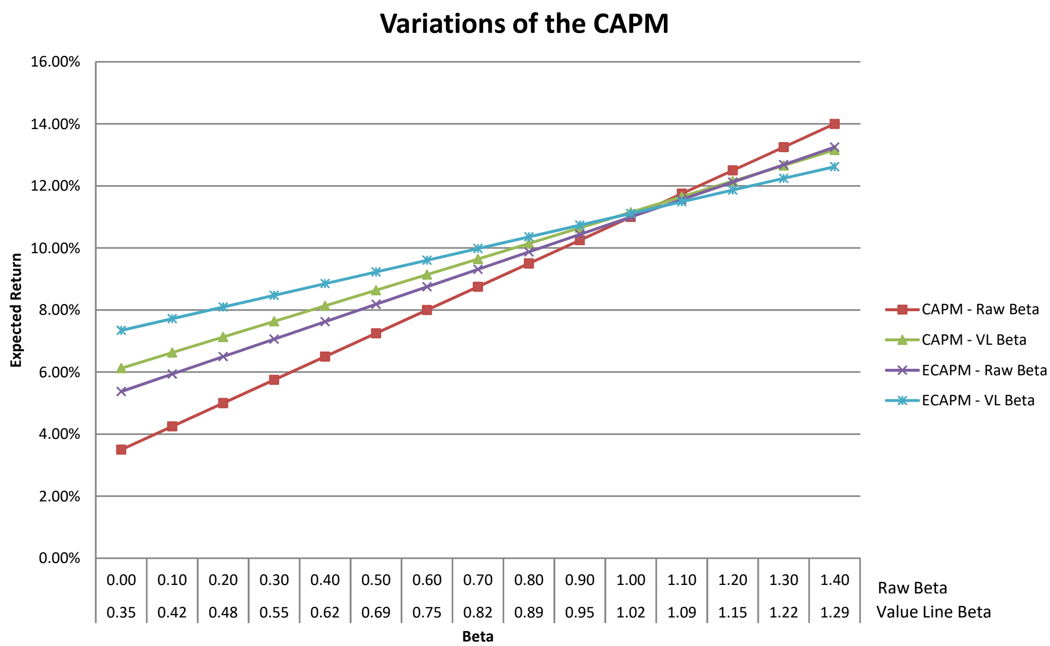
Q DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING THE ECAPM AND ADJUSTED BETAS?

A Yes. The notion that an adjustment to beta is only a horizontal axis adjustment is not true. The *Value Line* beta adjustment alters the CAPM return at both the vertical axis (the intercept point) and the horizontal axis, the slope of the CAPM return line (along the horizontal axis). This is depicted in Figure 4 below.

As shown in Figure 4, I have modeled the expected returns at various levels of raw beta using both the traditional CAPM and ECAPM methodologies assuming a risk-free rate of 3.50%, and a market risk premium of 7.50%. I also show the expected CAPM and ECAPM returns using the associated adjusted (*Value Line*) beta estimates for each raw beta estimate. As shown in Figure 4 below, the impact on the traditional CAPM return using a raw beta and a traditional CAPM using an adjusted beta has the effect of increasing the intercept point at a zero raw beta (y axis) from: (1) the risk-free rate to (2) the combination of the risk-free rate plus 35% of the market risk premium. Further, as the unadjusted beta is increased above zero, the adjusted beta increases the CAPM return when the raw beta is less than one, and decreases the CAPM return when the raw beta is greater than one. In other words, the beta adjustment raises the CAPM return at the vertical axis point and flattens the security market across the horizontal axis as the raw beta increases above zero.

The ECAPM using raw betas has the same impact on the traditional CAPM using an adjusted beta: the ECAPM increases the CAPM return at a zero raw beta from: (1) the risk-free rate, to (2) the risk-free rate plus 25% of the market risk premium. Further, the ECAPM using raw betas flattens the traditional CAPM return line across the horizontal axis as the raw betas increase above zero.

Figure 4



Assumptions:
Market Risk Premium is 7.50%
Risk-Free Rate is 3.50%

As shown in the graph above, compared to the traditional CAPM using a raw beta, the traditional CAPM using an adjusted beta raises the intercept point (a y axis impact) and flattens the slope of the security market line (an x axis impact). Similarly, using a raw beta estimate, the ECAPM raises the intercept point at the y axis and flattens the CAPM return for all raw beta estimates.

Significantly, if an adjusted beta is used in an ECAPM return model, the CAPM return at the y axis increases from: (1) the risk-free rate, up to (2) the risk-free rate plus approximately 51% of the market risk premium. Further, the CAPM return for betas less than one starts at an inflated y axis intercept point and increases as the raw beta increases above zero.

Mathematically, *Value Line*'s beta adjustments produce nearly the same effect on the estimated CAPM return as does an ECAPM using a raw beta. Using an adjusted beta in an ECAPM model, as Mr. Rea has proposed, produces a flawed and inflated ECAPM return estimate.

Q IS THERE ANY ACADEMIC SUPPORT FOR MR. REA'S PROPOSED USE OF AN ADJUSTED BETA IN AN ECAPM STUDY?

A No. I am unaware of any peer reviewed academic study showing that the empirical CAPM is more accurate using adjusted betas. To my knowledge, the ECAPM has been tested and published with raw beta estimates, not an adjusted beta or *Value Line* published beta. Further, Mr. Rea has not provided any academic research that was subjected to academic peer review which supports his proposed use of an adjusted beta in an ECAPM study. As such, the practice of using an adjusted beta in an ECAPM study is simply not supported by academic research. There is, however, considerable academic support for the use of a raw beta in an ECAPM study. For the reasons outlined above, Mr. Rea's proposal to use adjusted betas in an ECAPM study should be rejected.

Q HOW WOULD MR. REA'S ECAPM RETURN ESTIMATES CHANGE IF THE CORRECT BETA WERE USED?

A The average Value Line adjusted beta is 0.67.[53] This would equate to an unadjusted beta estimate of 0.48.[54] Applying his market risk premium estimate of 7.6%, a raw beta of 0.48, and his risk-free rate of 4.2% will produce an ECAPM return of 8.8%.[55]

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[53]Rea Direct Testimony at 69.
[54](Adj. Beta – 0.35)/0.67 = Raw Beta. Hence, Raw Beta = (0.67 – 0.35)/0.67 = 0.48.
[55] ECAPM = 4.2% + 0.25 x 7.6% + 0.75 x 7.6% x 0.48 = 8.8%.

Q PLEASE DESCRIBE MR. REA'S RISK PREMIUM ANALYSIS.

A Mr. Rea's Risk Premium Method analysis is developed on his Schedule 8. Throughout that exhibit he develops several equity risk premium estimates based on the total market index approach and the public utility index approach.

Mr. Rea developed his own forecasted bond yield for his Combination Utility Group of 5.67%. He calculated this prospective Combination Utility Group bond yield by starting with the forecasted "Aaa" rated corporate bond yield of 5.24% for the 2018-2022 period. To this he adds a 0.25% yield spread to account for the recent historical spread between "A" rated utility bond yields and Aaa-rated corporate bond yields. Finally, he calculates an interpolated yield spread between A-rated utility bond yields and Baa-rated bond yields to account for his Combination Utility Group's A-/A3 ratings. The interpolated yield spread is 0.18%. Collectively, Mr. Rea calculates a prospective bond yield of 5.67% (5.24% + 0.25% + 0.18% = 5.67%).

To calculate his Total Market Index equity risk premium, Mr. Rea measured the historical realized equity risk premium between the total return on the market of 12.0% and the total return for long-term corporate bonds of 6.3%. This produces an equity risk premium of 5.7%. Next, Mr. Rea calculated a prospective equity risk premium by subtracting the forecasted Aaa-rated corporate bond yield of 5.24% as described above from his prospective total market return of 12.37% that was used in his CAPM analysis. This produced a total market index equity risk premium of 7.13%. The average of his two total market risk premiums is 6.42%. Mr. Rea then adjusted this total index risk premium by his Hamada-adjusted beta estimate of 0.72 to produce a utility equity risk premium of 4.62%.

Next, Mr. Rea calculates a Public Utility Index equity risk premium. He does this by measuring the historical utility index equity risk premium of the S&P 500

Utilities index (10.83%) over the Moody's A-rated utility bond yield average (6.39%). This produces a historical equity risk premium of 4.44%.

Next, Mr. Rea appears to calculate an adjustment to account for an inverse relationship between interest rates and risk premiums. Based on his calculations, he believes that for every 1% drop in interest rates, there is a 0.50% increase in the equity risk premium. He measures a 2.22% decrease in the historical utility bond yields from 6.39% to 4.17%. He multiplies the -2.22% change in utility bond yields by -0.5 to produce a risk premium adjustment of 1.11%. He then adjusts his utility risk premium upward by 1.11% to produce a prospective risk premium of 5.55%. This upward adjustment is labeled as "Implied Increase in Equity Risk Premium Based on Finance Literature," which is then described in his footnote (7) on page 4 of his Schedule 8 as being "documented in the finance literature." The average of his public utility index equity risk premiums is 5.00% (average of 4.44% and 5.55%).

Mr. Rea then adds his prospective bond yield of 5.67% to his average equity risk premium estimate of 4.81% (4.62% Total Market approach and 5.00% Utility approach) to produce his Combination Utility Group risk premium estimate of 10.48%. Once, again, Mr. Rea then adds a 0.09% premium to compensate for flotation costs.

Q WHAT CONCERNS DO YOU HAVE WITH MR. REA'S RISK PREMIUM METHOD?

A I have several concerns with Mr. Rea's Risk Premium Method: (1) his overstated prospective utility bond yield does not reflect the consensus of market outlooks; (2) his use of a Hamada-adjusted beta is inappropriate as I explained in detail above; and, (3) his use of an inverse relationship to upwardly adjust his risk premium is inaccurate and not supported. For these reasons, Mr. Rea's Risk Premium Method should be rejected.

Q DO YOU HAVE ANY COMMENTS CONCERNING MR. REA'S PROJECTED UTILITY YIELD OF 5.67%?

A Yes. Mr. Rea uses a projected Aaa-rated corporate bond yield of 5.24% for the period 2018 through 2022. He then adds a current yield spread for two separate yield spreads to produce his prospective bond yield for his proxy group. Current A-rated utility bond yields are approximately 3.82% as of the 13-week period ending January 26, 2018. Mr. Rea's projected increase to A-rated utility bond yields does not reflect consensus market outlooks.

Q DO YOU HAVE ANY INITIAL COMMENTS ON MR. REA'S USE OF AN INVERSE RELATIONSHIP ADJUSTMENT?

A Yes. As I previously mentioned, Mr. Rea references footnote 7 on page 4 of his Schedule 8 as support for this upward adjustment of 1.11%. Footnote 7 on this Schedule reads as follows: "Reflects inverse relationship between interest rates and the equity risk premium, as documented in the finance literature." Mr. Rea does not cite any specific "finance literature" on this schedule, nor in his testimony. In fact, there is not any other mention of an inverse relationship, or "finance literature" supporting an inverse relationship in his testimony or attached appendices. Since NIPSCO and Mr. Rea have the burden of proof in this case, and they have failed to even begin to support this adjustment, it should be rejected in its entirety.

Q WHY IS MR. REA'S USE OF A SIMPLE INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS UNREASONABLE?

A Mr. Rea's belief that there is a simple inverse relationship between equity risk premiums and interest rates is unsupported by academic research. While academic studies have shown that, in the past, there has been an inverse relationship with these variables, researchers have found that the relationship changes over time and is influenced by changes in perception of the risk of bond investments relative to equity investments, and not simply changes to interest rates.[56]

In the 1980s, equity risk premiums were inversely related to interest rates, but that was likely attributable to the interest rate volatility that existed at that time. Interest rate volatility has recently been much lower than it was in the 1980s.[57] As such, when interest rates were more volatile, the relative perception of bond investment risk increased relative to the investment risk of equities. This changing investment risk perception caused changes in equity risk premiums.

In today's marketplace, interest rate variability is not as extreme as it was during the 1980s. Nevertheless, changes in the perceived risk of bond investments relative to equity investments still drive changes in equity premiums. However, a relative investment risk differential cannot be measured simply by observing nominal interest rates. Changes in nominal interest rates are highly influenced by changes to inflation outlooks, which also change equity return expectations. As such, the relevant factor needed to explain changes in equity risk premiums is the relative changes to the risk of equity versus debt securities investments, not simply changes to interest rates.

Importantly, Mr. Rea's analysis ignores investment risk differentials. He bases his adjustment to the equity risk premium exclusively on changes in nominal interest rates. This is a flawed methodology and does not produce accurate or reliable risk

[56]"The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

[57]*Duff & Phelps, 2016 SBBI Yearbook* at 6-7 to 6-10.

premium return on equity estimates. His results should be rejected by the Commission.

Q CAN MR. REA'S RISK PREMIUM ANALYSES BASED ON PROJECTED YIELDS BE MODIFIED TO PRODUCE MORE REASONABLE RESULTS?

A Yes. By eliminating the inverse relationship adjustment to the equity risk premium of 3.62% and relying on Mr. Rea's current Baa-rated utility yield of 4.41%, will result in a risk premium return on equity of 8.03% (3.62% + 4.41%), rounded to 8.0%. Importantly, Mr. Rea's projected Baa-rated bond yield of 6.34% is higher than the current observable market Baa-rated bond yield of 4.72%.

The median equity premium based on the last 10 years as shown on his Exhibit No. 9 is approximately 4.89%. Using current observable Baa-rated bond yields of 4.72%, this would imply a common equity return of 9.6% (4.89% + 4.72%). I believe this more reasonably captures a fair equity risk premium estimate using the data in Mr. Rea's study.

Q PLEASE DESCRIBE MR. REA'S COMPARABLE EARNINGS ANALYSIS.

A Mr. Rea's comparable earnings analysis is based on the historical earned returns on book equity and *Value Line*'s projected earned return on book equity for his non-utility proxy group. Based on a review of 10 years of historical earned returns and projected earnings over the next three to five years, Mr. Rea estimates a return on equity for NIPSCO in the range of 12.4% to 13.6% (Schedule 9).

Q IS THE COMPARABLE EARNINGS ANALYSIS A REASONABLE METHOD FOR ESTIMATING A FAIR RETURN ON EQUITY FOR NIPSCO?

A No. A comparable earnings analysis, particularly for non-rate regulated companies, does not measure the return an investor requires in order to make an investment in utilities generally, or NIPSCO specifically. Rather, it measures the earned return on book equity that companies have experienced in the past or are projected to achieve in the future. The returns investors require in order to assume the risk of an investment are measured from prevailing stock market prices. A comparable earnings analysis measures an accounting return on book equity. Therefore, such a return is not developed from observable market data. A return estimate using an expected earnings analysis can differ significantly from the return investors currently require. Therefore, Mr. Rea's expected earnings approach should be rejected.

Q DO YOU HAVE ANY ADDITIONAL COMMENTS IN REGARD TO MR. REA'S RETURN ESTIMATES?

A Yes. Mr. Rea also performed a DCF, CAPM, and ECAPM on a non-utility proxy group, which he found to be a reasonable risk proxy for NIPSCO. I disagree. I find his non-utility group unreasonable. The results of the analyses performed on his non-utility group range are summarized in his Table 2 on page 10 of his testimony.

Q WHY DO YOU CONSIDER MR. REA'S NON-UTILITY GROUP UNREASONABLE?

A The companies included in Mr. Rea's non-utility proxy group are subject to risks that are different from those affecting NIPSCO's regulated utility operations. As noted by the major credit rating agencies, the utility industry has relatively low risk in comparison with the market. Indeed, the regulatory process itself provides an effective mechanism to mitigate some of the market risks influencing the U.S. economy. Therefore, using Mr. Rea's non-utility proxy group, which is much riskier than the utility industry, will produce an unreliable and inflated return on equity for a low-risk utility like NIPSCO. Therefore, the Commission should disregard the results of Mr. Rea's non-utility group DCF.

Q CAN YOU PROVIDE AN EXAMPLE OF WHY MR. REA'S NON-UTILITY GROUP IS NOT A REASONABLE RISK PROXY GROUP FOR NIPSCO?

A Yes. One criterion that Mr. Rea uses to select a comparable risk non-utility group in order to estimate NIPSCO's return on equity, is that the bond rating not be less than BBB-.[58] While this is a somewhat reasonable method of estimating and identifying comparable proxy groups within the industry, doing it across industries is not as straightforward and not as reliable. For example, if bond ratings alone would adequately help to identify comparable risk companies across industries, then there should not be any observable clear differences in the investment cost for securities that had different bond ratings. However, the industry or circumstances behind the security have a material role in the market's assessment of a fair compensation.

While "AAA" rated corporate bonds and U.S. Treasuries have comparable bond ratings, the risk differential is significant largely because of the operating risk differences between the securities. The U.S. government has virtually minimal default risk on its bond issuances, whereas even a "AAA" rated corporate bond has measurable default risk. Similarly, regulated utility operations and the ability to adjust prices to cost of service provide far less default risk than that of non-regulated companies. A regulated company generally has a franchise to a monopolistic service

[58]Rea Direct Testimony at 23.

territory, the ability to set prices based on reasonable and prudent costs, and minimal competition. In significant contrast, a non-regulated entity does not have a franchised or monopolistic customer base, must price its services consistent with what the market will permit, and has far more uncertainty of selling products that produce cash flows that support financial obligations. Therefore, the DCF results produced by Mr. Rea's non-utility group should be rejected.

Q WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATE RETURN ON EQUITY FOR NIPSCO BASED ON YOUR ANALYSIS?

A My analysis supports a reasonable range of NIPSCO's current market cost of equity to be from 8.60% to 9.30%.

The Commission should reject Mr. Rea's recommended cost of common equity for the reasons outlined above, primarily because his analysis has artificially inflated NIPSCO's cost of equity through unreasonable adjustments.

VI. FAIR VALUE NET OPERATING INCOME ("NOI")

Q WHAT WAS NIPSCO'S PROPOSAL FOR A FAIR VALUE NOI?

A. NIPSCO witness Timothy Caister proposed that the NOI calculated using NIPSCO's proposed return on fair value be utilized not for setting rates, but for determining NIPSCO's earnings level in the Gas Cost Adjustment ("GCA"). NIPSCO's proposed fair value NOI vastly exceeded even its own overstated NOI based on original cost rate base.

Q SHOULD A FAIR VALUE NOI BE GREATER THAN AN NOI BASED ON ORIGINAL COST?

A No. The NOI should be about the same whether an original cost rate base or a fair value rate base is used. Because NIPSCO's proposed fair value NOI exceeds its proposed original cost NOI by approximately $42.5 million, this suggests that methods used to determine the fair value rate base or the fair rate of return, or both, were flawed. The NOI based on an original cost methodology should reasonably approximate the fair value NOI based on a fair value methodology, and NIPSCO's proposed fair value NOI does not

Q SHOULD THE NOI BE COMPARABLE USING BOTH ORIGINAL COST AND FAIR VALUE METHODOLOGIES?

A Yes. Investors should be fairly compensated and rates should be just and reasonable using either an original cost or a fair value rate-setting methodology. In an original cost methodology, investors are compensated entirely by the allowed return on rate base. The increase in value of the assets included in rate base is not reflected in the original cost methodology. Therefore, investors are compensated for the expectation that asset values will increase over time, by applying a market-based rate of return to the original cost of assets. This provides total compensation to investors on a current basis through the rate of return.

On the other hand, in a fair value methodology, the expected escalation or growth to the value of utility assets is reflected in setting rates. Therefore, the total return to investors in a fair value methodology includes both the expected growth in the value of the assets (i.e., growth in the fair value rate base), plus the rate of return applied to the fair value rate base.

The primary difference between a rate of return to apply to original rate base, and a rate of return to apply to a fair value rate base, relates to compensating investors for the expected growth to the asset values. In an original cost rate of return, the expected growth rate in asset values is included in the rate of return and investors are compensated for this growth in the utility's operating income. Conversely, in a fair value methodology, expected growth in the value of the assets is picked up in the growth to the rate base itself, and not in the rate of return.

Regardless of the methodology, however, the NOI should be approximately the same.

Q WHAT IS A FAIR RATE OF RETURN TO APPLY TO A FAIR VALUE RATE BASE?

A Fair compensation for investors is based on the return an investor would expect to receive by making an alternative comparable risk investment. The return, then, is made up of an expectation that the investment value will grow, and the investment may receive some current return on the asset. For example, consider an expected return on a stock investment that was valued by an investor at an expected return of 10%. If the investor required return is 10% and the dividend yield on the stock is 4%, then an investor would expect that the stock price would increase by 6% per year. Consequently, the total return to the equity investor is produced through both the dividend yield (4%), or current return, and stock price appreciation (6%), or unrealized return. The combination of the two produces the 10% required return.

Similarly, let us assume that a utility investor expects a 10% return. If the value of assets included in rate base is expected to grow by 4%, then the utility should be allowed to earn a 6% rate of return on its fair value rate base. Investors are fairly compensated by the 6% current return and 4% growth to the fair value of the rate base, unrealized return.

A total return on a fair value ratemaking methodology is similar to the return expected by making stock investments. It is derived from both a current return and the return derived from an increase in the value of the underlying investment, unrealized return.

Q HOW THEN CAN YOU ESTIMATE A FAIR RATE OF RETURN TO APPLY TO A FAIR VALUE RATE BASE?

A The most direct way is to start with the rate of return developed for original cost rate base. The return on equity in this return should be adjusted to remove the expected future growth in utility asset values. Over time, investors will receive fair compensation by the equity return on rate base, plus the increase in the investment value of the utility assets. This is comparable to a stock investor who is compensated by receiving both dividends and stock price appreciation.

Q CAN YOU PROVIDE AN EXAMPLE THAT SHOWS HOW ORIGINAL COST RATE OF RETURN, AND YOUR PROPOSED DEVELOPMENT OF A FAIR VALUE RATE OF RETURN, BOTH RESULT IN FAIR COMPENSATION TO INVESTORS?

A Yes. An example is shown below in Table 16. Under the original cost methodology, if the beginning of year rate base is $100, the return is assumed to be 10%, escalation to the value of utility assets is assumed to be 3%, and the annual depreciation rate is 3%. Based on these assumptions, depreciation expense for the year would be $3, and capital expenditures are assumed to be $3.10, which was developed assuming that 3% of the rate base would be replaced, and the cost of replacement would escalate by 3% per year. The end of year rate base in this example, then, is $100.10. The current return produced on this rate base is the beginning of year rate base multiplied by the 10% rate of return, or $10. Hence, the total return on the original cost methodology is $10, or 10%.

In column 2, I show the compensation to investors using a fair value methodology. Here, again, investors' compensation is 10%. In the fair value methodology the beginning of year rate base is $100, the fair value rate of return is 7%, and the asset escalation is 3%. Depreciation expense then would be $3.10, which is the original cost depreciation expense adjusted by the growth in the value of the asset. Capital expenditures are again $3.10. Year-end rate base is $103, which reflects the 3% escalation to the value of the beginning of year rate base. In a fair value methodology, investor compensation is based on the current return of $7, and appreciation in the value of rate base is $3, for a total investor return of $10, or 10%.

TABLE 16

Original Cost and Fair Value Comparison

Description	Original Cost (1)	Fair Value (2)
Beginning Rate Base	$100	$100
Rate of Return	10%	7%
Asset Escalation	3%	3%
Depreciation Expense (3%)	$3.0	$3.1
Capital Expenditures	$3.1	$3.1
Year-End Rate Base	$100.1	$103.0
Current Return	$10	$ 7
Asset Appreciation	$ 0	$ 3
Total Return	$10	$10
Total Return (%)	$10 (10%)	$10 (10%)

Q IS THERE ANY OTHER REASON TO REJECT NIPSCO'S PROPOSED FAIR VALUE NOI?

A Yes. Under Ind. Code 8-1-2-42(g)(3)(C), a utility is subject to an earnings test based on the level of earnings approved by the Commission. NIPSCO is not seeking an NOI based on fair value for ratemaking, and its earnings level will be set forth using an NOI based on the original cost of NIPSCO's plant. Further, as of its most recent GCA Order, NIPSCO has an earnings deficit of over $100 million. Simply put, there is no basis for NIPSCO to have a different NOI for purposes of the earnings test.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

Qualifications of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Managing Principal with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A In 1983 I received a Bachelors of Science Degree in Electrical Engineering from Southern Illinois University, and in 1986, I received a Masters Degree in Business Administration with a concentration in Finance from the University of Illinois at Springfield. I have also completed several graduate level economics courses.

In August of 1983, I accepted an analyst position with the Illinois Commerce Commission ("ICC"). In this position, I performed a variety of analyses for both formal and informal investigations before the ICC, including: marginal cost of energy, central dispatch, avoided cost of energy, annual system production costs, and working capital. In October of 1986, I was promoted to the position of Senior Analyst. In this position, I assumed the additional responsibilities of technical leader on projects, and my areas of responsibility were expanded to include utility financial modeling and financial analyses.

In 1987, I was promoted to Director of the Financial Analysis Department. In this position, I was responsible for all financial analyses conducted by the Staff. Among other things, I conducted analyses and sponsored testimony before the ICC on rate of return, financial integrity, financial modeling and related issues. I also supervised the development of all Staff analyses and testimony on these same issues. In addition, I supervised the Staff's review and recommendations to the Commission concerning utility plans to issue debt and equity securities.

In August of 1989, I accepted a position with Merrill-Lynch as a financial consultant. After receiving all required securities licenses, I worked with individual investors and small businesses in evaluating and selecting investments suitable to their requirements.

In September of 1990, I accepted a position with Drazen-Brubaker & Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and Staff. Since 1990, I have performed various analyses and sponsored testimony on cost of capital, cost/benefits of utility mergers and acquisitions, utility reorganizations, level of operating expenses and rate base, cost of service studies, and analyses relating to industrial jobs and economic development. I also participated in a study used to revise the financial policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate design and class cost of service for electric, natural gas, water and wastewater utilities. I have also analyzed commodity pricing indices and forward pricing methods for third party supply agreements, and have also conducted regional electric market price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

A Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and numerous state regulatory commissions including: Arkansas, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Mississippi, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and before the provincial regulatory boards in Alberta and Nova Scotia, Canada. I have also sponsored testimony before the Board of Public Utilities in Kansas City, Kansas; presented rate setting position reports to the regulatory board of the municipal utility in Austin, Texas, and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate disputes for industrial customers of the Municipal Electric Authority of Georgia in the LaGrange, Georgia district.

Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst ("CFA") from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting, economics, fixed income and equity valuation and professional and ethical conduct. I am a member of the CFA Institute's Financial Analyst Society.

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STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF NORTHERN INDIANA PUBLIC SERVICE COMPANY FOR (1) AUTHORITY TO MODIFY ITS RATES AND CHARGES FOR GAS UTILITY SERVICE THROUGH A PHASE IN OF RATES; (2) MODIFICATION OF THE SETTLEMENT AGREEMENTS APPROVED IN CAUSE NO. 43894; (3) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, GENERAL RULES AND REGULATIONS, AND RIDERS; (4) APPROVAL OF REVISED DEPRECIATION RATES APPLICABLE TO ITS GAS PLANT IN SERVICE (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING RELIEF; AND (6) AUTHORITY TO IMPLEMENT TEMPORARY RATES CONSISTENT WITH THE PROVISIONS OF IND. CODE CH. 8-1-2-42.7.	**CAUSE NO. 44988**

Verification

I, Michael P. Gorman, a Consultant and Managing Principal of Brubaker & Associates, Inc., affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

Michael P. Gorman
March 2, 2018

Northern Indiana Public Service Company

Rate of Return
(December 31, 2018)

Line	Description	Amount[1] (1)	Weight (2)	Cost (3)	Weighted Cost (4)
	Ratemaking Capital:				
1	Common Equity	$ 2,448,117,814	39.60%	**9.30%**	3.68%
2	Long-Term Debt	$ 2,259,801,059	36.56%	**5.07%**	1.85%
3	Customer Deposits	$ 72,006,141	1.16%	4.76%	0.06%
4	Deferred Income Taxes	$ 1,316,021,409	21.29%	0.00%	0.00%
5	Post-Retirement Liability	$ 83,343,823	1.35%	0.00%	0.00%
6	Prepaid Pension Asset	$ -	0.00%	0.00%	0.00%
7	Post-1970 ITC-Equity	$ 1,320,104	0.02%	9.30%	0.00%
8	Post-1970 ITC-Debt	$ 1,218,557	0.02%	**5.07%**	0.00%
9	Total	$ 6,181,828,907	100.00%		5.59%
	Investor Supplied Capital:				
10	Common Equity	$ 2,448,117,814	52.00%	**9.30%**	4.84%
11	Long-Term Debt	$ 2,259,801,059	48.00%	**5.07%**	2.43%
12	Total	$ 4,707,918,873	100.00%		**7.27%**

Source:
[1]Gorman Direct.

Northern Indiana Public Service Company

Adjusted Projected Cost of Debt December 31, 2018

Line	Rate	Description	Date of Issuance	Date of Maturity	Principal Amount	Annual Interest Requirement	Cost Rate
	A	B	C	D	E	F	G
1		Pollution Control Bonds					
2	5.850%	1994 Bonds - Jasper County, Series C	25-Aug-2008	1-Apr-2019	41,000,000	-	
3		Medium-Term Notes					
4	7.400%	Series E	26-Aug-1997	30-Aug-2022	10,000,000	740,000	
5	7.690%	Series E	6-Jun-1997	6-Jun-2027	20,000,000	1,538,000	
6	7.690%	Series E	6-Jun-1997	27-Jun-2027	33,000,000	2,537,700	
7	7.160%	Series E	4-Aug-1997	4-Aug-2027	5,000,000	358,000	
8		Intercompany Notes from NiSource Finance Corp.					
9	5.420%	Intercompany LT Note 5.42%	28-Jun-2005	26-Jun-2020	137,500,000	7,452,500	
10	5.985%	Intercompany LT Note 5.985%	19-Sep-2005	18-Sep-2025	75,000,000	4,488,750	
11	6.525%	Intercompany LT Note 6.525%	6-Jun-2008	6-Jun-2023	80,000,000	5,220,000	
12	6.410%	Intercompany LT Note 6.41%	4-Dec-2009	4-Dec-2029	120,000,000	7,692,000	
13	4.530%	Intercompany LT Note 4.53%	19-Dec-2012	21-Dec-2037	55,000,000	2,491,500	
14	4.830%	Intercompany LT Note 4.83%	19-Dec-2012	19-Dec-2042	95,000,000	4,588,500	
15	5.170%	Intercompany LT Note 5.17%	24-Jul-2013	24-Jul-2038	89,000,000	4,601,300	
16	5.430%	Intercompany LT Note 5.43%	24-Jul-2013	24-Jul-2043	95,000,000	5,158,500	
17	4.990%	Intercompany LT Note 4.99%	13-Feb-2014	15-Feb-2044	66,000,000	3,293,400	
18	4.350%	Intercompany LT Note 4.35%	18-Dec-2014	16-Dec-2044	82,000,000	3,567,000	
19	4.550%	Intercompany LT Note 4.55%	26-Jun-2015	26-Jun-2035	93,750,000	4,265,625	
20	4.990%	Intercompany LT Note 4.99%	26-Jun-2015	26-Jun-2045	93,750,000	4,678,125	
21	4.7006%	Intercompany LT Note 4.7006%	30-Dec-2015	30-Dec-2045	91,000,000	4,277,546	
22	4.364%	Intercompany LT Note 4.364%	30-Dec-2016	30-Dec-2046	210,000,000	9,164,400	
23	**4.160%**	Planned Issuance I/C LT Note (1)	1-Jun-2017	1-Jun-2047	40,000,000	1,664,000	
24	**4.110%**	Planned Issuance I/C LT Note (2)	1-Aug-2017	1-Aug-2047	162,500,000	6,678,750	
25	**4.750%**	Planned Issuance I/C LT Note (3)	1-Jun-2018	1-Jun-2048	330,000,000	15,675,000	
26		Total Long-Term Debt Per Balance Sheet			$ 2,024,500,000	$ 100,130,596	
27		Less: Current Portion Long-Term Debt			$ (41,000,000)		
28		Subtotal			$ 1,983,500,000		
29		Account Description					
30		Unamortized Premium/Discount on Long-Term Debt			(176,623)	-	
31		Unamortized Call Premiums on Early Redemption of Long Term Debt			(171,297)	-	
32		Amortization of Debt Discount and Expense			-	17,508	
33		Amortization of Call Premiums on Early Redemption of Long Term Debt			-	420,760	
34							
35		Total Long-Term Debt Used to Calculate Weighted Cost			1,983,152,080	100,568,864	**5.07%**

(1) Reflects the Company's planning assumptions. Actual 30-year debt issuance in the amount of $40.0 million occurred on June 30, 2017, with a coupon rate of 4.16%.
(2) Reflects the Company's planning assumptions. Actual 30-year debt issuance in the amount of $162.5 million is expected to occur during late September 2017.
(3) Reflects the Company's planning assumptions.

Northern Indiana Public Service Company

Average Rate Base and Capital Structure

Line No.	Rate Base	Forecasted As of December 31, 2017	Forecasted As of December 31, 2018	Pre-tax WACC	Return on Rate Base	Forecasted 2017/2018 Average	Pre-tax WACC	Return on Rate Base
1	Utility Plant	$ 2,496,583,833	$ 2,786,565,771			$ 2,641,574,802		
2	Common Allocated	126,768,261	132,555,562			129,661,911		
3	Total Utility Plant	$ 2,623,352,093	$ 2,919,121,333			$ 2,771,236,713		
4	Accumulated Depr. and Amort.	$ (1,465,280,107)	$ (1,452,276,610)			$ (1,458,778,358)		
5	Common Allocated	(93,758,861)	(99,489,869)			(96,624,365)		
6	Total Accum. Depr. and Amort.	$ (1,559,038,968)	$ (1,551,766,479)			$ (1,555,402,724)		
7	Net Utility Plant	$ 1,064,313,125	$ 1,367,354,854			$ 1,215,833,990		
8	TDSIC Regulatory Asset	$ 12,048,383	$ 20,763,169			$ 16,405,776		
9	Materials & Supplies	11,714,194	12,768,471			12,241,332		
10	Gas Stored Underground - Current A/C 164 (13-mo avg)	77,098,067	74,357,935			75,728,001		
11	Gas Stored Underground - Non-Current A/C 117	7,574,058	7,574,058			7,574,058		
12	**Total Rate Base**	$ 1,172,747,827	$ 1,482,818,488	7.741%	$ 114,780,370	$ 1,327,783,158	7.383%	$ 98,024,304

Average Rate Base	$ (12,000,803)
Average Capital Structure	$ (4,755,264)
Total Averaging versus Year-end	$ (16,756,067)

Line No.	Capital Structure	Budget 2017	Budget 2018	Cost	Budget 2018 Pre-tax WACC	Budget 2017/2018 Average	Cost	Budget 2018 Pre-tax WACC
1	Common Equity	$ 2,513,565,239	$ 2,724,766,793	9.30%	5.907%	$ 2,619,166,016	9.30%	5.678%
2	Long-Term Debt	1,693,735,260	1,983,152,080	5.25%	1.773%	1,838,443,670	5.25%	1.643%
3	Customer Deposits	71,702,891	72,006,141	4.76%	0.058%	71,854,516	4.76%	0.058%
4	Deferred Income Taxes	1,155,107,496	1,316,021,409	0.00%	0.000%	1,235,564,453	0.00%	0.000%
5	Post-Retirement Liability	94,676,968	80,796,713	0.00%	0.000%	87,736,841	0.00%	0.000%
6	Prepaid Pension Asset	(267,282,632)	(304,668,632)	0.00%	0.000%	(285,975,632)	0.00%	0.000%
7	Post-1970 ITC	2,655,880	2,273,880	7.59%	0.003%	2,464,880	7.63%	0.003%
8	**Totals**	$ 5,264,161,102	$ 5,874,348,384		7.741%	$ 5,569,254,743		7.383%

Sources: Petitioner's Exhibit No. 3
Attachment 3-E
Attachment 3-F
Cap Sch 1
Rate Base Sch 1
Schedule No. 1

Northern Indiana Public Service Company

Electric Utilities
(Valuation Metrics)

Line	Company	Price to Earnings (P/E) Ratio [1]																
		16-Year Average	2017 [2]	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	ALLETE	17.45	23.80	18.63	15.06	17.23	18.59	15.88	14.66	15.98	16.08	13.95	14.78	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	15.95	23.10	22.30	18.07	16.60	15.28	14.50	14.45	12.47	13.86	13.43	15.08	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	15.56	22.40	18.29	17.55	16.71	16.52	13.35	11.93	9.66	9.26	14.21	17.45	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	13.89	20.10	15.16	15.77	15.88	14.49	13.77	11.92	13.42	10.03	13.06	16.27	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	28.48	24.00	20.49	40.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	18.34	29.40	18.80	17.60	17.28	14.64	19.30	14.08	12.74	11.42	14.97	30.88	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.45	16.20	22.29	16.14	19.03	18.24	17.13	31.13	18.10	9.93	N/A	15.02	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	14.84	21.60	21.91	18.10	16.96	18.75	14.85	14.58	13.78	11.81	11.27	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	16.69	21.30	20.94	18.29	17.30	16.32	15.07	13.62	12.46	13.56	10.87	26.84	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	15.31	21.20	18.80	15.59	15.90	14.72	15.39	15.08	13.30	12.55	12.29	13.78	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	17.99	21.30	21.33	22.14	22.97	19.25	18.91	17.27	14.35	12.74	13.78	20.63	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	15.40	20.10	18.97	18.11	14.91	17.92	14.89	13.51	12.27	10.41	14.81	18.27	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	16.89	20.30	21.25	18.22	17.91	17.45	17.46	13.76	12.69	13.32	17.28	16.13	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	13.72	14.00	17.92	14.77	13.05	12.70	9.71	11.81	10.32	9.72	12.36	16.03	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	17.16	22.60	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	13.57	16.90	10.92	12.53	12.89	13.21	11.22	9.06	11.57	11.98	16.56	19.30	14.28	16.28	15.09	13.77	11.53
17	Eversource Energy	17.61	20.10	18.69	18.11	17.92	16.94	19.86	15.35	13.42	11.96	13.66	18.75	27.07	19.76	20.77	13.35	16.07
18	Exelon Corp.	14.52	15.40	18.68	12.58	16.02	13.43	19.08	11.30	10.97	11.49	17.97	18.22	16.53	15.37	12.99	11.77	10.46
19	FirstEnergy Corp.	17.33	12.10	15.91	17.02	39.79	13.06	21.10	22.39	11.75	13.02	15.64	15.59	14.23	16.07	14.13	22.47	12.95
20	Fortis Inc.	19.25	17.30	21.60	18.00	24.29	19.97	20.12	18.79	18.22	16.36	17.48	21.14	17.68	N/A	N/A	N/A	N/A
21	Great Plains Energy	15.52	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
22	Hawaiian Elec.	18.02	21.20	13.56	20.40	15.88	16.21	15.81	17.09	18.59	19.79	23.16	21.57	20.33	18.27	19.18	13.76	13.47
23	IDACORP, Inc.	15.90	20.30	19.06	16.22	14.67	13.45	12.41	11.54	11.83	10.20	13.93	18.19	15.07	16.70	15.49	26.51	18.88
24	MGE Energy	18.10	28.00	24.90	20.28	17.19	17.01	17.23	15.82	14.98	15.14	14.22	15.01	15.88	22.40	17.98	17.55	15.96
25	NextEra Energy, Inc.	15.90	22.70	20.71	16.89	17.25	16.57	14.43	11.54	10.83	13.42	14.48	18.90	13.65	17.88	13.65	17.88	13.60
26	NorthWestern Corp	16.61	15.90	17.19	18.36	16.24	16.86	15.72	12.62	12.90	11.54	13.87	21.74	25.95	17.09	N/A	N/A	N/A
27	OGE Energy	14.87	18.00	17.68	17.69	18.27	17.69	15.16	14.37	13.31	10.83	12.41	13.75	13.68	14.95	14.13	11.84	14.12
28	Otter Tail Corp.	24.49	25.00	20.19	18.20	18.84	21.12	21.75	47.48	55.10	31.16	30.06	19.02	17.35	15.40	17.34	17.77	16.01
29	PG&E Corp.	16.36	11.80	21.13	26.40	15.00	23.67	20.70	15.46	15.80	13.01	12.08	16.85	14.84	15.37	13.81	9.50	N/A
30	Pinnacle West Capital	15.53	19.20	18.74	16.04	15.89	15.27	14.35	14.60	12.57	13.74	16.07	14.93	13.69	19.24	15.80	13.96	14.43
31	PNM Resources	17.76	19.90	19.83	16.85	18.68	16.13	14.97	14.53	14.05	18.09	N/A	35.65	15.57	17.38	15.02	14.73	15.08
32	Portland General	15.91	17.60	19.06	17.71	15.32	16.88	13.98	12.37	12.00	14.40	16.30	11.94	23.35	N/A	N/A	N/A	N/A
33	PPL Corp.	14.28	17.50	12.83	13.92	14.08	12.84	10.88	10.52	11.93	25.69	17.64	17.26	14.10	15.12	12.51	10.59	11.06
34	Public Serv. Enterprise	13.38	17.10	15.35	12.41	12.61	13.50	12.79	10.40	10.37	10.04	13.65	16.54	17.81	16.74	14.26	10.58	10.00
35	SCANA Corp.	13.73	10.80	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
36	Sempra Energy	15.03	30.60	24.37	19.73	21.87	19.68	14.89	11.77	12.60	10.09	11.80	14.01	11.50	11.79	8.65	8.96	8.19
37	Southern Co.	15.79	17.30	17.76	15.85	16.04	16.19	16.97	15.85	14.90	13.52	16.13	15.95	16.19	15.92	14.68	14.83	14.63
38	Vectren Corp.	17.15	25.20	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
39	WEC Energy Group	16.00	21.10	19.95	21.33	17.71	16.50	15.76	14.25	14.01	13.35	14.77	16.47	15.97	14.46	17.51	12.43	10.46
40	Westar Energy	15.52	22.50	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
41	Xcel Energy Inc.	16.78	20.60	18.48	16.54	15.44	15.04	14.82	14.24	14.13	12.66	13.69	16.65	14.80	15.36	13.65	11.62	40.80
42	Average	16.26	20.14	18.97	18.00	17.39	16.38	15.69	15.30	14.28	13.56	15.18	17.74	16.47	16.52	16.57	13.70	14.31
43	Median	15.59	20.30	18.80	17.71	16.54	16.27	15.04	14.31	12.91	12.82	14.21	16.41	15.88	15.92	15.29	13.60	13.47

Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, November 17, and December 15, 2017 and January 26, 2018.

Northern Indiana Public Service Company

Electric Utilities
(Valuation Metrics)

Line	Company	16-Year Average (1)	2017 [2/a] (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)	2005 (14)	2004 (15)	2003 (16)	2002 (17)
		Market Price to Cash Flow (MP/CF) Ratio [1]																
1	ALLETE	9.27	9.78	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	7.35	10.68	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	6.84	8.43	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.14	8.85	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	9.72	9.30	8.56	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	6.46	8.97	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.52	8.90	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	4.84	7.05	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	5.44	8.67	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.15	9.51	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.30	11.17	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.03	8.71	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.57	8.16	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	5.25	6.52	6.77	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.73	8.68	7.46	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Entergy Corp.	5.73	4.17	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	6.50	10.32	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Exelon Corp.	6.21	4.65	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
19	FirstEnergy Corp.	6.20	4.78	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
20	Fortis Inc.	8.19	8.12	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
21	Great Plains Energy	6.89	14.60	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
22	Hawaiian Elec.	7.98	10.06	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
23	IDACORP, Inc.	7.92	11.99	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
24	MGE Energy	10.86	17.20	15.66	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
25	NextEra Energy, Inc.	7.21	9.58	9.23	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
26	NorthWestern Corp	7.53	8.77	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
27	OGE Energy	7.66	10.64	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
28	Otter Tail Corp.	9.15	11.89	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
29	PG&E Corp.	6.19	6.12	7.26	7.24	5.65	6.84	5.86	5.32	5.42	4.71	4.61	5.84	5.28	5.07	5.13	4.05	14.69
30	Pinnacle West Capital	5.97	8.46	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
31	PNM Resources	6.68	7.48	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
32	Portland General	5.62	7.46	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
33	PPL Corp.	7.50	10.41	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
34	Public Serv. Enterprise	7.28	8.17	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
35	SCANA Corp.	7.07	7.84	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
36	Sempra Energy	7.66	11.72	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
37	Southern Co.	8.22	7.89	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
38	Vectren Corp.	7.08	10.38	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
39	WEC Energy Group	8.26	11.17	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
40	Westar Energy	6.91	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
41	Xcel Energy Inc.	6.38	8.62	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
42	Average	7.09	9.19	8.65	8.05	7.85	7.39	6.98	6.53	6.00	5.59	6.95	7.72	7.12	7.13	6.77	5.70	5.85
43	Median	6.96	8.85	8.57	7.93	7.54	7.12	6.85	6.27	5.80	5.35	7.09	7.76	7.37	7.04	6.71	5.62	5.52

Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, November 17, and December 15, 2017 and January 26, 2018.
Note:
[a] Based on the average of the high and low price for 2017 and the projected 2017 Cash Flow per share, published in The Value Line Investment Survey, November 17, and December 15, 2017 and January 26, 2018.

Northern Indiana Public Service Company

Electric Utilities
(Valuation Metrics)

		Market Price to Book Value (MP/BV) Ratio [1]													
Line	Company	13-Year Average (1)	2017 [2/b] (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)	2005 (14)
1	ALLETE	1.58	1.78	1.53	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22
2	Alliant Energy	1.62	2.18	2.17	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33
3	Ameren Corp.	1.36	1.92	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68
4	American Electric Power	1.50	1.90	1.81	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57
5	Avangrid, Inc.	0.82	0.91	0.83	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.27	1.72	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13
7	Black Hills	1.47	2.03	1.94	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63
8	CenterPoint Energy	2.46	3.29	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06
9	CMS Energy Corp.	1.87	2.83	2.72	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32
10	Consol. Edison	1.39	1.64	1.58	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52
11	Dominion Resources	2.67	3.04	3.15	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50
12	DTE Energy	1.41	2.02	1.82	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39
13	Duke Energy	1.17	1.40	1.35	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A
14	Edison Int'l	1.62	1.90	1.92	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93
15	El Paso Electric	1.54	1.92	1.68	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76
16	Entergy Corp.	1.71	1.66	1.67	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01
17	Eversource Energy	1.39	1.70	1.64	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05
18	Exelon Corp.	2.37	1.29	1.20	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60
19	FirstEnergy Corp.	1.69	1.99	2.37	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64
20	Fortis Inc.	1.49	1.34	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A
21	Great Plains Energy	1.21	1.31	1.17	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86
22	Hawaiian Elec.	1.61	1.83	1.63	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78
23	IDACORP, Inc.	1.34	1.99	1.76	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22
24	MGE Energy	2.00	2.93	2.60	2.10	2.10	2.06	1.92	1.75	1.65	1.54	1.62	1.75	1.83	2.09
25	NextEra Energy, Inc.	1.97	2.51	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
26	NorthWestern Corp	1.45	1.67	1.68	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42
27	OGE Energy	1.85	1.97	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80
28	Otter Tail Corp.	1.72	2.39	1.90	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
29	PG&E Corp.	1.58	1.52	1.69	1.57	1.39	1.38	1.41	1.46	1.56	1.41	1.50	1.94	1.83	1.84
30	Pinnacle West Capital	1.35	1.88	1.72	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25
31	PNM Resources	1.12	1.82	1.56	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45
32	Portland General	1.26	1.70	1.56	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A
33	PPL Corp.	2.17	2.42	2.46	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50
34	Public Serv. Enterprise	1.92	1.78	1.67	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45
35	SCANA Corp.	1.49	1.41	1.74	1.47	1.48	1.48	1.48	1.36	1.33	1.20	1.45	1.62	1.64	1.72
36	Sempra Energy	1.75	2.15	2.00	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.73
37	Southern Co.	2.06	2.10	2.01	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35
38	Vectren Corp.	1.84	2.75	2.29	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82
39	WEC Energy Group	1.86	2.16	2.09	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62
40	Westar Energy	1.37	1.90	1.95	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41
41	Xcel Energy Inc.	1.51	2.06	1.88	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
42	Average	1.65	1.97	1.85	1.67	1.68	1.60	1.51	1.43	1.35	1.25	1.63	1.90	1.78	1.80
43	Median	1.55	1.90	1.74	1.57	1.53	1.49	1.47	1.37	1.31	1.15	1.48	1.71	1.71	1.73

Sources:
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Notes:
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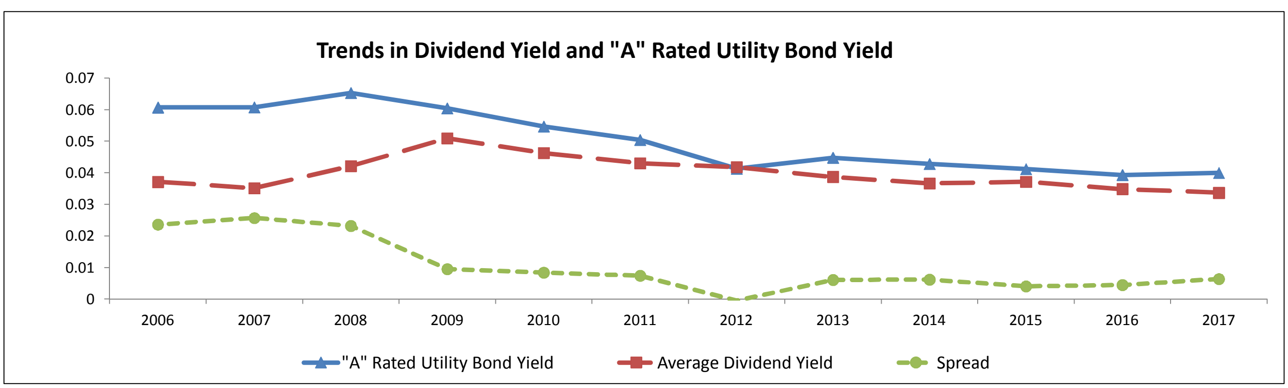
Northern Indiana Public Service Company

Electric Utilities
(Valuation Metrics)

Line	Company	12-Year Average (1)	2017 [2/a] (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)
		Dividend Yield[1]												
1	ALLETE	4.11%	3.00%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.16%
2	Alliant Energy	3.86%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.73%	4.10%	3.13%	3.32%
3	Ameren Corp.	4.76%	3.06%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	4.20%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5	Avangrid, Inc.	4.07%	3.87%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	3.83%	3.16%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.89%	2.81%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.79%
8	CenterPoint Energy	4.53%	3.89%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%
9	CMS Energy Corp.	3.35%	2.89%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A
10	Consol. Edison	4.59%	3.45%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
11	Dominion Resources	3.93%	3.97%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%
12	DTE Energy	4.31%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.81%	4.21%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Int'l	2.97%	3.05%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.66%	3.95%	2.69%	2.21%	2.58%
15	El Paso Electric	2.77%	2.49%	2.75%	3.13%	2.97%	2.99%	2.97%	2.11%	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	4.10%	4.44%	4.55%	4.59%	4.47%	5.07%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.36%	3.20%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Exelon Corp.	3.96%	3.50%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
19	FirstEnergy Corp.	4.37%	4.71%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
20	Fortis Inc.	3.65%	3.70%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
21	Great Plains Energy	4.52%	3.59%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
22	Hawaiian Elec.	4.83%	3.52%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
23	IDACORP, Inc.	3.32%	2.52%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%
24	MGE Energy	3.37%	1.95%	2.23%	2.78%	2.78%	2.91%	3.25%	3.63%	3.98%	4.36%	4.24%	4.14%	4.25%
25	NextEra Energy, Inc.	3.27%	2.87%	2.91%	3.01%	3.00%	3.30%	3.65%	3.96%	3.90%	3.55%	3.02%	2.65%	3.40%
26	NorthWestern Corp	4.16%	3.49%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
27	OGE Energy	3.59%	3.62%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
28	Otter Tail Corp.	4.36%	3.03%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
29	PG&E Corp.	3.80%	3.67%	3.22%	3.45%	3.96%	4.20%	4.25%	4.24%	4.08%	4.26%	4.01%	3.07%	3.22%
30	Pinnacle West Capital	4.71%	3.21%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.76%	6.17%	4.75%	4.67%
31	PNM Resources	3.36%	2.50%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
32	Portland General	3.79%	2.90%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
33	PPL Corp.	4.28%	4.28%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
34	Public Serv. Enterprise	3.87%	3.73%	3.78%	3.81%	3.92%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
35	SCANA Corp.	4.39%	4.25%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	5.67%	4.92%	4.29%	4.21%
36	Sempra Energy	2.92%	2.95%	2.92%	2.71%	2.61%	3.03%	3.71%	3.65%	3.08%	3.23%	2.62%	2.08%	2.47%
37	Southern Co.	4.68%	4.59%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
38	Vectren Corp.	4.38%	2.82%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
39	WEC Energy Group	3.04%	3.30%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
40	Westar Energy	4.37%	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
41	Xcel Energy Inc.	4.06%	3.12%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
42	**Average**	**3.98%**	**3.37%**	**3.49%**	**3.71%**	**3.66%**	**3.87%**	**4.18%**	**4.30%**	**4.63%**	**5.09%**	**4.21%**	**3.51%**	**3.71%**
43	Median	3.97%	3.21%	3.43%	3.71%	3.76%	3.85%	4.18%	4.42%	4.76%	5.14%	4.21%	3.40%	3.60%
44	**"A" Rated Utility Bond Yield[3]**	**5.01%**	**4.00%**	**3.93%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.46%**	**6.04%**	**6.53%**	**6.07%**	**6.07%**
45	**Spread**	**1.03%**	**0.63%**	**0.44%**	**0.40%**	**0.61%**	**0.61%**	**-0.05%**	**0.74%**	**0.84%**	**0.95%**	**2.32%**	**2.57%**	**2.36%**



Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, November 17, and December 15, 2017 and January 26, 2018.
[3] www.moodys.com, Bond Yields and Key Indicators, through December 27, 2017.
Notes:
[a] Based on the average of the high and low price for 2017 and the projected 2017 Dividends Declared per share, published in the Value Line Investment Survey, November 17, and December 15, 2017 and January 26, 2018.

Northern Indiana Public Service Company

Electric Utilities
(Valuation Metrics)

Line	Company	Dividend per Share[1]												
		12-Year Average	2017[2]	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	ALLETE	1.84	2.14	2.08	2.02	1.96	1.90	1.84	1.78	1.76	1.76	1.72	1.64	1.45
2	Alliant Energy	0.89	1.26	1.18	1.10	1.02	0.94	0.90	0.85	0.79	0.75	0.70	0.64	0.58
3	Ameren Corp.	1.85	1.78	1.72	1.66	1.61	1.60	1.60	1.56	1.54	1.54	2.54	2.54	2.54
4	American Electric Power	1.88	2.39	2.27	2.15	2.03	1.95	1.88	1.85	1.71	1.64	1.64	1.58	1.50
5	Avangrid, Inc.	1.73	1.73	1.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.04	1.43	1.37	1.32	1.27	1.22	1.16	1.10	1.00	0.81	0.69	0.60	0.57
7	Black Hills	1.51	1.81	1.68	1.62	1.56	1.52	1.48	1.46	1.44	1.42	1.40	1.37	1.32
8	CenterPoint Energy	0.84	1.07	1.03	0.99	0.95	0.83	0.81	0.79	0.78	0.76	0.73	0.68	0.60
9	CMS Energy Corp.	0.85	1.33	1.24	1.16	1.08	1.02	0.96	0.84	0.66	0.50	0.36	0.20	N/A
10	Consol. Edison	2.46	2.76	2.68	2.60	2.52	2.46	2.42	2.40	2.38	2.36	2.34	2.32	2.30
11	Dominion Resources	2.10	3.04	2.80	2.59	2.40	2.25	2.11	1.97	1.83	1.75	1.58	1.46	1.38
12	DTE Energy	2.49	3.36	3.06	2.84	2.69	2.59	2.42	2.32	2.18	2.12	2.12	2.12	2.08
13	Duke Energy	3.03	3.49	3.36	3.24	3.15	3.09	3.03	2.97	2.91	2.82	2.70	2.58	N/A
14	Edison Int'l	1.45	2.23	1.98	1.73	1.48	1.37	1.31	1.29	1.27	1.25	1.23	1.18	1.10
15	El Paso Electric	1.07	1.32	1.23	1.17	1.11	1.05	0.97	0.66	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	3.13	3.50	3.42	3.34	3.32	3.32	3.32	3.32	3.24	3.00	3.00	2.58	2.16
17	Eversource Energy	1.26	1.90	1.78	1.67	1.57	1.47	1.32	1.10	1.03	0.95	0.83	0.78	0.73
18	Exelon Corp.	1.70	1.31	1.26	1.24	1.24	1.46	2.10	2.10	2.10	2.10	2.05	1.82	1.64
19	FirstEnergy Corp.	1.86	1.44	1.44	1.44	1.44	1.65	2.20	2.20	2.20	2.20	2.20	2.05	1.85
20	Fortis Inc.	1.18	1.65	1.55	1.43	1.30	1.25	1.21	1.17	1.12	1.04	1.00	0.82	0.67
21	Great Plains Energy	1.11	1.10	1.06	1.00	0.94	0.88	0.86	0.84	0.83	0.83	1.66	1.66	1.66
22	Hawaiian Elec.	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
23	IDACORP, Inc.	1.51	2.24	2.08	1.92	1.76	1.57	1.37	1.20	1.20	1.20	1.20	1.20	1.20
24	MGE Energy	1.05	1.26	1.21	1.16	1.11	1.07	1.04	1.01	0.99	0.97	0.96	0.94	0.93
25	NextEra Energy, Inc.	2.45	3.93	3.48	3.08	2.90	2.64	2.40	2.20	2.00	1.89	1.78	1.64	1.50
26	NorthWestern Corp	1.55	2.10	2.00	1.92	1.60	1.52	1.48	1.44	1.36	1.34	1.32	1.28	1.24
27	OGE Energy	0.86	1.27	1.16	1.05	0.95	0.85	0.80	0.76	0.73	0.71	0.70	0.68	0.67
28	Otter Tail Corp.	1.20	1.28	1.25	1.23	1.21	1.19	1.19	1.19	1.19	1.19	1.19	1.17	1.15
29	PG&E Corp.	1.74	2.08	1.93	1.82	1.82	1.82	1.82	1.82	1.82	1.68	1.56	1.44	1.32
30	Pinnacle West Capital	2.29	2.70	2.56	2.44	2.33	2.23	2.67	2.10	2.10	2.10	2.10	2.10	2.03
31	PNM Resources	0.71	0.99	0.88	0.80	0.76	0.68	0.58	0.50	0.50	0.50	0.61	0.91	0.86
32	Portland General	1.06	1.34	1.26	1.18	1.12	1.10	1.08	1.06	1.04	1.01	0.97	0.93	0.68
33	PPL Corp.	1.40	1.58	1.52	1.50	1.49	1.47	1.44	1.40	1.40	1.38	1.34	1.22	1.10
34	Public Serv. Enterprise	1.41	1.72	1.64	1.56	1.48	1.44	1.42	1.37	1.37	1.33	1.29	1.17	1.14
35	SCANA Corp.	2.00	2.45	2.30	2.18	2.10	2.03	1.98	1.94	1.90	1.88	1.84	1.76	1.68
36	Sempra Energy	2.13	3.29	3.02	2.80	2.64	2.52	2.40	1.92	1.56	1.56	1.37	1.24	1.20
37	Southern Co.	1.91	2.30	2.22	2.15	2.08	2.01	1.94	1.87	1.80	1.73	1.66	1.60	1.54
38	Vectren Corp.	1.42	1.71	1.62	1.54	1.46	1.43	1.41	1.39	1.37	1.35	1.31	1.27	1.23
39	WEC Energy Group	1.17	2.08	1.98	1.74	1.56	1.45	1.20	1.04	0.80	0.68	0.54	0.50	0.46
40	Westar Energy	1.30	1.60	1.52	1.44	1.40	1.36	1.32	1.28	1.24	1.20	1.16	1.08	0.98
41	Xcel Energy Inc.	1.10	1.44	1.36	1.28	1.20	1.11	1.07	1.03	1.00	0.97	0.94	0.91	0.88
42	**Average**	**1.58**	**1.97**	**1.86**	**1.76**	**1.67**	**1.61**	**1.59**	**1.51**	**1.47**	**1.42**	**1.42**	**1.36**	**1.27**
43	**Industry CAGR**	**4.03%**												

Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, November 17, and December 15, 2017 and January 26, 2018.
Notes:
CAGR = Compound Annual Growth Rate

Northern Indiana Public Service Company

Electric Utilities
(Valuation Metrics)

		Cash Flow / Capital Spending		
Line	Company	2017 (1)	2018 (2)	3 - 5 yr Projection (3)
1	ALLETE	1.59x	1.03x	2.57x
2	Alliant Energy	0.66x	0.66x	0.94x
3	Ameren Corp.	0.76x	0.82x	1.03x
4	American Electric Power	0.67x	0.66x	0.76x
5	Avangrid, Inc.	0.73x	0.81x	1.04x
6	Avista Corp.	0.82x	0.87x	1.04x
7	Black Hills	1.11x	1.17x	1.26x
8	CenterPoint Energy	1.11x	1.23x	1.50x
9	CMS Energy Corp.	0.81x	0.85x	1.12x
10	Consol. Edison	0.71x	0.71x	0.87x
11	Dominion Resources	0.75x	0.96x	1.03x
12	DTE Energy	0.75x	0.87x	1.05x
13	Duke Energy	0.78x	0.71x	1.00x
14	Edison Int'l	0.84x	0.75x	0.84x
15	El Paso Electric	0.99x	1.15x	1.04x
16	Entergy Corp.	0.90x	0.85x	0.96x
17	Eversource Energy	0.68x	0.71x	1.43x
18	Exelon Corp.	0.93x	1.00x	1.12x
19	FirstEnergy Corp.	0.96x	1.08x	1.29x
20	Fortis Inc.	0.74x	0.86x	1.30x
21	Great Plains Energy	1.05x	1.40x	2.50x
22	Hawaiian Elec.	1.03x	0.92x	1.06x
23	IDACORP, Inc.	1.15x	1.18x	1.30x
24	MGE Energy	1.53x	1.54x	1.57x
25	NextEra Energy, Inc.	0.93x	0.97x	1.03x
26	NorthWestern Corp	1.12x	1.08x	1.22x
27	OGE Energy	0.69x	1.21x	2.43x
28	Otter Tail Corp.	0.97x	0.84x	2.33x
29	PG&E Corp.	0.80x	0.82x	0.93x
30	Pinnacle West Capital	0.79x	0.99x	1.23x
31	PNM Resources	0.79x	1.10x	1.29x
32	Portland General	0.96x	1.25x	2.38x
33	PPL Corp.	0.73x	0.79x	1.20x
34	Public Serv. Enterprise	0.62x	0.91x	1.33x
35	SCANA Corp.	0.64x	1.23x	1.34x
36	Sempra Energy	0.80x	1.11x	1.33x
37	Southern Co.	0.72x	0.81x	1.00x
38	Vectren Corp.	0.84x	0.83x	0.86x
39	WEC Energy Group	0.80x	0.93x	1.17x
40	Westar Energy	0.87x	0.78x	0.78x
41	Xcel Energy Inc.	0.76x	0.69x	1.17x
42	Average	0.88x	0.95x	1.28x
43	Median	0.80x	0.91x	1.17x

Sources:
The Value Line Investment Survey Investment Analyzer Software, downloaded on November 7, 2017.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

Northern Indiana Public Service Company

Natural Gas Utilities
(Valuation Metrics)

Price to Earnings (P/E) Ratio [1]

Line	Company	12-Year Average (1)	2017 [2] (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)
1	Atmos Energy	16.09	23.80	20.80	17.50	16.09	15.87	15.93	14.36	13.21	12.54	13.59	15.87	13.52
2	Chesapeake Utilities	17.20	28.00	21.77	19.15	17.70	15.62	14.81	14.16	12.21	14.20	14.15	16.72	17.85
3	New Jersey Resources	16.91	23.80	21.25	16.61	11.73	15.98	16.83	16.76	14.98	14.93	12.27	21.61	16.13
4	NiSource Inc.	20.33	24.90	23.18	37.34	22.74	18.89	17.87	19.36	15.33	14.34	12.07	18.82	19.16
5	Northwest Nat. Gas	20.20	28.80	26.92	23.69	20.69	19.38	21.08	19.02	16.97	15.17	18.08	16.74	15.85
6	ONE Gas Inc.	21.26	24.70	22.74	19.79	17.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	17.88	25.90	21.71	17.95	18.03	18.90	16.94	18.48	16.81	14.96	15.90	17.18	11.86
8	Southwest Gas	17.29	22.50	21.64	19.35	17.86	15.76	15.00	15.69	13.97	12.20	20.27	17.26	15.94
9	Spire Inc.	16.22	20.70	19.61	16.49	19.80	21.25	14.46	13.05	13.74	13.39	14.31	14.19	13.60
10	UGI Corp.	15.20	19.20	19.33	17.71	15.81	15.44	16.38	15.03	10.86	10.30	13.30	15.14	13.97
11	WGL Holdings Inc.	16.64	24.60	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12	Average	17.41	24.26	21.73	20.23	17.58	17.53	16.46	16.29	14.32	13.46	14.76	16.91	15.33
13	Median	17.17	24.60	21.64	17.95	17.83	17.11	16.15	16.22	14.48	13.80	13.91	16.73	15.66

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	12-Year Average (1)	2017 [2/a] (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)
14	Atmos Energy	7.97	12.39	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
15	Chesapeake Utilities	9.25	14.97	12.06	10.16	9.25	8.12	7.46	7.35	6.36	9.48	7.88	8.58	9.40
16	New Jersey Resources	11.85	14.76	13.94	11.71	8.95	11.29	12.29	12.71	11.32	11.34	9.15	13.76	11.01
17	NiSource Inc.	7.54	10.10	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
18	Northwest Nat. Gas	9.25	11.58	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
19	ONE Gas Inc.	10.07	11.84	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	10.95	14.54	10.88	10.70	10.57	11.57	10.95	11.98	10.78	9.57	10.38	11.23	8.32
21	Southwest Gas	5.88	8.78	7.41	6.56	6.35	5.94	5.55	5.60	4.91	3.84	4.89	5.42	5.28
22	Spire Inc.	9.57	10.85	10.32	8.47	12.03	13.76	8.80	8.08	8.12	8.58	8.95	8.46	8.46
23	UGI Corp.	7.50	10.39	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
24	WGL Holdings Inc.	9.19	13.15	11.36	9.59	8.46	9.83	9.03	9.52	8.34	7.17	7.68	8.39	7.81
25	Average	8.89	12.12	10.69	9.45	9.04	9.21	8.47	8.55	7.60	7.38	7.62	8.64	7.88
26	Median	8.75	11.84	11.10	9.46	8.84	8.66	8.31	7.80	7.24	7.71	7.78	8.42	7.82

Market Price to Book Value (MP/BV) Ratio [1]

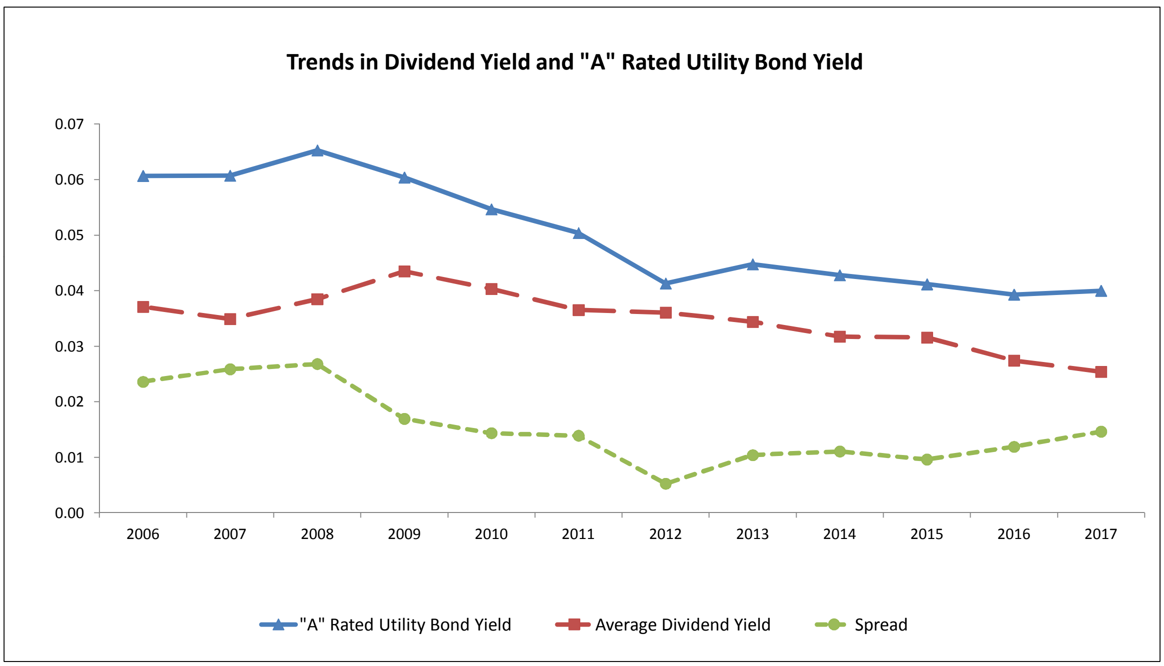
Line	Company	12-Year Average (1)	2017 [2/b] (2)	2016 (3)	2015 (4)	2014 (5)	2013 (6)	2012 (7)	2011 (8)	2010 (9)	2009 (10)	2008 (11)	2007 (12)	2006 (13)
27	Atmos Energy	1.48	2.22	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
28	Chesapeake Utilities	1.86	2.53	2.28	2.19	2.12	1.83	1.66	1.61	1.40	1.37	1.64	1.84	1.85
29	New Jersey Resources	2.22	2.75	2.52	2.28	2.13	2.05	2.33	2.31	2.09	2.16	1.92	2.17	2.01
30	NiSource Inc.	1.40	2.05	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
31	Northwest Nat. Gas	1.78	2.09	1.92	1.63	1.59	1.56	1.72	1.70	1.78	1.73	1.96	2.05	1.69
32	ONE Gas Inc.	1.47	1.88	1.67	1.26	1.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	2.12	2.19	1.79	1.77	2.07	2.27	2.21	2.59	2.38	1.95	2.08	2.21	1.93
34	Southwest Gas	1.53	2.13	1.96	1.68	1.68	1.61	1.51	1.43	1.24	0.97	1.20	1.46	1.46
35	Spire Inc.	1.55	1.72	1.64	1.44	1.33	1.34	1.51	1.46	1.39	1.68	1.71	1.66	1.71
36	UGI Corp.	1.99	2.71	2.41	2.29	1.97	1.69	1.45	1.75	1.55	1.66	2.01	2.16	2.21
37	WGL Holdings Inc.	1.82	2.73	2.45	2.15	1.69	1.71	1.66	1.63	1.50	1.45	1.59	1.64	1.59
38	Average	1.76	2.27	2.05	1.85	1.74	1.70	1.67	1.69	1.54	1.47	1.62	1.78	1.70
39	Median	1.72	2.19	1.96	1.77	1.69	1.65	1.58	1.62	1.45	1.56	1.67	1.75	1.70

Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, December 1, 2017.
Notes:
[a] Based on the average of the high and low price for 2017 and the projected 2017 Cash Flow per share, published in The Value Line Investment Survey, December 1, 2017.
[b] Based on the average of the high and low price for 2017 and the projected 2017 Book Value per share, published in The Value Line Investment Survey, December 1, 2017.

Northern Indiana Public Service Company

Natural Gas Utilities
(Valuation Metrics)

		Dividend Yield[1]												
Line	**Company**	**12-Year Average (1)**	**2017 [2/a] (2)**	**2016 (3)**	**2015 (4)**	**2014 (5)**	**2013 (6)**	**2012 (7)**	**2011 (8)**	**2010 (9)**	**2009 (10)**	**2008 (11)**	**2007 (12)**	**2006 (13)**
1	Atmos Energy	3.84%	2.20%	2.39%	2.88%	3.11%	3.53%	4.13%	4.19%	4.70%	5.34%	4.78%	4.16%	4.66%
2	Chesapeake Utilities	3.10%	1.74%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.27%	2.63%	2.86%	3.14%	3.50%	3.71%	3.38%	3.33%	3.69%	3.46%	3.35%	3.02%	3.19%
4	NiSource Inc.	4.25%	2.83%	2.76%	3.53%	2.69%	3.30%	3.84%	4.53%	5.66%	7.64%	5.69%	4.29%	4.21%
5	Northwest Nat. Gas	3.65%	3.01%	3.28%	4.01%	4.14%	4.22%	3.83%	3.85%	3.63%	3.73%	3.27%	3.12%	3.73%
6	ONE Gas Inc.	2.43%	2.41%	2.32%	2.71%	2.28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	3.23%	3.15%	3.64%	3.95%	3.40%	3.14%	3.22%	2.81%	3.00%	3.43%	3.08%	2.81%	3.15%
8	Southwest Gas	2.87%	2.49%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
9	Spire Inc.	3.92%	2.96%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.91%	3.94%	4.43%	4.34%
10	UGI Corp.	2.89%	1.98%	2.35%	2.50%	2.61%	3.01%	3.68%	3.30%	3.48%	3.23%	2.85%	2.69%	2.96%
11	WGL Holdings Inc.	3.91%	2.52%	2.94%	3.41%	4.24%	3.94%	3.89%	4.06%	4.37%	4.62%	4.22%	4.19%	4.48%
12	**Average**	**3.48%**	**2.54%**	**2.74%**	**3.16%**	**3.17%**	**3.44%**	**3.61%**	**3.65%**	**4.03%**	**4.35%**	**3.85%**	**3.49%**	**3.71%**
13	Median	3.40%	2.52%	2.76%	3.14%	3.11%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
14	**"A" Rated Utility Bond Yield[3]**	**5.01%**	**4.00%**	**3.93%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.46%**	**6.04%**	**6.53%**	**6.07%**	**6.07%**
15	**Spread**	**1.53%**	**1.46%**	**1.19%**	**0.96%**	**1.11%**	**1.04%**	**0.52%**	**1.39%**	**1.43%**	**1.69%**	**2.68%**	**2.59%**	**2.36%**



Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, December 1, 2017.
[3] www.moodys.com, Bond Yields and Key Indicators, through December 27, 2017.
Notes:
[a] Based on the average of the high and low price for 2017 and the projected 2017 Dividends Declared per share, published in The Value Line Investment Survey, December 1, 2017.

Northern Indiana Public Service Company

Natural Gas Utilities
(Valuation Metrics)

		Cash Flow / Capital Spending		
Line	Company	2017 (1)	2018 (2)	3 - 5 yr Projection (3)
1	Atmos Energy	0.59x	0.59x	0.59x
2	Chesapeake Utilities	0.46x	0.50x	0.64x
3	New Jersey Resources	1.19x	1.23x	1.27x
4	NiSource Inc.	0.54x	0.60x	0.62x
5	Northwest Nat. Gas	0.87x	0.80x	0.96x
6	ONE Gas Inc.	0.89x	0.93x	1.12x
7	South Jersey Inds.	0.71x	0.71x	0.63x
8	Southwest Gas	0.84x	0.89x	0.96x
9	Spire Inc.	0.92x	1.00x	1.15x
10	UGI Corp.	1.45x	1.54x	1.66x
11	WGL Holdings Inc.	0.54x	0.57x	0.56x
12	Average	0.82x	0.85x	0.92x
13	Median	0.84x	0.80x	0.96x

Sources:
The Value Line Investment Survey Investment Analyzer Software, downloaded on November 7, 2017.

Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

Northern Indiana Public Service Company

Natural Gas Utilities
(Valuation Metrics)

		Dividend per Share[1]												
Line	**Company**	**12-Year Average**	**2017[2]**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**
		(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**
1	Atmos Energy	1.43	1.80	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26
2	Chesapeake Utilities	0.97	1.26	1.19	1.12	1.07	1.01	0.96	0.91	0.87	0.83	0.81	0.78	0.77
3	New Jersey Resources	0.75	1.04	0.98	0.93	0.86	0.81	0.77	0.72	0.68	0.62	0.56	0.51	0.48
4	NiSource Inc.	0.89	0.70	0.64	0.83	1.02	0.98	0.94	0.92	0.92	0.92	0.92	0.92	0.92
5	Northwest Nat. Gas	1.71	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39
6	ONE Gas Inc.	1.28	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	0.79	1.10	1.06	1.02	0.96	0.90	0.83	0.75	0.68	0.61	0.56	0.51	0.46
8	Southwest Gas	1.25	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82
9	Spire Inc.	1.67	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40
10	UGI Corp.	0.69	0.96	0.93	0.89	0.79	0.74	0.71	0.68	0.60	0.52	0.50	0.48	0.46
11	WGL Holdings Inc.	1.62	2.02	1.93	1.83	1.72	1.66	1.59	1.55	1.50	1.47	1.41	1.37	1.35
12	**Average**	**1.17**	**1.50**	**1.40**	**1.34**	**1.25**	**1.24**	**1.18**	**1.13**	**1.08**	**1.04**	**1.00**	**0.96**	**0.93**
43	**Industry CAGR**	**4.45%**												

Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2017.
[2] The Value Line Investment Survey, December 1, 2017.
Notes:
CAGR = Compound Annual Growth Rate

Northern Indiana Public Service Company

Authorized ROE for Electric Utilities from 2016 to 2018

Line	Year	Company	State (1)	Rate Case Completion Date (2)	Authorized Return on Equity (3)
	2016				
1		Florida Power & Light Company	FL	Nov 29 2016	10.55%
2		Duke Energy Progress, LLC	SC	Dec 7 2016	10.10%
3		Upper Peninsula Power Company	MI	Sep 8 2016	10.00%
4		Wisconsin Power and Light Company	WI	Nov 18 2016	10.00%
5		Liberty Utilities (CalPeco Electric) LLC	CA	Dec 1 2016	10.00%
6		Northern Indiana Public Service Company	IN	Jul 18 2016	9.98%
7		Massachusetts Electric Company	MA	Sep 30 2016	9.90%
8		Virginia Electric and Power Company	NC	Dec 22 2016	9.90%
9		Indianapolis Power & Light Company	IN	Mar 16 2016	9.85%
10		Kingsport Power Company	TN	Aug 9 2016	9.85%
11		Fitchburg Gas and Electric Light Company	MA	Apr 29 2016	9.80%
12		Madison Gas and Electric Company	WI	Nov 9 2016	9.80%
13		Entergy Arkansas, Inc.	AR	Feb 23 2016	9.75%
14		Baltimore Gas and Electric Company	MD	Jun 3 2016	9.75%
15		Atlantic City Electric Company	NJ	Aug 24 2016	9.75%
16		Jersey Central Power & Light Company	NJ	Dec 12 2016	9.60%
17		Sierra Pacific Power Company	NV	Dec 22 2016	9.60%
18		Public Service Company of New Mexico	NM	Sep 28 2016	9.58%
19		Potomac Electric Power Company	MD	Nov 15 2016	9.55%
20		Avista Corporation	WA	Jan 6 2016	9.50%
21		UNS Electric, Inc.	AZ	Aug 18 2016	9.50%
22		PacifiCorp	WA	Sep 1 2016	9.50%
23		Public Service Company of Oklahoma	OK	Nov 10 2016	9.50%
24		Avista Corporation	ID	Dec 28 2016	9.50%
25		El Paso Electric Company	NM	Jun 8 2016	9.48%
26		Black Hills Colorado Electric Utility Company, LP	CO	Dec 19 2016	9.37%
27		United Illuminating Company	CT	Dec 14 2016	9.10%
28		New York State Electric & Gas Corporation	NY	Jun 15 2016	9.00%
29		Rochester Gas and Electric Corporation	NY	Jun 15 2016	9.00%
30		Emera Maine	ME	Dec 19 2016	9.00%
31		Commonwealth Edison Company	IL	Dec 6 2016	8.64%
32		Ameren Illinois Company	IL	Dec 6 2016	8.64%
33		Top Quartile			9.87% - 10.55%
34		Bottom 75%			8.64% - 9.86%
35		Median			9.60%
	2017				
36		Alaska Electric Light and Power Company	AK	Nov 15 2017	11.95%
37		Southern California Edison Company	CA	Oct 26 2017	10.30%
38		Gulf Power Company	FL	Apr 4 2017	10.25%
39		Pacific Gas and Electric Company	CA	Oct 26 2017	10.25%
40		Tampa Electric Company	FL	Nov 6 2017	10.25%
41		San Diego Gas & Electric Co.	CA	Oct 26 2017	10.20%
42		DTE Electric Company	MI	Jan 31 2017	10.10%
43		Consumers Energy Company	MI	Feb 28 2017	10.10%
44		Arizona Public Service Company	AZ	Aug 15 2017	10.00%
45		NSTAR Electric Company	MA	Nov 30 2017	10.00%
46		Western Massachusetts Electric Company	MA	Nov 30 2017	10.00%
47		Oncor Electric Delivery Company LLC	TX	Sep 28 2017	9.80%
48		Northern States Power Company - WI	WI	Dec 7 2017	9.80%
49		Tucson Electric Power Company	AZ	Feb 24 2017	9.75%
50		Delmarva Power & Light Company	DE	May 23 2017	9.70%
51		Kentucky Utilities Company	KY	Jun 22 2017	9.70%
52		Louisville Gas and Electric Company	KY	Jun 22 2017	9.70%
53		MDU Resources Group, Inc.	ND	Jun 16 2017	9.65%
54		El Paso Electric Company	TX	Dec 14 2017	9.65%
55		Electric Transmission Texas, LLC	TX	Jan 12 2017	9.60%
56		Delmarva Power & Light Company	MD	Feb 15 2017	9.60%
57		Rockland Electric Company	NJ	Feb 22 2017	9.60%
58		Atlantic City Electric Company	NJ	Sep 22 2017	9.60%
59		Southwestern Electric Power Company	TX	Dec 14 2017	9.60%
60		Public Service Company of New Mexico	NM	Dec 20 2017	9.58%
61		Oklahoma Gas and Electric Company	OK	Mar 20 2017	9.50%
62		Unitil Energy Systems, Inc.	NH	Apr 20 2017	9.50%
63		Kansas City Power & Light Company	MO	May 3 2017	9.50%
64		Oklahoma Gas and Electric Company	AR	May 18 2017	9.50%
65		Potomac Electric Power Company	DC	Jul 24 2017	9.50%
66		Potomac Electric Power Company	MD	Oct 20 2017	9.50%
67		Puget Sound Energy, Inc.	WA	Dec 5 2017	9.50%
68		Portland General Electric Company	OR	Dec 18 2017	9.50%
69		Avista Corporation	ID	Dec 28 2017	9.50%
70		MDU Resources Group, Inc.	WY	Jan 18 2017	9.45%
71		Otter Tail Power Company	MN	Mar 2 2017	9.41%
72		Liberty Utilities (Granite State Electric) Corp.	NH	Apr 12 2017	9.40%
73		Nevada Power Company	NV	Dec 29 2017	9.40%
74		Northern States Power Company - MN	MN	May 11 2017	9.20%
75		Green Mountain Power Corporation	VT	Dec 21 2017	9.10%
76		Consolidated Edison Company of New York, Inc.	NY	Jan 24 2017	9.00%
77		Commonwealth Edison Company	IL	Dec 6 2017	8.40%
78		Ameren Illinois Company	IL	Dec 6 2017	8.40%
79		Top Quartile			9.91% - 11.95%
80		Bottom 75%			8.40% - 9.90%
81		Median			9.60%
	2018				
82		Kentucky Power Company	KY	Jan 18 2018	9.70%
83		Interstate Power and Light Company	IA	Feb 2 2018	9.60%
84		Public Service Company of Oklahoma	OK	Jan 31 2018	9.30%
85		Top Quartile			9.66% - 9.70%
86		Bottom 75%			9.30% - 9.65%
87		Median			9.60%

Source and Note:
S&P Global Market Intelligence.
2018 data through February 14, 2018.

Northern Indiana Public Service Company

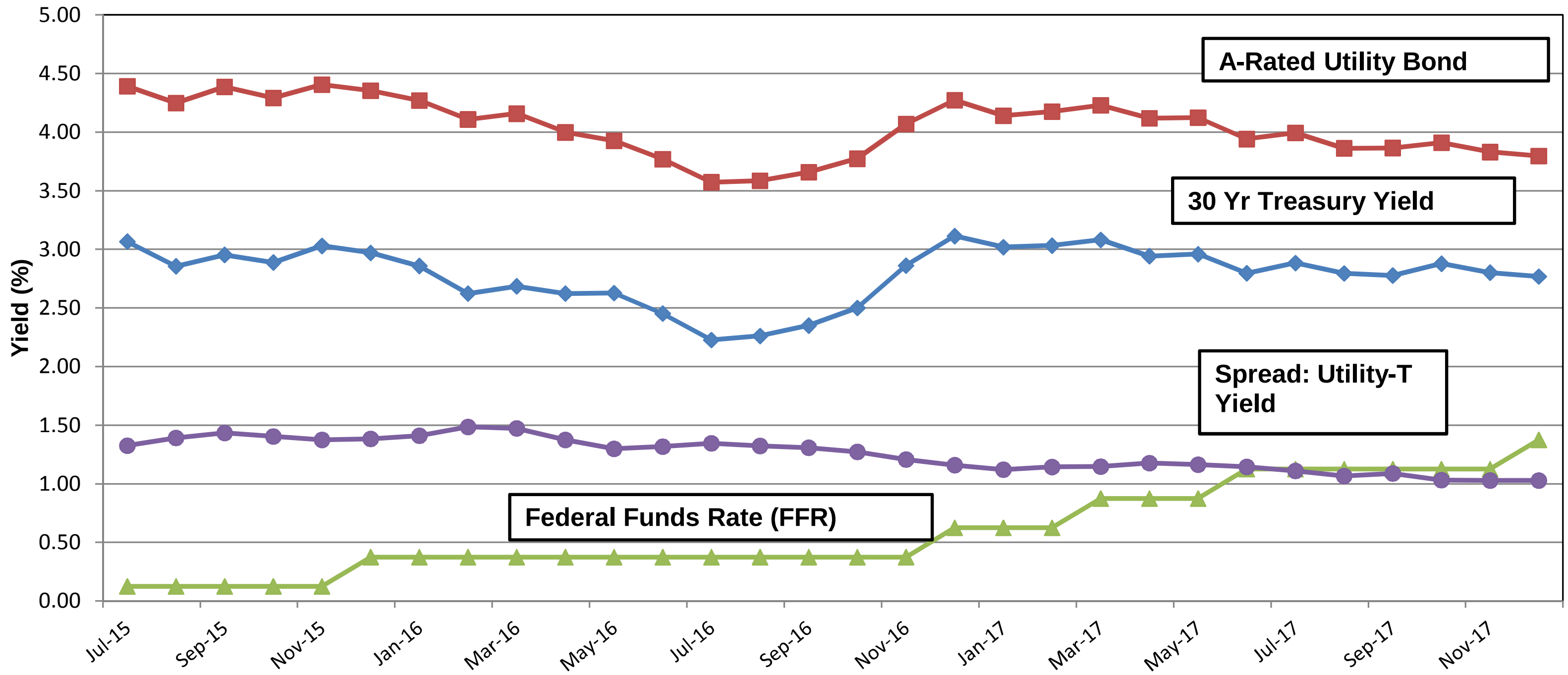
Authorized ROE for Vertically Integrated Electric Cases from 2016 to 2018

Line	Year	Company	State (1)	Rate Case Completion Date (2)	Authorized Return on Equity (3)
	2016				
1		Florida Power & Light Company	FL	Nov 29 2016	10.55%
2		Duke Energy Progress, LLC	SC	Dec 7 2016	10.10%
3		Upper Peninsula Power Company	MI	Sep 8 2016	10.00%
4		Wisconsin Power and Light Company	WI	Nov 18 2016	10.00%
5		Liberty Utilities (CalPeco Electric) LLC	CA	Dec 1 2016	10.00%
6		Northern Indiana Public Service Company	IN	Jul 18 2016	9.98%
7		Virginia Electric and Power Company	NC	Dec 22 2016	9.90%
8		Indianapolis Power & Light Company	IN	Mar 16 2016	9.85%
9		Kingsport Power Company	TN	Aug 9 2016	9.85%
10		Madison Gas and Electric Company	WI	Nov 9 2016	9.80%
11		Entergy Arkansas, Inc.	AR	Feb 23 2016	9.75%
12		Sierra Pacific Power Company	NV	Dec 22 2016	9.60%
13		Public Service Company of New Mexico	NM	Sep 28 2016	9.58%
14		Avista Corporation	WA	Jan 6 2016	9.50%
15		UNS Electric, Inc.	AZ	Aug 18 2016	9.50%
16		PacifiCorp	WA	Sep 1 2016	9.50%
17		Public Service Company of Oklahoma	OK	Nov 10 2016	9.50%
18		Avista Corporation	ID	Dec 28 2016	9.50%
19		El Paso Electric Company	NM	Jun 8 2016	9.48%
20		Black Hills Colorado Electric Utility Company, LP	CO	Dec 19 2016	9.37%
21		Top Quartile			10.00% - 10.55%
22		Bottom 75%			9.37% - 9.99%
23		Median			9.78%
	2017				
24		Alaska Electric Light and Power Company	AK	Nov 15 2017	11.95%
25		Southern California Edison Company	CA	Oct 26 2017	10.30%
26		Gulf Power Company	FL	Apr 4 2017	10.25%
27		Pacific Gas and Electric Company	CA	Oct 26 2017	10.25%
28		Tampa Electric Company	FL	Nov 6 2017	10.25%
29		San Diego Gas & Electric Co.	CA	Oct 26 2017	10.20%
30		DTE Electric Company	MI	Jan 31 2017	10.10%
31		Consumers Energy Company	MI	Feb 28 2017	10.10%
32		Arizona Public Service Company	AZ	Aug 15 2017	10.00%
33		Northern States Power Company - WI	WI	Dec 7 2017	9.80%
34		Tucson Electric Power Company	AZ	Feb 24 2017	9.75%
35		Kentucky Utilities Company	KY	Jun 22 2017	9.70%
36		Louisville Gas and Electric Company	KY	Jun 22 2017	9.70%
37		MDU Resources Group, Inc.	ND	Jun 16 2017	9.65%
38		El Paso Electric Company	TX	Dec 14 2017	9.65%
39		Southwestern Electric Power Company	TX	Dec 14 2017	9.60%
40		Public Service Company of New Mexico	NM	Dec 20 2017	9.58%
41		Oklahoma Gas and Electric Company	OK	Mar 20 2017	9.50%
42		Kansas City Power & Light Company	MO	May 3 2017	9.50%
43		Oklahoma Gas and Electric Company	AR	May 18 2017	9.50%
44		Puget Sound Energy, Inc.	WA	Dec 5 2017	9.50%
45		Portland General Electric Company	OR	Dec 18 2017	9.50%
46		Avista Corporation	ID	Dec 28 2017	9.50%
47		MDU Resources Group, Inc.	WY	Jan 18 2017	9.45%
48		Otter Tail Power Company	MN	Mar 2 2017	9.41%
49		Nevada Power Company	NV	Dec 29 2017	9.40%
50		Northern States Power Company - MN	MN	May 11 2017	9.20%
51		Green Mountain Power Corporation	VT	Dec 21 2017	9.10%
52		Top Quartile			10.11% - 11.95%
53		Bottom 75%			9.10% - 10.10%
54		Median			9.65%
	2018				
55		Kentucky Power Company	KY	Jan 18 2018	9.70%
56		Interstate Power and Light Company	IA	Feb 2 2018	9.60%
57		Public Service Company of Oklahoma	OK	Jan 31 2018	9.30%
58		Top Quartile			9.66% - 9.70%
59		Bottom 75%			9.30% - 9.65%
60		Median			9.60%

Source and Note:
S&P Global Market Intelligence.
2018 data through February 14, 2018.

Northern Indiana Public Service Company

Timeline of Federal Funds Rate Increases



Fed FFR Actions:

December 2015	0.25	→	0.50
December 2016	0.50	→	0.75
March 2017	0.75	→	1.00
June 2017	1.00	→	1.25
December 2017	1.25	→	1.50

Sources:
Federal Reserve Bank of New York, https://apps.newyorkfed.org/markets/autorates/fed-funds-search-page
Board of Governors of the Federal Reserve System, https://www.federalreserve.gov/datadownload/
Moody's Credit Trends, https://credittrends.moodys.com/

Northern Indiana Public Service Company

Proxy Group

		Credit Ratings[1]		Common Equity Ratios	
Line	**Company**	**S&P**	**Moody's**	**MI[1]**	**Value Line[2]**
		(1)	**(2)**	**(3)**	**(4)**
1	Alliant Energy Corporation	A-	Baa1	44.3%	47.2%
2	Black Hills Corporation	BBB	Baa2	32.0%	33.5%
3	CMS Energy Corporation	BBB+	Baa1	29.7%	32.6%
4	Consolidated Edison, Inc.	A-	A3	47.4%	49.2%
5	Eversource Energy	A+	Baa1	49.5%	54.4%
6	MGE Energy, Inc.[3]	AA-	A1	65.2%	65.4%
7	NorthWestern Corporation	BBB	Baa1	44.1%	48.0%
8	Vectren Corporation	A-	N/A	48.1%	52.7%
9	WEC Energy Group, Inc.	A-	A3	46.7%	49.3%
10	**Average**	**A-**	**A3**	**45.2%**	**48.0%**
11	**Northern Indiana Public Service Company**	**BBB+[4]**	**Baa1[4]**		**57.9%/46.0%[5]**

Sources:

[1] S&P Global Market Intelligence, Downloaded on February 1, 2018.

[2] *The Value Line Investment Survey* , November 17, December 15, 2017, and January 26, 2018.

[3] MGE Energy, Inc. is not rated. Ratings shown are for Madison Gas and Electric Co., a wholly owned operating subsidiary of MGE Energy, Inc.

[4] Rea direct at 26.

[5] Rea Exhibit No. 13, Attachment 13-A, Schedule 2;
57.9% CE with Investor Supplied Capital and
46.0% CE with Regulatory Capital.

Northern Indiana Public Service Company

Consensus Analysts' Growth Rates

		Zacks		MI		Reuters		Average of
Line	**Company**	**Estimated Growth %[1]**	**Number of Estimates**	**Estimated Growth %[2]**	**Number of Estimates**	**Estimated Growth %[3]**	**Number of Estimates**	**Growth Rates**
		(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
1	Alliant Energy Corporation	5.40%	N/A	5.52%	4	5.55%	2	5.49%
2	Black Hills Corporation	4.70%	N/A	4.72%	2	3.45%	2	4.29%
3	CMS Energy Corporation	6.40%	N/A	7.27%	8	7.34%	4	7.00%
4	Consolidated Edison, Inc.	2.00%	N/A	3.16%	3	3.10%	3	2.75%
5	Eversource Energy	6.00%	N/A	5.94%	6	6.11%	4	6.02%
6	MGE Energy, Inc.	N/A	N/A	4.00%	1	N/A	N/A	4.00%
7	NorthWestern Corporation	1.70%	N/A	1.75%	3	1.97%	2	1.81%
8	Vectren Corporation	6.00%	N/A	7.00%	1	N/A	N/A	6.50%
9	WEC Energy Group, Inc.	5.40%	N/A	5.53%	3	5.44%	3	5.46%
10	**Average**	**4.70%**	**N/A**	**4.99%**	**3**	**4.71%**	**3**	**4.81%**

Sources:

[1] Zacks Elite, http://www.zackselite.com/, downloaded on January 31, 2018.

[2] S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on January 31, 2018.

[3] Reuters, http://www.reuters.com/, downloaded on January 31, 2018.

Northern Indiana Public Service Company

Constant Growth DCF Model
(Consensus Analysts' Growth Rates)

Line	Company	13-Week AVG Stock Price[1] (1)	Analysts' Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	Alliant Energy Corporation	$42.92	5.49%	$1.26	3.10%	8.59%
2	Black Hills Corporation	$58.28	4.29%	$1.90	3.40%	7.69%
3	CMS Energy Corporation	$47.76	7.00%	$1.33	2.98%	9.98%
4	Consolidated Edison, Inc.	$85.09	2.75%	$2.76	3.33%	6.09%
5	Eversource Energy	$63.46	6.02%	$1.78	2.97%	8.99%
6	MGE Energy, Inc.	$63.35	4.00%	$1.29	2.12%	6.12%
7	NorthWestern Corporation	$59.53	1.81%	$2.10	3.59%	5.40%
8	Vectren Corporation	$65.50	6.50%	$1.80	2.93%	9.43%
9	WEC Energy Group, Inc.	$66.80	5.46%	$2.08	3.28%	8.74%
10	**Average**	**$61.41**	**4.81%**	**$1.81**	**3.08%**	**7.89%**
11	**Median**					**8.59%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on January 31, 2018.
[2] Attachment MPG-7.
[3] *The Value Line Investment Survey* , November 17, December 15, 2017, and January 26, 2018.

Northern Indiana Public Service Company

Payout Ratios

Line	Company	Dividends Per Share 2016 (1)	Dividends Per Share Projected (2)	Earnings Per Share 2016 (3)	Earnings Per Share Projected (4)	Payout Ratio 2016 (5)	Payout Ratio Projected (6)
1	Alliant Energy Corporation	$1.18	$1.58	$1.65	$2.40	71.52%	65.83%
2	Black Hills Corporation	$1.68	$2.30	$2.63	$4.25	63.88%	54.12%
3	CMS Energy Corporation	$1.24	$1.70	$1.98	$2.75	62.63%	61.82%
4	Consolidated Edison, Inc.	$2.68	$3.08	$3.94	$4.50	68.02%	68.44%
5	Eversource Energy	$1.78	$2.40	$2.96	$4.00	60.14%	60.00%
6	MGE Energy, Inc.	$1.21	$1.50	$2.18	$3.20	55.50%	46.88%
7	NorthWestern Corporation	$2.00	$2.50	$3.39	$4.00	59.00%	62.50%
8	Vectren Corporation	$1.62	$2.10	$2.55	$3.35	63.53%	62.69%
9	WEC Energy Group, Inc.	$1.98	$2.50	$2.96	$3.75	66.89%	66.67%
10	**Average**	**$1.71**	**$2.18**	**$2.69**	**$3.58**	**63.46%**	**60.99%**

Source:
The Value Line Investment Survey, November 17, December 15, 2017, and January 26, 2018.

Northern Indiana Public Service Company

Sustainable Growth Rate

		3 to 5 Year Projections										Sustainable
Line	**Company**	**Dividends Per Share (1)**	**Earnings Per Share (2)**	**Book Value Per Share (3)**	**Book Value Growth (4)**	**ROE (5)**	**Adjustment Factor (6)**	**Adjusted ROE (7)**	**Payout Ratio (8)**	**Retention Rate (9)**	**Internal Growth Rate (10)**	**Growth Rate (11)**
1	Alliant Energy Corporation	$1.58	$2.40	$19.65	2.99%	12.21%	1.01	12.39%	65.83%	34.17%	4.23%	5.34%
2	Black Hills Corporation	$2.30	$4.25	$40.00	5.75%	10.63%	1.03	10.92%	54.12%	45.88%	5.01%	7.52%
3	CMS Energy Corporation	$1.70	$2.75	$21.00	6.64%	13.10%	1.03	13.52%	61.82%	38.18%	5.16%	6.64%
4	Consolidated Edison, Inc.	$3.08	$4.50	$54.75	3.15%	8.22%	1.02	8.35%	68.44%	31.56%	2.63%	3.16%
5	Eversource Energy	$2.40	$4.00	$40.75	3.81%	9.82%	1.02	10.00%	60.00%	40.00%	4.00%	4.00%
6	MGE Energy, Inc.	$1.50	$3.20	$27.10	5.34%	11.81%	1.03	12.12%	46.88%	53.13%	6.44%	7.97%
7	NorthWestern Corporation	$2.50	$4.00	$42.00	3.90%	9.52%	1.02	9.71%	62.50%	37.50%	3.64%	4.27%
8	Vectren Corporation	$2.10	$3.35	$27.90	5.52%	12.01%	1.03	12.33%	62.69%	37.31%	4.60%	6.13%
9	WEC Energy Group, Inc.	$2.50	$3.75	$33.25	3.28%	11.28%	1.02	11.46%	66.67%	33.33%	3.82%	3.82%
10	**Average**	**$2.18**	**$3.58**	**$34.04**	**4.49%**	**10.95%**	**1.02**	**11.20%**	**60.99%**	**39.01%**	**4.39%**	**5.43%**

Sources and Notes:
Cols. (1), (2) and (3): *The Value Line Investment Survey*, November 17, December 15, 2017, and January 26, 2018.
Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/number of years projected) - 1.
Col. (5): Col. (2) / Col. (3).
Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)).
Col. (7): Col. (6) * Col. (5).
Col. (8): Col. (1) / Col. (2).
Col. (9): 1 - Col. (8).
Col. (10): Col. (9) * Col. (7).
Col. (11): Col. (10) + Page 2 Col. (9).

Northern Indiana Public Service Company

Sustainable Growth Rate

Line	Company	13-Week Average Stock Price[1]	2016 Book Value Per Share[2]	Market to Book Ratio	Common Shares Outstanding (in Millions)[2] 2016	Common Shares Outstanding (in Millions)[2] 3-5 Years	Growth	S Factor[3]	V Factor[4]	S * V
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Alliant Energy Corporation	$42.92	$16.96	2.53	227.67	236.00	0.72%	1.83%	60.49%	1.10%
2	Black Hills Corporation	$58.28	$30.25	1.93	53.38	61.00	2.70%	5.21%	48.09%	2.51%
3	CMS Energy Corporation	$47.76	$15.23	3.14	279.21	289.00	0.69%	2.17%	68.11%	1.48%
4	Consolidated Edison, Inc.	$85.09	$46.88	1.82	305.00	315.00	0.65%	1.17%	44.91%	0.53%
5	Eversource Energy	$63.46	$33.80	1.88	316.89	316.89	0.00%	0.00%	46.74%	0.00%
6	MGE Energy, Inc.	$63.35	$20.89	3.03	34.67	36.00	0.76%	2.29%	67.03%	1.54%
7	NorthWestern Corporation	$59.53	$34.68	1.72	48.33	50.50	0.88%	1.51%	41.74%	0.63%
8	Vectren Corporation	$65.50	$21.33	3.07	82.90	86.00	0.74%	2.26%	67.43%	1.53%
9	WEC Energy Group, Inc.	$66.80	$28.29	2.36	315.62	315.65	0.00%	0.00%	57.65%	0.00%
10	**Average**	**$61.41**	**$27.59**	**2.39**	**184.85**	**189.56**	**0.79%**	**1.83%**	**55.80%**	**1.03%**

Sources and Notes:
[1] S&P Global Market Intelligence, Downloaded on January 31, 2018.
[2] *The Value Line Investment Survey* , November 17, December 15, 2017, and January 26, 2018.
[3] Expected Growth in the Number of Shares, Column (3) * Column (6).
[4] Expected Profit of Stock Investment, [1 - 1 / Column (3)].

Northern Indiana Public Service Company

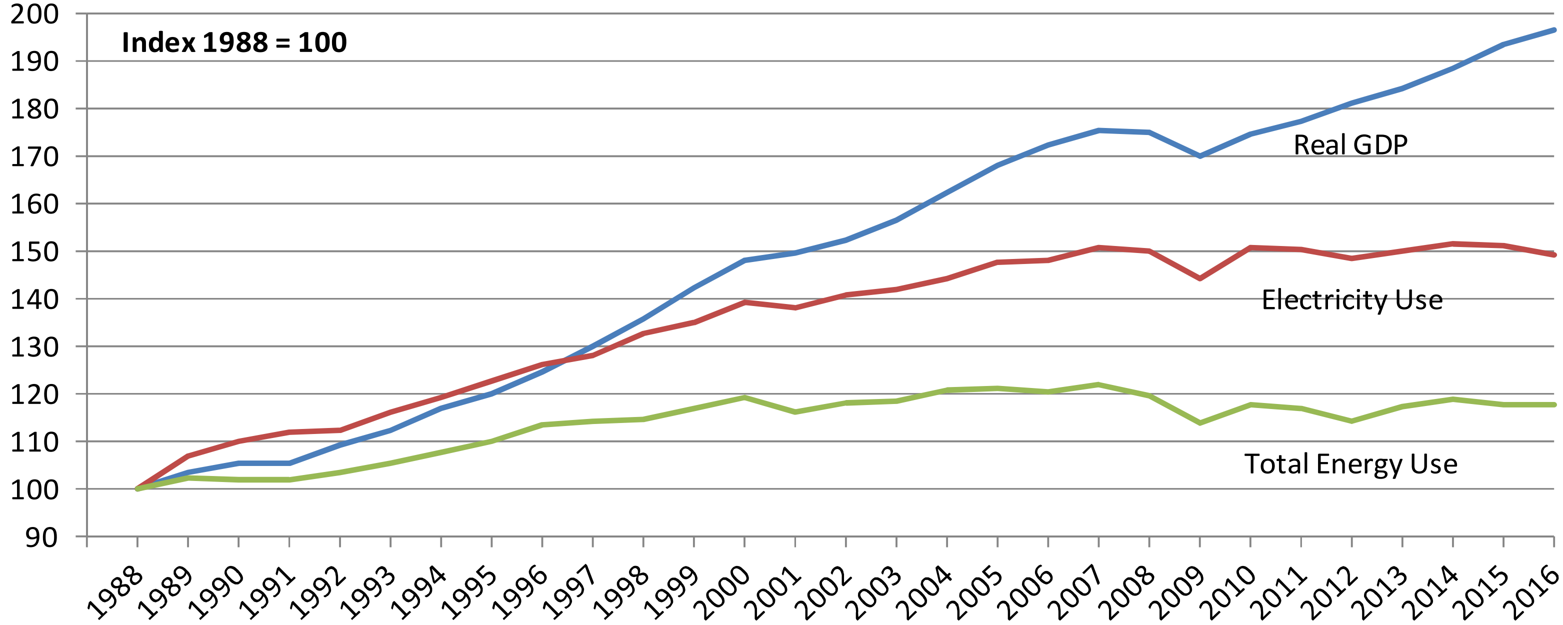
Constant Growth DCF Model
(Sustainable Growth Rate)

Line	Company	13-Week AVG Stock Price[1] (1)	Sustainable Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	Alliant Energy Corporation	$42.92	5.34%	$1.26	3.09%	8.43%
2	Black Hills Corporation	$58.28	7.52%	$1.90	3.51%	11.02%
3	CMS Energy Corporation	$47.76	6.64%	$1.33	2.97%	9.61%
4	Consolidated Edison, Inc.	$85.09	3.16%	$2.76	3.35%	6.51%
5	Eversource Energy	$63.46	4.00%	$1.78	2.92%	6.92%
6	MGE Energy, Inc.	$63.35	7.97%	$1.29	2.20%	10.17%
7	NorthWestern Corporation	$59.53	4.27%	$2.10	3.68%	7.95%
8	Vectren Corporation	$65.50	6.13%	$1.80	2.92%	9.04%
9	WEC Energy Group, Inc.	$66.80	3.82%	$2.08	3.23%	7.06%
10	**Average**	**$61.41**	**5.43%**	**$1.81**	**3.10%**	**8.52%**
11	**Median**					**8.43%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on January 31, 2018.
[2] Attachment MPG-10, page 1.
[3] *The Value Line Investment Survey*, November 17, December 15, 2017, and January 26, 2018.

Northern Indiana Public Service Company

Electricity Sales Are Linked to U.S. Economic Growth



Note:
1988 represents the base year. Graph depicts increases or decreases from the base year.

Sources:
U.S. Energy Information Administration
Federal Reserve Bank of St. Louis

Northern Indiana Public Service Company

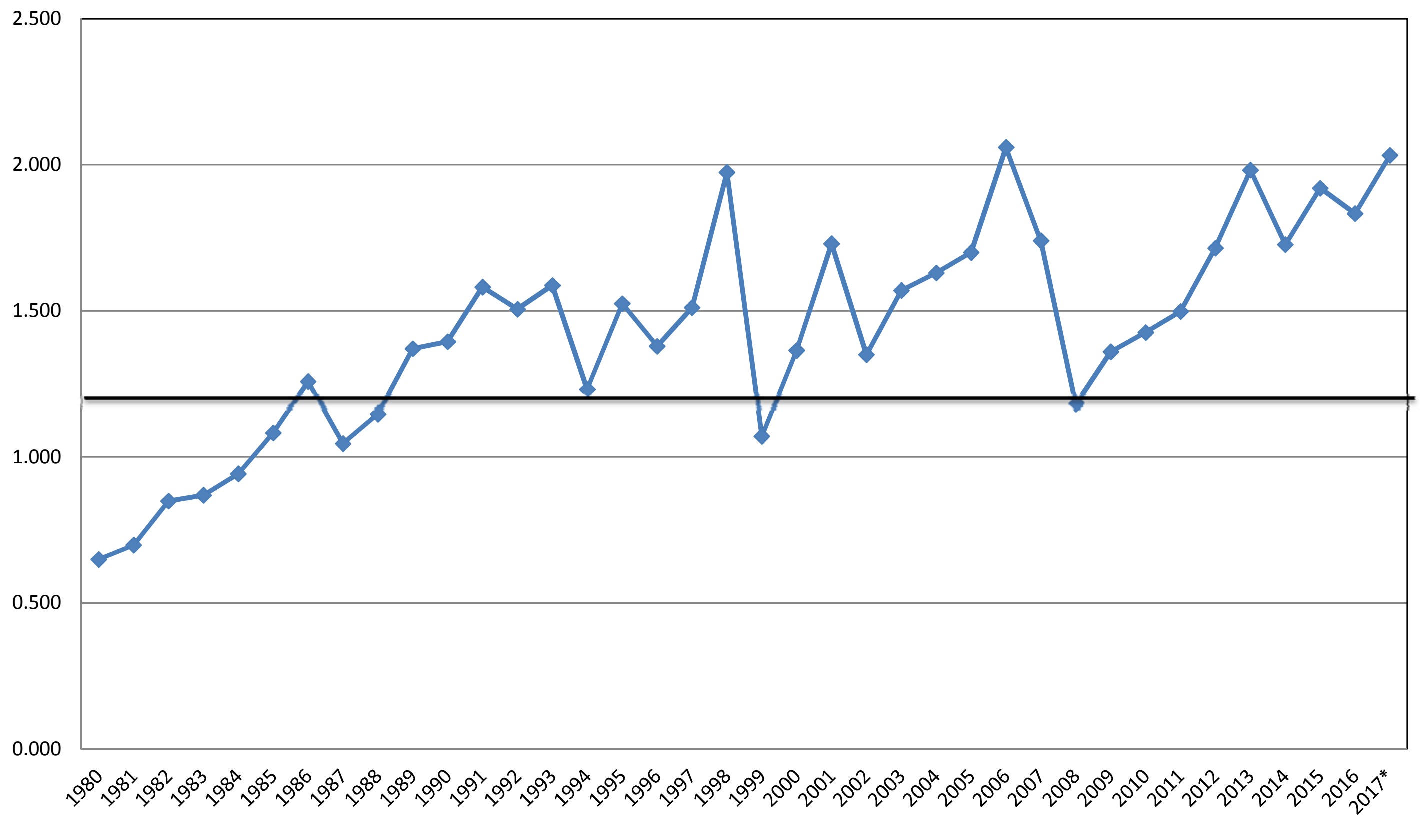
Multi-Stage Growth DCF Model

Line	Company	13-Week AVG Stock Price[1] (1)	Annualized Dividend[2] (2)	First Stage Growth[3] (3)	Second Stage Growth Year 6 (4)	Year 7 (5)	Year 8 (6)	Year 9 (7)	Year 10 (8)	Third Stage Growth[4] (9)	Multi-Stage Growth DCF (10)
1	Alliant Energy Corporation	$42.92	$1.26	5.49%	5.27%	5.04%	4.82%	4.59%	4.37%	4.14%	7.47%
2	Black Hills Corporation	$58.28	$1.90	4.29%	4.27%	4.24%	4.22%	4.19%	4.17%	4.14%	7.56%
3	CMS Energy Corporation	$47.76	$1.33	7.00%	6.53%	6.05%	5.57%	5.10%	4.62%	4.14%	7.62%
4	Consolidated Edison, Inc.	$85.09	$2.76	2.75%	2.98%	3.22%	3.45%	3.68%	3.91%	4.14%	7.22%
5	Eversource Energy	$63.46	$1.78	6.02%	5.70%	5.39%	5.08%	4.77%	4.45%	4.14%	7.43%
6	MGE Energy, Inc.	$63.35	$1.29	4.00%	4.02%	4.05%	4.07%	4.09%	4.12%	4.14%	6.20%
7	NorthWestern Corporation	$59.53	$2.10	1.81%	2.20%	2.59%	2.97%	3.36%	3.75%	4.14%	7.29%
8	Vectren Corporation	$65.50	$1.80	6.50%	6.11%	5.71%	5.32%	4.93%	4.54%	4.14%	7.47%
9	WEC Energy Group, Inc.	$66.80	$2.08	5.46%	5.24%	5.02%	4.80%	4.58%	4.36%	4.14%	7.67%
10	**Average**	**$61.41**	**$1.81**	**4.81%**	**4.70%**	**4.59%**	**4.48%**	**4.37%**	**4.25%**	**4.14%**	**7.33%**
11	**Median**										**7.47%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on January 31, 2018.
[2] *The Value Line Investment Survey*, November 17, December 15, 2017, and January 26, 2018.
[3] Attachment MPG-7.
[4] *Blue Chip Financial Forecasts*, December 1, 2017 at 14.

Northern Indiana Public Service Company

Common Stock Market/Book Ratio



Source:
1980 - 2000: Mergent Public Utility Manual.
2001 - 2015: AUS Utility Reports, multiple dates.
2016 - 2017: Value Line Investment Survey, multiple dates.
* Value Line Investment Survey Reports, November 17, December 1, and December 15, 2017, and January 26, 2018.

Northern Indiana Public Service Company

Equity Risk Premium - Treasury Bond

Line	Year	Authorized Electric Returns[1] (1)	30 yr. Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.93%	7.80%	6.13%		
2	1987	12.99%	8.58%	4.41%		
3	1988	12.79%	8.96%	3.83%		
4	1989	12.97%	8.45%	4.52%		
5	1990	12.70%	8.61%	4.09%	4.60%	
6	1991	12.55%	8.14%	4.41%	4.25%	
7	1992	12.09%	7.67%	4.42%	4.26%	
8	1993	11.41%	6.60%	4.81%	4.45%	
9	1994	11.34%	7.37%	3.97%	4.34%	
10	1995	11.55%	6.88%	4.67%	4.46%	4.53%
11	1996	11.39%	6.70%	4.69%	4.51%	4.38%
12	1997	11.40%	6.61%	4.79%	4.59%	4.42%
13	1998	11.66%	5.58%	6.08%	4.84%	4.65%
14	1999	10.77%	5.87%	4.90%	5.03%	4.68%
15	2000	11.43%	5.94%	5.49%	5.19%	4.82%
16	2001	11.09%	5.49%	5.60%	5.37%	4.94%
17	2002	11.16%	5.43%	5.73%	5.56%	5.07%
18	2003	10.97%	4.96%	6.01%	5.55%	5.19%
19	2004	10.75%	5.05%	5.70%	5.71%	5.37%
20	2005	10.54%	4.65%	5.89%	5.79%	5.49%
21	2006	10.34%	4.90%	5.44%	5.76%	5.56%
22	2007	10.31%	4.83%	5.48%	5.71%	5.63%
23	2008	10.37%	4.28%	6.09%	5.72%	5.63%
24	2009	10.52%	4.07%	6.45%	5.87%	5.79%
25	2010	10.29%	4.25%	6.04%	5.90%	5.84%
26	2011	10.19%	3.91%	6.28%	6.07%	5.91%
27	2012	10.01%	2.92%	7.09%	6.39%	6.05%
28	2013	9.81%	3.45%	6.36%	6.44%	6.08%
29	2014	9.75%	3.34%	6.41%	6.44%	6.15%
30	2015	9.60%	2.84%	6.76%	6.58%	6.24%
31	2016	9.60%	2.60%	7.00%	6.72%	6.40%
32	2017	9.68%	2.90%	6.79%	6.66%	6.53%
33	**Average**	**11.12%**	**5.61%**	**5.51%**	**5.46%**	**5.45%**
34	**Minimum**				**4.25%**	**4.38%**
35	**Maximum**				**6.72%**	**6.53%**

Sources:
[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 pg. 5, and Jan. 2011 pg. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January-December 2017, January 30, 2018, p. 7.
2006 - 2017 Authorized Returns exclude limited issue rider cases.
[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.

Northern Indiana Public Service Company

Equity Risk Premium - Treasury Bond

Line	Year	Authorized Gas Returns[1] (1)	30 yr. Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.46%	7.80%	5.66%		
2	1987	12.74%	8.58%	4.16%		
3	1988	12.85%	8.96%	3.89%		
4	1989	12.88%	8.45%	4.43%		
5	1990	12.67%	8.61%	4.06%	4.44%	
6	1991	12.46%	8.14%	4.32%	4.17%	
7	1992	12.01%	7.67%	4.34%	4.21%	
8	1993	11.35%	6.60%	4.75%	4.38%	
9	1994	11.35%	7.37%	3.98%	4.29%	
10	1995	11.43%	6.88%	4.55%	4.39%	4.42%
11	1996	11.19%	6.70%	4.49%	4.42%	4.30%
12	1997	11.29%	6.61%	4.68%	4.49%	4.35%
13	1998	11.51%	5.58%	5.93%	4.73%	4.55%
14	1999	10.66%	5.87%	4.79%	4.89%	4.59%
15	2000	11.39%	5.94%	5.45%	5.07%	4.73%
16	2001	10.95%	5.49%	5.46%	5.26%	4.84%
17	2002	11.03%	5.43%	5.60%	5.45%	4.97%
18	2003	10.99%	4.96%	6.03%	5.47%	5.10%
19	2004	10.59%	5.05%	5.54%	5.62%	5.25%
20	2005	10.46%	4.65%	5.81%	5.69%	5.38%
21	2006	10.40%	4.90%	5.50%	5.70%	5.48%
22	2007	10.22%	4.83%	5.39%	5.66%	5.55%
23	2008	10.39%	4.28%	6.11%	5.67%	5.57%
24	2009	10.22%	4.07%	6.15%	5.79%	5.70%
25	2010	10.15%	4.25%	5.90%	5.81%	5.75%
26	2011	9.92%	3.91%	6.01%	5.91%	5.80%
27	2012	9.94%	2.92%	7.02%	6.24%	5.95%
28	2013	9.68%	3.45%	6.23%	6.26%	5.97%
29	2014	9.78%	3.34%	6.44%	6.32%	6.06%
30	2015	9.60%	2.84%	6.76%	6.49%	6.15%
31	2016	9.54%	2.60%	6.94%	6.68%	6.29%
32	2017	9.72%	2.90%	6.83%	6.64%	6.44%
33	**Average**	**11.03%**	**5.61%**	**5.41%**	**5.36%**	**5.36%**
34	**Minimum**				**4.17%**	**4.30%**
35	**Maximum**				**6.68%**	**6.44%**

Sources:
[1] *Regulatory Research Associates, Inc* ., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence , RRA Regulatory Focus, Major Rate Case Decisions, January-December 2017, January 30, 2018, p. 6.
[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.

Northern Indiana Public Service Company

Equity Risk Premium - Utility Bond

Line	Year	Authorized Electric Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.93%	9.58%	4.35%		
2	1987	12.99%	10.10%	2.89%		
3	1988	12.79%	10.49%	2.30%		
4	1989	12.97%	9.77%	3.20%		
5	1990	12.70%	9.86%	2.84%	3.12%	
6	1991	12.55%	9.36%	3.19%	2.88%	
7	1992	12.09%	8.69%	3.40%	2.99%	
8	1993	11.41%	7.59%	3.82%	3.29%	
9	1994	11.34%	8.31%	3.03%	3.26%	
10	1995	11.55%	7.89%	3.66%	3.42%	3.27%
11	1996	11.39%	7.75%	3.64%	3.51%	3.20%
12	1997	11.40%	7.60%	3.80%	3.59%	3.29%
13	1998	11.66%	7.04%	4.62%	3.75%	3.52%
14	1999	10.77%	7.62%	3.15%	3.77%	3.52%
15	2000	11.43%	8.24%	3.19%	3.68%	3.55%
16	2001	11.09%	7.76%	3.33%	3.62%	3.56%
17	2002	11.16%	7.37%	3.79%	3.61%	3.60%
18	2003	10.97%	6.58%	4.39%	3.57%	3.66%
19	2004	10.75%	6.16%	4.59%	3.86%	3.82%
20	2005	10.54%	5.65%	4.89%	4.20%	3.94%
21	2006	10.34%	6.07%	4.27%	4.39%	4.00%
22	2007	10.31%	6.07%	4.24%	4.48%	4.04%
23	2008	10.37%	6.53%	3.84%	4.37%	3.97%
24	2009	10.52%	6.04%	4.48%	4.34%	4.10%
25	2010	10.29%	5.47%	4.82%	4.33%	4.26%
26	2011	10.19%	5.04%	5.15%	4.51%	4.45%
27	2012	10.01%	4.13%	5.88%	4.83%	4.66%
28	2013	9.81%	4.48%	5.33%	5.13%	4.75%
29	2014	9.75%	4.28%	5.47%	5.33%	4.84%
30	2015	9.60%	4.12%	5.48%	5.46%	4.90%
31	2016	9.60%	3.93%	5.67%	5.57%	5.04%
32	2017	9.68%	4.00%	5.68%	5.53%	5.18%
33	**Average**	**11.12%**	**6.99%**	**4.14%**	**4.08%**	**4.05%**
34	**Minimum**				**2.88%**	**3.20%**
35	**Maximum**				**5.57%**	**5.18%**

Sources:
[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 pg. 5, and Jan. 2011 pg. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January-December 2017, January 30, 2018, p. 7.
2006 - 2017 Authorized Returns exclude limited issue rider cases.
[2] Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.
The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.
The utility yields from 2010-2017 were obtained from http://credittrends.moodys.com/.

Northern Indiana Public Service Company

Equity Risk Premium - Utility Bond

Line	Year	Authorized Gas Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.46%	9.58%	3.88%		
2	1987	12.74%	10.10%	2.64%		
3	1988	12.85%	10.49%	2.36%		
4	1989	12.88%	9.77%	3.11%		
5	1990	12.67%	9.86%	2.81%	2.96%	
6	1991	12.46%	9.36%	3.10%	2.80%	
7	1992	12.01%	8.69%	3.32%	2.94%	
8	1993	11.35%	7.59%	3.76%	3.22%	
9	1994	11.35%	8.31%	3.04%	3.21%	
10	1995	11.43%	7.89%	3.54%	3.35%	3.16%
11	1996	11.19%	7.75%	3.44%	3.42%	3.11%
12	1997	11.29%	7.60%	3.69%	3.49%	3.22%
13	1998	11.51%	7.04%	4.47%	3.64%	3.43%
14	1999	10.66%	7.62%	3.04%	3.64%	3.42%
15	2000	11.39%	8.24%	3.15%	3.56%	3.45%
16	2001	10.95%	7.76%	3.19%	3.51%	3.46%
17	2002	11.03%	7.37%	3.66%	3.50%	3.50%
18	2003	10.99%	6.58%	4.41%	3.49%	3.56%
19	2004	10.59%	6.16%	4.43%	3.77%	3.70%
20	2005	10.46%	5.65%	4.81%	4.10%	3.83%
21	2006	10.40%	6.07%	4.33%	4.33%	3.92%
22	2007	10.22%	6.07%	4.15%	4.43%	3.96%
23	2008	10.39%	6.53%	3.86%	4.32%	3.90%
24	2009	10.22%	6.04%	4.18%	4.27%	4.02%
25	2010	10.15%	5.47%	4.68%	4.24%	4.17%
26	2011	9.92%	5.04%	4.88%	4.35%	4.34%
27	2012	9.94%	4.13%	5.81%	4.68%	4.55%
28	2013	9.68%	4.48%	5.20%	4.95%	4.63%
29	2014	9.78%	4.28%	5.50%	5.22%	4.74%
30	2015	9.60%	4.12%	5.48%	5.38%	4.81%
31	2016	9.54%	3.93%	5.61%	5.52%	4.94%
32	2017	9.72%	4.00%	5.72%	5.50%	5.09%
33	**Average**	**11.03%**	**6.99%**	**4.04%**	**3.99%**	**3.95%**
34	**Minimum**				**2.80%**	**3.11%**
35	**Maximum**				**5.52%**	**5.09%**

Sources:

[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January-December 2017, January 30, 2018, p. 6.

[2] Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.
The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.
The utility yields from 2010-2017 were obtained from http://credittrends.moodys.com/.

Attachment MPG-17

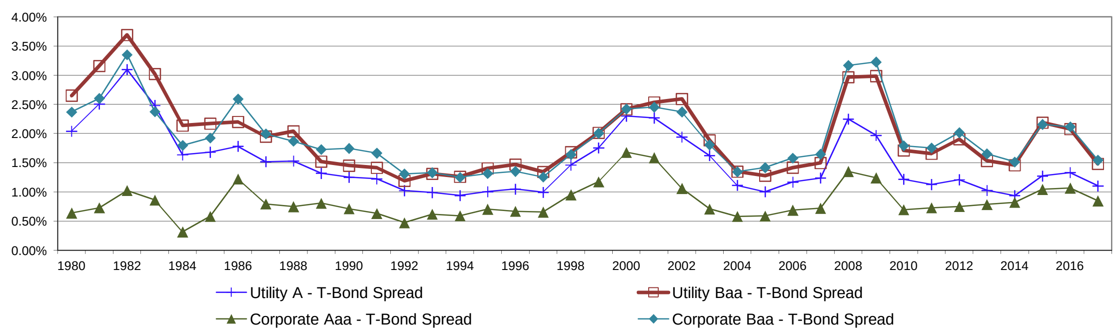
Northern Indiana Public Service Company

Bond Yield Spreads

			Public Utility Bond				Corporate Bond				Utility to Corporate	
Line	Year	T-Bond Yield[1]	A[2]	Baa[2]	A-T-Bond Spread	Baa-T-Bond Spread	Aaa[3]	Baa[3]	Aaa-T-Bond Spread	Baa-T-Bond Spread	Baa Spread	A-Aaa Spread
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.90%	6.07%	6.32%	1.17%	1.42%	5.59%	6.48%	0.69%	1.58%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%
39	**Average**	**6.62%**	**8.13%**	**8.57%**	**1.51%**	**1.95%**	**7.46%**	**8.55%**	**0.84%**	**1.93%**	**0.01%**	**0.67%**

Yield Spreads

Treasury Vs. Corporate & Treasury Vs. Utility



Sources:

[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

[2] The utility yields for the period 1980-2000 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.
The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.
The utility yields for the period 2010-2017 were obtained from http://credittrends.moodys.com/.

[3] The corporate yields for the period 1980-2009 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The corporate yields from 2010-2017 were obtained from http://credittrends.moodys.com/.

Northern Indiana Public Service Company

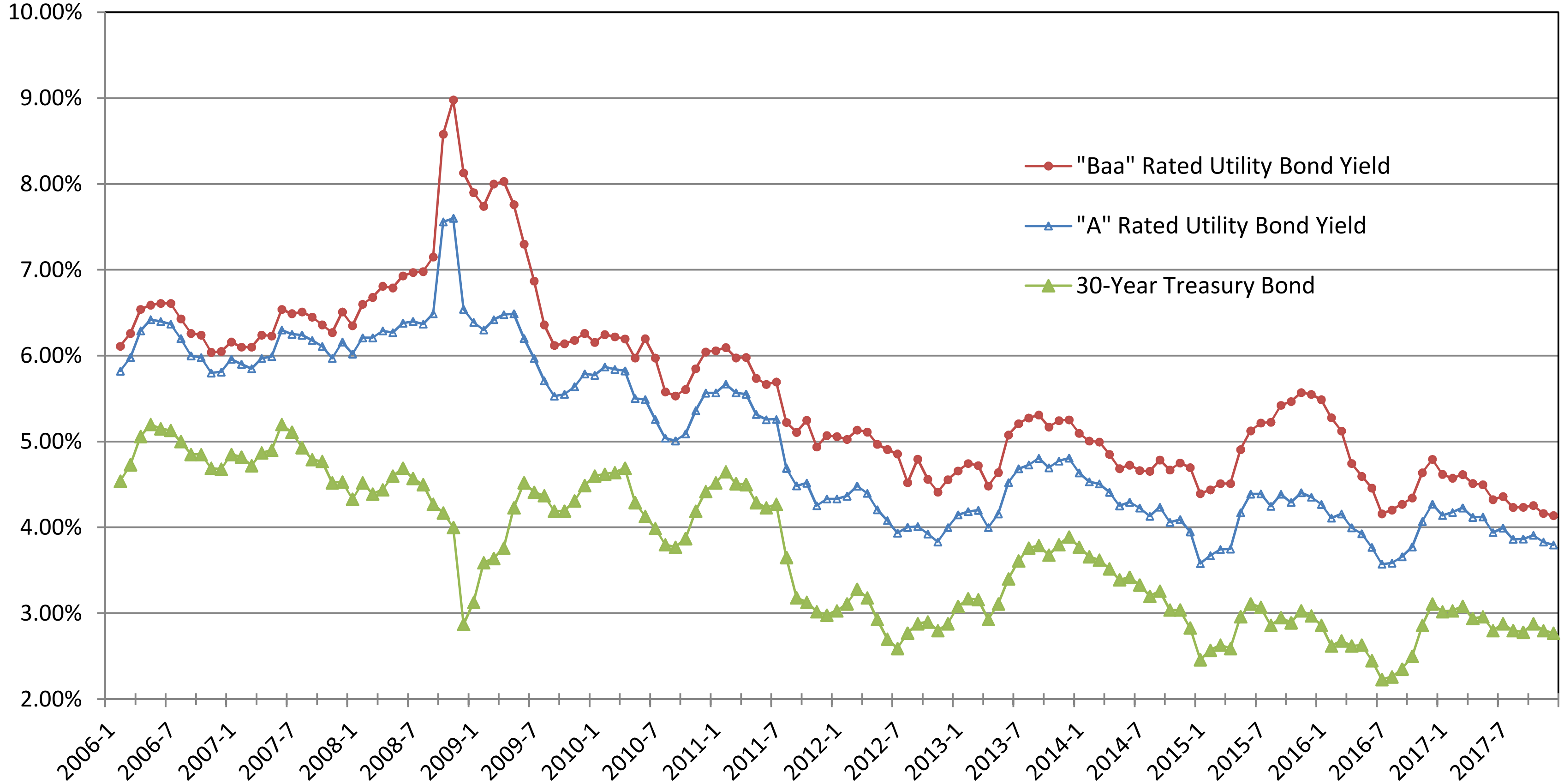
Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	01/26/18	2.91%	3.88%	4.19%
2	01/19/18	2.91%	3.89%	4.21%
3	01/12/18	2.85%	3.84%	4.16%
4	01/05/18	2.81%	3.82%	4.15%
5	12/28/17	2.75%	3.77%	4.11%
6	12/22/17	2.83%	3.85%	4.19%
7	12/15/17	2.68%	3.72%	4.06%
8	12/08/17	2.77%	3.81%	4.16%
9	12/01/17	2.76%	3.80%	4.15%
10	11/24/17	2.76%	3.81%	4.15%
11	11/17/17	2.78%	3.83%	4.17%
12	11/09/17	2.81%	3.83%	4.15%
13	11/03/17	2.82%	3.83%	4.15%
14	**Average**	**2.80%**	**3.82%**	**4.15%**
15	**Spread To Treasury**		**1.02%**	**1.35%**

Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[2] http://credittrends.moodys.com/.

Northern Indiana Public Service Company

Trends in Bond Yields



Sources:
Mergent Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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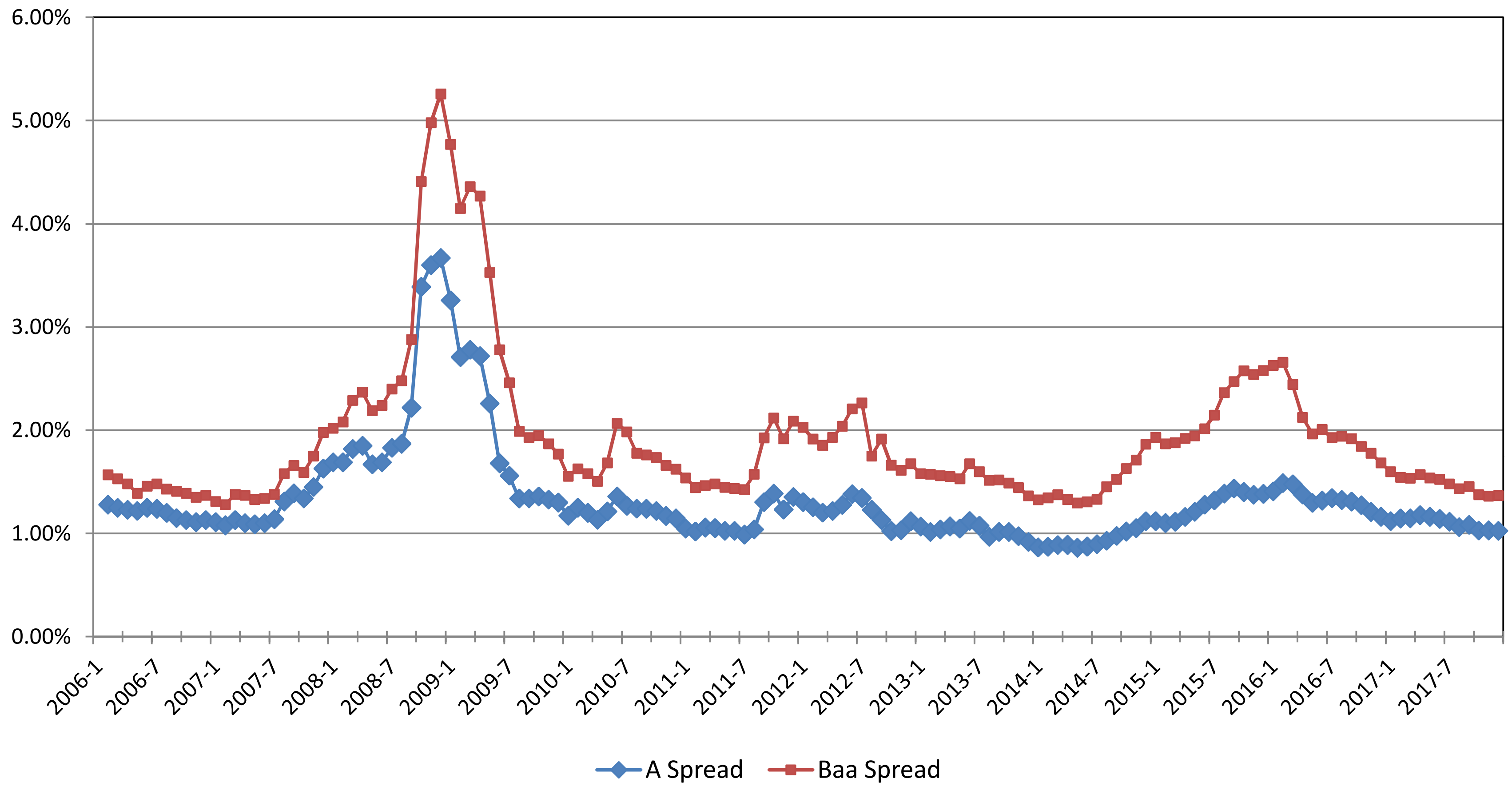
Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:
Mergent Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

Northern Indiana Public Service Company

Value Line Beta

Line	Company	Beta
1	Alliant Energy Corporation	0.70
2	Black Hills Corporation	0.90
3	CMS Energy Corporation	0.65
4	Consolidated Edison, Inc.	0.50
5	Eversource Energy	0.65
6	MGE Energy, Inc.	0.75
7	NorthWestern Corporation	0.70
8	Vectren Corporation	0.75
9	WEC Energy Group, Inc.	0.60
10	**Average**	**0.69**

Source:
The Value Line Investment Survey,
November 17, December 15, 2017, and January 26, 2018.

Northern Indiana Public Service Company

CAPM Return

Line	Description	High Market Risk Premium (1)	Low Market Risk Premium (2)
1	Risk-Free Rate[1]	3.60%	3.60%
2	Risk Premium[2]	7.70%	6.00%
3	Beta[3]	0.69	0.69
4	**CAPM**	**8.90%**	**7.73%**

Sources:

[1] *Blue Chip Financial Forecasts*, February 1, 2018, at 2.

[2] *Duff & Phelps, 2017 SBBI Yearbook* at 6-17 and 6-18, and
Duff & Phelps, 2017 Valuation Handbook at 3-36 and 3-48.

[3] Attachment MPG-19.

Northern Indiana Public Service Company

Standard & Poor's Credit Metrics

(December 31, 2018)

Line	Description	Retail Cost of Service Amount ($ 000) (1)	S&P Benchmark (Medial Volatility)[1] Intermediate (2)	Significant (3)	Aggressive (4)	Reference (5)
1	Rate Base	$ 1,327,783				Attachment MPG-2
2	Weighted Common Return	3.68%				Page 2, Line 1, Col. 3.
3	Pre-Tax Rate of Return	6.96%				Page 2, Line 9, Col. 4.
4	Income to Common	$ 48,902				Line 1 x Line 2.
5	EBIT	$ 92,444				Line 1 x Line 3.
6	Depreciation & Amortization	$ 76,258				Attachment 3-A-SD
7	Imputed Amortization	$ 2,688				S&P, Capital IQ, downloaded 02/20/2018.
8	Deferred Income Taxes & ITC	$ 1,067				Attachment 12-B-SD
9	Funds from Operations (FFO)	$ 128,914				Sum of Line 4 and Lines 6 through 8.
10	Imputed & Capitalized Interest Expense	$ 1,229				S&P, Capital IQ, downloaded 02/20/2018.
11	EBITDA	$ 172,618				Sum of Lines 5 through 7 and Line 10.
12	Total Adjusted Debt Ratio	49%				Page 3, Line 4, Col. 2.
13	Debt to EBITDA	3.8x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
14	FFO to Total Debt	20%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Sources:
[1] Standard & Poor's: "Criteria: Corporate Methodology," November 19, 2013.

Note:
Based on the March 2017 S&P report, NIPSCO has a "Strong" business profile and an "Intermediate" financial profile, and falls under the 'Medial Volatility' matrix.

Northern Indiana Public Service Company

Standard & Poor's Credit Metrics
(Pre-Tax Rate of Return)

Line	Description	Weight (1)	Cost (2)	Weighted Cost (3)	Pre-Tax Weighted Cost (4)
1	Common Equity	41.35%	9.30%	3.85%	5.27%
2	Long-Term Debt	38.17%	5.07%	1.94%	1.94%
3	Customer Deposits	1.22%	4.76%	0.06%	0.06%
4	Deferred Income Taxes	22.23%	0.00%	0.00%	0.00%
5	Post-Retirement Liability	1.41%	0.00%	0.00%	0.00%
6	Prepaid Pension Asset	-4.41%	0.00%	0.00%	0.00%
7	Post-1970 ITC Equity	0.02%	9.30%	0.00%	0.00%
8	Post-1970 ITC-Debt	0.02%	5.07%	0.00%	0.00%
9	Total	**100.00%**		**5.84%**	**7.27%**
10	Tax Conversion Factor*				1.3711

Sources:
*Attachment 3-A-SD

Northern Indiana Public Service Company

Standard & Poor's Credit Metrics
(Financial Capital Structure)

Line	Description		Amount (1)	Weight (2)
1	Long-Term Debt	$	2,259,801,059	46.9%
2	Short-Term Debt[1]	$	11,678,000	0.2%
3	Off-Balance Sheet Debt[2]	$	102,153,527	2.1%
4	Total Long-Term Debt	$	2,373,632,586	49.2%
5	Common Equity	$	2,448,117,814	50.8%
6	**Total**	**$**	**4,821,750,400**	**100.0%**

Sources:
[1]S&P Global Market Intelligence, downloaded February 20, 2018.
[2]Standard & Poor's, Capital IQ, downloaded February 20, 2018.

Northern Indiana Public Service Company

S&P Adjusted Debt Ratio
Operating Subsidiaries of Value Line Electric and Gas Utilities
(Industry Medians)

		% Distribution of 9 Year Average		
Rating	**Median**	**<50**	**50 to 55**	**>55**
AA-	45.19%	100%	0%	0%
A+	55.17%	0%	0%	100%
A	51.50%	42%	42%	17%
A-	53.33%	35%	35%	31%
BBB+	**52.88%**	**8%**	**63%**	**29%**
BBB	53.49%	30%	30%	40%
BBB-	56.88%	10%	30%	60%

Sources:
S&P Capital IQ, downloaded November 30, 2017.
Rea Exhibit No. 13, Attachment 13-A, Schedule 2.