Public Interest Benefits and Residential Customer Bill Impacts of Expanding Maryland's Prevailing Wage Law to Underground Utility Infrastructure

BY DAN LIPSCHULTZ

introduction

The Baltimore-Washington Laborers District Council ("BWLDC") retained Lipschultz Energy and Communications Consulting, LLC ("LEC Consulting") to examine and offer an opinion on the proposal to extend Maryland's prevailing wage law to underground utility construction. As part of that, LEC Consulting was asked to examine the public interest implications and potential residential utility bill impacts that might be associated with such an expansion.

Dan Lipschultz, founder of LEC Consulting, has nearly 30 years of experience in utility regulation and energy policy. Most recently, he served as a member and Vice-Chair of the Minnesota Public Utilities Commission for six years. During his tenure as commissioner, he decided over a half dozen major rate cases for the state's investor-owned gas and electric utilities. As a commissioner, he was also involved in many other matters related to the state's energy transition, including electric utility resource planning, alternative regulation and complex permitting cases for major energy infrastructure projects. He served as Lead Commissioner in the Commission's electric vehicle initiative and was instrumental in initiating and leading the Commission's alternative ratemaking initiative. He also served on the National Task Force on Comprehensive Electricity Planning, formed by the National Association of Regulatory Utility Commissioners and National Association of State Energy Offices. He is an attorney and member of the Minnesota State Bar Association. He served previously as Chair of the Minnesota State Bar Association's Public Utilities Law Section and its Communications Law Section.

Before serving on the Minnesota Commission, Dan Lipschultz practiced law in the areas regulated by the Commission for over 25 years as both a public and private sector attorney. Prior to his appointment to the Commission, he was an attorney and shareholder with the Minneapolis Law Firm, Moss & Barnett, P.A., where he practiced before the Minnesota Commission and regulatory commissions in other states, as well as Minnesota's district and appellate courts, the Federal District Court for the District of Minnesota and the Eighth Circuit Court of Appeals. Before joining Moss & Barnett, he worked as an Assistant General Counsel for a telecommunications carrier. Prior to that, he served as a ratepayer advocate and lead counsel with the Minnesota Attorney General's Office. Prior to joining the Attorney General's Office, Mr. Lipschultz worked as an Attorney in the Minnesota Commission's Legal Division.

Former Commissioner Lipschultz received a B.A. from Iowa State University, and a J.D. from the University of Iowa College of Law.

EXECUTIVE SUMMARY

The legislation proposed here would extend Maryland's prevailing wage floor to apply to underground utility construction performed by outside contractors on behalf of investor-owned gas and electric utilities. As such, the bill is narrowly tailored to protect the public interest in safe, reliable public utility service. The workers covered would be laborers and operating engineers performing gas distribution work or excavating and installing electric duct banks. This proposal is consistent with prevailing wage floors for utility work that have already been enacted into law by New York City and the State of New Jersey. Given the essential public purpose and extraordinary importance of public utility infrastructure, this proposal would be a logical extension of Maryland's existing prevailing wage policy for public infrastructure.

The need to extend the prevailing wage floor to this work has never been greater than now when public utilities are engaged in unprecedented efforts to modernize and ensure the integrity of the State's public utility infrastructure. Meanwhile, gas and electric utilities have been outsourcing proportionately more of this infrastructure work. Relying on outside contractors, without a corresponding prevailing wage floor, puts downward pressure on compensation for this critical work and threatens the quality of the workforce needed to ensure the safety and reliability of the State's public utility infrastructure. Extending the prevailing wage would help protect the State's vital interest in a high quality public utility infrastructure while also benefitting the State's economy and Maryland families.

Importantly, a prevailing wage floor would not significantly increase utility rates. It would have no discernable impact on electric utility rates since electric utilities have very little underground infrastructure. Adding prevailing wages to underground infrastructure projects going forward might slightly increase project costs for gas utilities, but any potential cost increases would be small, and the rate impacts minimal, given all the other factors that go into project costs and utility rate-setting. The Maryland Department of Legislative Services has estimated that a prevailing wage floor might reasonably be expected to increase total capital project costs by 2 to 5%. If so, the impact on customer utility bills would be minimal For example, a 2-5% increase in BG&E's capital project costs during the three years before its recent rate case might have increased average residential bills set in that case, if at all, by no more than 9 to 22 cents per month as reflected in the summary table below.

SUMMARY TABLE

	Proposed Rate Increase	Approved Rate Increase	Added Increase w/ Prevailing Wage 2% Impact	Added Increase w/ Prevailing Wage 5% Impact
Revenue Increase	$67.6 million	$54.0 million	$1.45 million	$3.47 million
Residential Increase		$3.53	$0.09	$0.22

DISCUSSION AND ANALYSIS

I. The Proposed Prevailing Wage Floor Would Protect The Public Interest In Maintaining Safe and Highly Reliable Public Utility Infrastructure

Gas and electric utility services have long been recognized as essential and inextricably intertwined with the public interest in at least two respects. First, we all depend on these services for our lives and livelihoods—to heat and cool the places we live, learn, worship and work and to power the appliances, devices and tools we use throughout each day in our homes and businesses. Individuals, businesses, government institutions and the economy generally depend on, and cannot function without, highly reliable utilities services. Second, utilities deliver these services over massive ubiquitous infrastructure, namely pipes and wires that run over, across and under public streets and thoroughfares. In fact, state authority to regulate public utility rates rests on the principle recognized long ago by the U.S Supreme Court that utility services and infrastructure are "affected with the public interest."[1]

Because these utility services are so essential and intertwined with the public interest, they have to be highly and consistently reliable. In addition, delivering these services poses substantial safety risks that require special care in the construction and maintenance of utility infrastructure. The reliability and safety of these services ultimately depend on the quality of the work done to install and maintain the infrastructure used to deliver them. Moreover, as we all know, utility installation and maintenance work often disrupts public streets. This often causes significant public inconvenience, but it can also pose serious public safety risks if not done with great skill and care. There is, in fact, little margin for error when it comes to the construction and maintenance of utility facilities.

This small margin for error associated with public utility services requires a highly competent and skilled workforce to construct and maintain the utility facilities used to deliver them. Studies have shown that higher wages tend to produce higher quality, more cost-effective outcomes by attracting more skilled labor, encouraging the development of a more skilled labor pool over time and improving worker productivity.[2] Extending the prevailing wage law to utility construction work is particularly important now as utilities engage in massive infrastructure upgrades and modernization.

A prevailing wage not only results in a more efficient, productive workforce; it also helps attract and maintain a reliable, highly skilled pool of labor for this important public utility-related work. As Professor Kevin Duncan noted, prevailing wage laws "facilitate formal training in the industry" by encouraging apprenticeship programs.[3] Beyond the need for high quality work on utility infrastructure, it is important to attract and train a stable, highly skilled workforce that can be relied on over time as new projects are initiated.

When utilities retain contractors who pay substandard wages, with little to no meaningful benefits to their employees, the utility industry is not only missing a critical opportunity to invest in Maryland's future energy workforce; it is also creating undue risks for customers. Maryland law currently requires prevailing wages for large public construction projects.[4] The case for extending this prevailing wage policy to public utility construction work is at least as compelling. Public utility projects are no less crucial to the public interest than these public projects currently subject to a prevailing wage floor. In fact, in many ways, public utility services are even more critical to the public interest given the pervasive daily dependence on these services by every Maryland resident and business.

Accordingly, workers on underground gas and electric construction projects should be compensated at the same rates as their public project counterparts. Extending Maryland's prevailing wage requirement

narrowly to underground construction work performed on investor-owned public utility projects is a reasonable extension of current Maryland prevailing wage policy and can be done at minimal cost to utility customers.

II. Alternative Rate Regulation Heightens the Need for a Prevailing Wage Floor to Ensure Reliable and Safe Utility Services

The Maryland Public Service Commission (MPSC) has directed development of an alternative ratemaking framework.[5] Sometimes referred to as "multi-year" ratemaking, this alternative framework or multi-year plan would lock in rates for a period of years, probably with some limited formulaic rate increases. Utilities often support alternative multi-year frameworks on the assumption that they will likely benefit from more revenue certainty and reduced regulatory lag, which delays rate increases utilities believe they need. Regulators sometimes see benefit in multi-year ratemaking as a way to reduce administrative costs and provide more price certainty for utility customers.

Alternative multi-year ratemaking may or may not benefit utilities and their customers, depending on the specifics. Importantly, multi-year rate plans could ultimately threaten reliability or safety by incentivizing utilities to forego operations and maintenance expenditures to protect their bottom line as their rates remain locked into a previously-set formula. This possibility makes it even more imperative to have a highly competent utility work force that performs the highest quality work on the front end, thereby minimizing the need for additional maintenance or repair work during the term of a utility's multi-year rate plan.

III. The Proposed Prevailing Wage Floor Would Have a Minimal Impact on Utility Bills

Utility rates already reflect billions in infrastructure investments by Maryland's public utilities. Any additional utility infrastructure investments are only incremental to the billions already reflected in customer bills. And wages associated with underground construction work comprise only a portion of those investments, most likely around 23%.[6] Moreover, costs associated with building this infrastructure represent only a portion of a utility's overall costs recovered through customer bills.

Importantly, public utilities do not set their own rates. Utility rates are set by state regulatory commissions, in this instance by the MPSC, and no investor-owned utility can increase its rates to Maryland customers without prior approval by the MPSC. This approval only happens after a typically rigorous court-like proceeding in which the requested rate increase receives intense scrutiny by the MPSC, including staff experts, sophisticated intervening parties and an administrative law judge. The MPSC's final determination ultimately reflects a broad array of different costs and considerations as well as a considerable amount of judgment. Capital expenditures are one of those considerations. The complexity, fluidity and considerable judgment inherent in rate setting is readily apparent in the fact that BG&E agreed to accept $69 million less revenue than the $148 million it initially requested for its combined gas and electric utilities, including $13.3 million less for its gas utility.[7]

The MPSC has approved rate increases for each of the State's five largest investor-owned utilities within the last two years. Those rate increases reflected additional infrastructure investments as well as many other inputs. In each case, the Commission allowed the utility to increase its revenue collected from ratepayers by a certain amount and then applied a rate allocation formula that resulted in a rate increase for each class of customer, including the residential class. The following table broadly summarizes the most recent MPSC rate decisions for five of Maryland's largest investor-owned public utilities:

Table 1: RECENT MARYLAND RATE CASE DECISIONS

Utility	Overall Rate Increase Requested	Overall Rate Increase Approved	Residential Bill Increase
BG&E Gas	$67.6 million	$54 million	$3.53 per/month Prior: $71.59 New: $75.12
BG&E Elec	$81.1 million	$25 million	$0.66 per/month Prior: $74.45 New: $75.11
WGL Gas	$35.9 million	$27.0 million	$3.06
Pepco Elec	$30.0 million	$10.3 million	$1.76
Potomac Edison Elec	$19.2 million	$6.2 million	$2.13

This table illustrates the broad range of rate requests; but more importantly, it pointedly illustrates the enormous impact of the MPSC. If nothing else, these recent rate case results make it abundantly clear that Maryland's public utilities cannot simply count on passing what they consider to be their reasonable costs onto their customers. Accordingly, it would be a mistake to conclude that any particular percentage increase in a cost input will invariably find its way into customer bills. The rigor of the rate case process, which includes layers of analysis and countless inputs, does not lend itself to easy pass-throughs or particularly large rate increases.

While the proposed prevailing wage floor at issue here ***might*** potentially result in higher rates, any such increases would be minimal. The Maryland Department of Legislative Services (DLS) estimates that a prevailing wage requirement could reasonably be expected to increase construction project costs by 2 to 5 percent. It is likely, however, that the impact would be on the low end of this range for at least two reasons:

- First, as noted by the DLS, "empirical findings over the past 10-15 years by multiple large-scale studies…have found no statistically significant effect of prevailing wages on contract costs"[8] This is likely the result of higher work productivity associated with prevailing wages as well as other factors, including contractors saving money on materials and possibly reducing profit margins to remain competitive.
- Second, the State's regulatory commission sets utility rates through a rigorous process that involves detailed review and the application of multiple factors. For example, relatively small reductions in only one input, the Company's authorized return on equity (ROE), can have a substantial downward impact on a utility's rates that could easily offset any modest increase in capital costs resulting from a prevailing wage. Therefore, rates do not necessarily track upward with increased costs for any particular input. To the contrary, rates approved by the MPSC tend to be substantially lower than those proposed, which is due in part to disallowing recovery of certain costs as well as reducing utilities' requested ROEs.

Rather than increase costs, a prevailing wage could just as likely reduce costs and put downward pressure on utility rates by ensuring a more efficient and productive workforce, while also reducing maintenance and repair costs over time. Studies have shown that a prevailing wage floor significantly increases worker productivity.[9] As Professor Kevin Duncan noted in a 2018 study he prepared on prevailing wage law effects, "the preponderance of peer-reviewed research conducted in the 21st century indicates that prevailing wage laws do not increase the cost of public construction."[10] Professor Duncan further observed that "of the combined 17 peer-reviewed studies over the last 18 years, 82% indicated that prevailing wages are not associated with increased construction costs."[11]

Likewise, while the DLS estimated that requiring the prevailing wage could reasonably be expected to increase construction project costs by as much as 2 to 5 percent,[12] the DLS also noted that empirical findings over the past 10 to 15 years by numerous large-scale studies "have found no statistically significant effect of prevailing wages on contract costs."[13] Furthermore, an independent analysis of public contracting bid data determined that other factors besides prevailing wages accounted for differences between bids containing prevailing wages and those that did not.[14] Paying the prevailing wage has been shown to reduce work interruptions and cost-overruns while also lowering injury rates.[15] As a result, a prevailing wage floor should result in work that is more efficient and ultimately less costly.

The old adage, "you get what you pay for" applies here and calls to mind the regrettable experience many of us have had when we have paid less on the front only to end up paying more in the long run for something that didn't hold up and needed to be replaced or re-done. Additional unnecessary maintenance or re-dos in relation to massive utility infrastructure projects can be extraordinarily costly and pose considerable risk to public convenience, safety and reliability. Importantly, studies and analysis by the DLS suggest that, with a prevailing wage for utility construction work, ratepayers will pay little if anything more to help ensure that the State's essential utility services remains safe and reliable through a highly skilled workforce.

Applying the prevailing wage hypothetically to BG&E's recent rate case illustrates the minimal rate impact a prevailing wage would likely have on utility rates. BG&E's last Maryland rate case resulted in a $54 million rate increase for its gas utility, which translates into a $3.53 per month increase in the average residential gas bill (from $71.59 to $75.12).[16] If the proposed prevailing wage floor had been applied in that case to all of the Company's additional rate base added since 2015, the DLS's estimated 2 to 5 percent cost impact would have increased the averaged residential customer's bill by no more than an additional 9 to 22 ***cents*** per month. Even if the prevailing wage had driven capital project costs up 10%, the average residential bill would still have increased by no more than 43 cents per month. The four exhibits attached to this report (Exhibits A–D) provide the details of this analysis:

- **Exhibit A:** This exhibit describes the methodology used to determine the possible impact of the proposed prevailing wage floor.
- **Exhibit B:** This exhibit provides a table showing the inputs used to calculate the rate impact, based on the same methodology BG&E used to calculate its proposed $67.6 million rate increase.
- **Exhibits C and D:** These exhibits provide illustrative tables showing the rate impacts on the average residential customers of BG&E's gas utility under each of three scenarios.

CONCLUSION

Public policy supports extending Maryland's prevailing wage floor to construction work on Maryland's critically important underground public utility infrastructure. This infrastructure serves an essential public purpose. It also entails significant public impacts and public safety risks. Therefore, the public interest requires policies that ensure the highest quality workforce to build and maintain this infrastructure. As utilities pursue major initiatives to modernize the State's public utility infrastructure, this is precisely the right time to extend the State's prevailing wage law as proposed here. Doing so will protect the public's interest in a safe, highly reliable public utility infrastructure going forward. Importantly, these benefits will come at little if any cost to utility ratepayers.

ENDNOTES

1 *Munn v. Illinois* 94 U.S. 113 (1877)

2 *See*, *"Industry Differences in the Elasticity of Substitution and Rate of Biased Technological Change Between Skilled and Unskilled Labor," Applied Economics*, Vol. 43, pp. 3129-3142 (Blankenau, William and Cassou 2011).

3 *See*, *Implications of Clarifying the Definition of Public Works and Prevailing Wage Coverage in New York: Effects on Construction Costs, Bid Competition, Economic Development, and Apprenticeship Training*, Kevin Duncan, Ph. D. BCG Economics, LLC and Professor of Economics, Colorado State University-Pueblo (March 15, 2018) ("Duncan Study") at p. 52 and pp. 57-60.

4 Maryland Code, State Finance and Procurement Section 17-201.

5 See Order No. 89226, *In the Matter of Alternative Rate Plans or Methodologies to Establish New Base Rates for an Electric Company or Gas Company*, Case No. 9618 (Aug. 9, 2019).

6 *See*, *Implications of Clarifying the Definition of Public Works and Prevailing Wage Coverage in New York: Effects on Construction Costs, Bid Competition, Economic Development, and Apprenticeship Training*, Kevin Duncan, Ph. D. BCG Economics, LLC and Professor of Economics, Colorado State University-Pueblo (March 15, 2018) ("Duncan Study") at p. 4.

See also, Department of Legislative Services, *Fiscal and Policy Note* for Senate Bill 278, Maryland General Assembly (2018 Session) at p. 8. (Noted the wages typically range from 20-30% of total project costs, but reference was not specific to public utility projects).

7 BG&E's filing with the MPSC requested a combined gas and electric rate revenue increase of $148 million, consisting of a $67.3 million increase in gas revenue, and an $80.7 million increase in electric distribution revenue. The Company ultimately agreed to revenue-requirement increases of $25 million for its electric utility and $54 million for its gas utility, totaling $79 million. *See* BGE Rate Case Order, Case No. 9610, Order No. 89400 (December 17, 2019).

8 Department of Legislative Services, Maryland General Assembly, Fiscal and Policy Notes for SB 278, (2018 Session) at p. 8.

9 *See*, *An Examination of Minnesota's Prevailing Wage Law Effects on Costs, Training and Economic Development*, Frank Manzo IV, MMP, Kevin Duncan, Ph.D. (July 2018).

10 *See*, *Duncan Study* at p.4.

11 *Id.*

12 The MDL's 2% to 5% estimated range of possible cost increases from the prevailing wage was used during the review of expanding prevailing wages to WSSC, which is also underground utility infrastructure work.

13 Department of Legislative Services, Maryland General Assembly, *Fiscal and Policy Notes for SB 278*, 2018 Session

14 *Id*.

15 *See*, *The Effect of Prevailing Wage Law Repeals and Enactments on Injuries and Disabilities in the Construction Industry*, Zhi Li, Chimedlkham Zorigtbaar, Gabriel Pleites, Ari Fenn, and Peter Philips, Public Works Management & Policy (January 13, 2019).

16 *Joint Motion for Approval of Agreement of Stipulation and Settlement*, Sheets G-1 and G-11.

POTENTIAL RESIDENTIAL UTILITY RATE IMPACT OF PREVAILING WAGE REQUIREMENT: BG&E CASE STUDY

EXHIBIT A
Methodology for Estimating Potential Rate Impact of Prevailing Wage Floor

- First, to evaluate the potential customer bill impact of a prevailing wage floor, I selected one representative Maryland utility for a case-study analysis. Specifically, I chose Baltimore Gas & Electric's (BG&E's) gas utility. I did not examine the impact on electric utilities because the proposed prevailing wage floor would apply solely to underground construction; and only a very small portion of electric utility infrastructure is underground. Therefore, the prevailing wage would have little discernable impact on electric rates. I examined BG&E as the most instructive gas utility example because BG&E: (a) had the most recent rate case; (b) is the State's largest gas utility; and (c) proposed and received the highest rate increase of any gas utility in the State. Therefore, the proposed prevailing wage would likely have a far greater impact on BG&E than any other gas utility. As such, the BG&E example likely reflects an upper bound on the potential rate impact of the prevailing wage.

- Second, I analyzed three different scenarios. The first two scenarios assumed that the prevailing wage floor would increase BG&E's capital project costs by either 2% or 5%, based on the range estimated by the Maryland Department of Legislative Services (DLS) for similar construction projects. To fully test the potential rate impact of the prevailing wage, I also assumed a 3rd, highly unlikely scenario, in which the prevailing wage increased BG&E's costs by 10%.

- Third, I analyzed BG&E's last rate case under each of these three scenarios as if the proposed prevailing wage had been in effect during that time and were applicable to the entire rate base increase between 2015 and 2019. During that time, BG&E's adjusted rate base increased by $653 million. I used this rate based increase as a proxy for the additional infrastructure investments that might have been affected by the prevailing wage floor. Accordingly, I then increased this $653 million delta by an additional 2%, 5% and 10% to calculate a new adjusted rate base for each scenario. To determine the potential prevailing wage impact on the Company's proposed overall rate increase, I subjected the revised rate base calculations to the same methodology BG&E used in its rate case to calculate its proposed $67.597 million rate increase. The results were as follows:
  - 2% Cost Increase → **$1.45M** additional overall rate increase
  - 5% Cost Increase → **$3.47M** additional overall rate increase
  - 10% Cost Increase → **$6.84M** additional overall rate increase

- Finally, I reduced the rate increase for each scenario in proportion to the MPSC's final decision, which reduced BG&E's rate increase by $13.6M from $67.6 million to $54 million. I then allocated 60% of the reduced overall rate increase to the residential class, using the revenue allocation formula approved by the MPSC. From there, I calculated the average residential bill impact for each of the prevailing wage impact scenarios (2%, 5% & 10%). The results were as follows:
  - 2% Cost Increase → $1.45M Revenue Increase → **$0.09 per/month bill increase**
  - 5% Cost Increase → $3.47M Revenue Increase → **$0.22 per/month bill increase**
  - 10% Cost Increase → $6.84M Revenue Increase → **$0.43 per month bill increase**

EXHIBIT B
How Possible Prevailing Wage Might Have Increased BG&E's Rate Request (Based on BG&E Company Exhibit DMV-2)

(Amounts Expressed in Thousands of Dollars)

	Description	BG&E Proposal	2% Cost Increase	5% Cost Increase	10% Cost Increase
	2015 Rate Base	$1,245,166[1]			
	2019 Adjusted Rate Base	$1,898,929			
	Difference between 2015 & 2019 Rate Base	$653,763	Added: $13,075 $666,838	Added: $32,688 $686,451	Added: $65,376 $719,139
1	Adjusted Rate Base	$1,898,929			
1a	Adjusted Rate Base + Prevailing Wage[2]		$1,912,004	$1,931,617	$1,964,305
2	Authorized ROR	7.25%	7.25%	7.25%	7.25%
3	Operating Income Required (Adjusted Rate Base x ROR)	$137,595	$138,620	$140,042	$142,412
4	Adjusted Operating Income	$89,986	$89,986	$89,986	$89,986
5	Operating Income Deficiency	$47,608	$48,634	$50,056	$54,426
6	Conversion Factor	70.43%	70.43%	70.43%	70.43%
7	**Revenue Requirement**	**$67,597**	**Adds: $1.45M $69,053**	**Adds: $3.47M $71,072**	**Adds: $6.84M $74,437**

1 Company Exhibit DMV-3, Docket 9406.
2 This line was not in Company Exhibit DMV-2. I added it for the revised adjusted rate base that resulted from applying the estimated rate impact scenarios.

EXHIBIT C
Potential Residential Rate/Bill Impact

(Amounts Expressed in Thousands of Dollars)

	BG&E Proposal	MPSC Approved	Assuming 2% Cost Increase	Assuming 5% Cost Increase	Assuming 10% Cost Increase
Dollar Revenue Increase	$67,597	$54,000	$55,163	$56,776	$59,464
Percent Revenue Reduction/Increase		**(20%)** [1]			
Amount of Increase Recovered from Residential Class (60%)[2]		$32,405	$33,103	$34,071	$35,684
STRIDE Transfer[3]		($5,629)	($5,629)	($5,629)	($5,629)
Net Residential Increase After STRIDE Adjust.[4]		$26,776	$27,474	$28,442	$30,055
Average Residential Bill Increase	$4.79	$3.53	Add: $0.09	Add: $0.22	Add: $0.43

It is clear that the potential customer rate impact of the proposed prevailing wage floor would be relatively small, even if the prevailing wage had a substantially bigger impact on construction costs than estimated by the DLS.

1 MPSC decision reduced rate increase from the proposed $67.6 million to $54 million, a 20% reduction.
2 Joint Stipulation, Sheet G-1.
3 Joint Stipulation, Sheet G-14, Line 1 (showing STRIDE transfer).
4 Reflects reducing STRIDE recovery by $5,629, which reduces net bill increase on residential customers.

EXHIBIT D
Summary Table

	Proposed Rate Increase	Approved Rate Increase Without Prevailing Wage	Added Increase w/Prevailing Wage 2% Cost Impact	Added Increase w/Prevailing Wage 5% Cost Impact	Added Increase w/Prevailing Wage 10% Cost Impact
Revenue Increase	$67.6 million	$54.0 million	**$1.45 million**	**$3.47 million**	$6.84 million
Residential Bill Increase		$3.53	**$0.09**	**$0.22**	$0.43
Total Bill	$76.38	$75.12	**$75.21**	**$75.34**	$75.55

Key inputs and assumptions for these calculations:

- Assumes 2%, 5% and 10% increases in BG&E infrastructure costs from prevailing wage floor. Note that the 10% scenario is highly unlikely as it is 100% higher than the high end of the impact range estimated by the Maryland Department of Legislative Services.

- Uses the $653 million delta between BG&E's $1,245,166 adjusted test-year rate base in 2015 and its $1,898,929 adjusted test-year rate base in 2019 as a proxy for the capital expenditures that might have increased because of the prevailing wage. It then applies the 2, 5 and 10 percent cost increases to the entire $653 million delta as follows:
  - $653 million x 2% = $13.075 million
  - $653 million x 5% = $32.7 million
  - $653 million x 10% = $65.4 million

- The next step in the methodology was to increase BG&E's 2019 adjusted test-year rate base of $1,898,929 by the assumed capital cost increases from the prevailing wage, based on the $653 million rate base delta for each of the three cost scenarios, 2%, 5% and 10%, as follows:
  - 2% Scenario: $1,898,929 + $13,075 = $1,912,004
  - 5% Scenario: $1,898,929 + $32,688 = $1,931,617
  - 10% Scenario: $1,898,929 + $65,376 = $1,964,305

- The next step was to calculate the total dollar rate increase associated with each of these three adjusted rate base amounts, using the exact same formula that BG&E used to calculate its proposed $67.6 million rate increase in Company Exhibit DMV-2. The $67.6 million increase increased minimally in each scenario as follows:
  - 2% Scenario: $1.45 million
  - 5% Scenario: $3.47 million
  - 10% Scenario: $6.84 million (highly unlikely)

- Finally, the potential residential bill impact was calculated by simply working off of the reduced $54 million overall rate increase approved by the Commission as follows: (a) reduced the estimated revenue impacts of the prevailing wage by 20% to reflect the 20% reduction in the overall rate increase approved by the MPSC; (b) allocated the revenue impact to the residential class using the MPSC's approved allocation formula; and (c) divided that number into the number of residential customers & calculated the monthly bill impact under each scenario:
  - 2% Scenario: $0.09
  - 5% Scenario: $0.22
  - 10% Scenario: $0.43