FILED
November 9, 2026
Missouri Public
Service Commission

Exhibit No. 201

OPC – Exhibit 201
Surrebuttal Testimony of Paul Alvarez
Case No. ER-2026-0143

Exhibit No.:	
Issue(s):	Grid Infrastructure
Witness/Type of Exhibit:	Alvarez/Surrebuttal
Sponsoring Party:	Public Counsel
Case No.:	ER-2026-0143

SURREBUTTAL TESTIMONY

OF

PAUL ALVAREZ

Submitted on Behalf of the Office of the Public Counsel

EVERGY METRO, INC. D/B/A EVERGY MISSOURI METRO

CASE NO. ER-2026-0143

** _____ **

Denotes Confidential Information that has been redacted

September 10, 2026

PUBLIC

TABLE OF CONTENTS

Testimony	Page
Introduction	1
Mr. Mulvany's Rebuttal Testimony	3
Mr. Alexander's Rebuttal	12
Mr. Rietcheck's Rebuttal Testimony	19
Mr. De Stigter's Rebuttal Testimony	23
Transmission Spending Observations and Disallowances	28
Review and Conclusion	33

SURREBUTTAL TESTIMONY

OF

PAUL J. ALVAREZ

EVERGY MISSOURI METRO

CASE NO. ER-2026-0143

I. INTRODUCTION

Q. Please state your name, title and business address.

A. My name is Paul J. Alvarez. My business address is Wired Group, P.O. Box 620756, Littleton, CO 80162.

Q. Are you the same Paul J. Alvarez who submitted testimony previously in this proceeding?

A. Yes. I submitted Direct Testimony on behalf of the Office of Public Counsel ("OPC") in this proceeding on June 30, 2026.

Q. What is the purpose of this testimony?

A. This Surrebuttal Testimony responds to the Rebuttal Testimonies of Evergy Missouri Metro ("EMM" or "Company") witnesses Mulvany, Alexander, Rietcheck and DeStigter as they relate to my Direct Testimony and that of my Wired Group colleague David C. Shapley, who is also testifying on behalf of OPC in this proceeding. In addition, I update my direct testimony regarding the Company's Transmission spending since the last rate case, as related data request responses were still outstanding when I submitted that Direct Testimony, and were not received in time to update in Rebuttal Testimony either.[1]

Q. Would you please provide a summary of your recommendations?

A. Upon review of the Company's rebuttal testimonies, the primary recommendations from my Direct Testimony stand. Those are:

[1] Responses to OPC data requests 5033 to 5054 related to transmission projects were received August 20, 2026.

P

1) That the Commission should require discretionary investments that EMM makes or proposes to pass a risk-informed benefit-cost analysis test of customer cost-effectiveness; and

2) That I endorse the Rebuttal Testimony of OPC Witness David C. Shapley, including that the Commission should order $115.7 million in disallowances recommended in his testimony as repeated from that testimony in the table below.

($ in millions)	**2022**	**2023**	**2024**	**2025**	**2026**	**Total**
Total Direct Testimony Disallowances	$11.534	$10.091	$8.902	$9.757	$10.947	$51.231
Transformer Spares (Rescinded)			(1.571)	(1.931)		(3.502)
Circuit Breakers (Rescinded)			(2.700)	(2.400)		(5.100)
Transmission Disallowances	65.358		7.752			73.110
Totals	$76.892	$10.091	$12.383	$5.426	$10.947	$115.739

In addition, I recommend the Commission disallow $14.7 million in transmission costs associated with spending to accommodate the new Panasonic plant in the Evergy Kansas Central service area, resulting in total disallowances between myself and OPC Witness Shapley of $130.426 million.

P

($ in millions)	2022	2023	2024	2025	2026	Total
Shapley Disallowances	$76.892	$10.091	$12.383	$5.426	$10.947	$115.739
Alvarez Disallowances				**____		____ **
Total Disallowances	$76.892	$10.091	$12.383	$20.113	$10.947	$130.426

II. MR. MULVANY'S REBUTTAL TESTIMONY

Q. What aspects of Mr. Mulvany's Rebuttal Testimony will you be addressing?

A. I will address Mr. Mulvany's residential roof replacement analogy and its relationship to the theory of capital bias; his shareholder-centric perspectives on asset management; and his assertion that the AssetLens software EMM employs to make tens of millions of dollars in grid investment decisions is "data driven".

Q. How does Mr. Mulvany employ a residential roof replacement analogy in his rebuttal testimony?

A. Mr. Mulvany uses a residential roof replacement analogy to challenge Mr. Shapley's and my recommendations that asset replacement decisions be based primarily on the objective results of diagnostic and functional equipment tests and formal equipment inspections, rather than replacement project scoring mechanisms such as the Company's AssetLens software. He explains "a homeowner may decide to replace an aging roof even though it has not yet developed a leak or collapsed. The decision is based on the age and condition

P

of the roof, its maintenance history, exposure to weather, and the consequences of failure, not solely on whether a leak or collapse has already occurred."[2]

Q. What do you think of Mr. Mulvany's analogy?

A. I do not believe the analogy provides support for prospective equipment replacement. Instead, I think the analogy does a good job of making the case for Mr. Shapley's and my recommendations to disallow much prospective equipment replacement spending, and that equipment replacement decisions should be based in largest part on the objective results of objective tests and formal inspections. I believe Mr. Mulvany's roof analogy also provides an opportunity to illustrate why utility capital bias represents an issue about which the Commission should be extremely concerned.

Q. How does the residential roof replacement analogy support your recommendation that objective equipment test and inspection results should be a primary driver of equipment replacement decisions?

A. All the roof replacement considerations Mr. Mulvany cites – age, condition, maintenance history, and exposure to weather – do not represent replacement decision endpoints. Rather, they are factors that variously impact the most significant consideration, which is whether the roof is capable of providing the function for which it was designed in a safe and reliable manner or not. Rather than measuring the contributing factors, diagnostic and functional equipment tests and formal equipment inspections objectively measure the critical question – whether the asset can serve its design function or not. If I am a homeowner facing a costly roof replacement decision, I would prefer to base my decision

[2] Rebuttal Testimony of Ryan Mulvany dated August 11, 2026 (hereinafter, "Mulvaney Rebuttal"). At 4:23.

P

on objective measures of the roof's ability to function rather than measures of a number of factors with various and variable contributions to the roof's ability to function. It is the end, not the means, that is of greatest concern to me as a homeowner.

As to the consequences of failure, those too can (and should) be objectively measured. For example, a homeowner can estimate the cost of deductibles for roof and home repair insurance claims, or the cost to replace home contents that might be damaged by leaks.

Q. How does Mr. Mulvany's residential roof analogy illustrate why utility capital bias represents an issue that should greatly concern the Commission?

A. Homeowners bear the cost of roof replacements. This means homeowners have economic incentives to defer roof replacements whenever possible, to choose repairs over replacement whenever possible, and to keep roof replacement costs as low as possible once a decision to replace has been made. A for-profit monopoly's economic incentives are completely the opposite. As the Commission is aware, utility capital spending increases the rate base on which utilities earn profits, meaning that as utility rate bases grow, utility profits grow (all else held equal). Unlike homeowners considering a roof replacement, utilities considering equipment replacements have an economic incentive to replace equipment as frequently as possible, to choose replacement over repair as frequently as possible, and to increase the cost of equipment replacements when such decisions are made. This economic incentive is known as capital bias,[3] and it discourages a utility from governing its capital spending. If a utility demonstrates an inability to govern its capital

[3] Averch H and Johnson L. 'Behavior of the Firm Under Regulatory Constraint.' The American Economic Review. Vol. 52, No. 5 (December, 1962), pp. 1052-1069. Direct Testimony of Kevin D. Gunn, page 9, Figure 1.

P

spending, I believe the Commission should step in to do so. As I mentioned in my Direct Testimony, the implementation of SB 4, and potential reductions in regulatory lag and cost disallowance risk, is likely to reduce utility incentives to govern their own capital spending.[4]

Q. Why do you characterize Mr. Mulvany's perspective on prospective equipment replacement as shareholder centric?

A. Mr. Mulvany claims that decisions to replace assets cannot be evaluated with the benefit of hindsight.[5] I agree that hindsight should not be used to determine the prudence of any individual project. But this does not mean the Company can avoid using the costs and benefits of projects completed historically to inform analyses regarding the cost-effectiveness of significant programs or practices, such as prospective equipment replacement. I believe the Commission and customers should expect utilities to conduct analyses on programs or practices like prospective equipment replacement to verify that projects completed as part of a program or practice are likely to deliver benefits in excess of costs. To spend tens of millions of dollars annually on prospective equipment replacement without completing any analyses indicating that the practice delivers benefits in excess of costs certainly cannot be considered prudent. Viewed from this perspective, Mr. Mulvany's claim reveals EMM's lack of interest in making data-driven grid investment decisions in customers' interest, or in improving the cost effectiveness of its grid investment decisions over time.

[4] Direct Testimony of Paul J. Alvarez dated June 30, 2026 (hereinafter "Alvarez Direct"). At 19:25.
[5] Mulvany Rebuttal at 7:3.

P

Mr. Mulvany is apparently unaware of the concept of verification. It is not difficult to verify the cost effectiveness of a prospective equipment replacement program. In fact, Mr. Alexander's Rebuttal Testimony does a good job of explaining exactly how EMM could do so.[6] While Mr. Alexander bemoans the way Mr. Shapley completed his analysis of lateral rebuild program cost-effectiveness (which Mr. Shapley corrects in a new analysis completed for his Rebuttal Testimony), I note that Mr. Shapley is an expert of limited time and resources who is not making any investments in EMM's grid. Given that EMM is investing tens of millions of dollars annually in prospective distribution and transmission equipment replacements, and given that EMM has plenty more resources at its disposal than OPC Witness Shapley, I question why EMM has not completed the analyses Mr. Alexander describes on its prospective equipment replacement programs.

I believe EMM prefers not to know whether its capital spending programs deliver benefits in excess of costs through verification studies, because to know this would lead to reductions in capital spending. If EMM has completed no analyses indicating that various prospective equipment replacement programs are likely to deliver benefits in excess of costs, then the Company has not adequately supported the prudence of its prospective equipment replacement programs. Further, the lack of such analyses reveals the shareholder-centric perspective EMM applies to discretionary grid investment programs and project choices.

[6] Rebuttal Testimony of Andy Alexander dated August 11, 2026 (hereinafter "Alexander Rebuttal"). From 25:11 to 26:21.

P

Q. Why do you disagree with Mr. Mulvany's claim that the AssetLens software the Company employs to justify grid investment decisions is data driven?[7]

A. I agree with Mr. Mulvany that AssetLens software prioritizes some projects over others through modeling that employs numerical inputs and produces numerical scores. However, the use of numerical inputs to develop numerical scores through modeling does not ensure that resulting recommendations are "data driven," and I will address this in detail later in this testimony.

Closely related to the program cost-effectiveness verification concept just explained is the concept of model validation. To validate the accuracy of a model is to compare the results of projects that have been implemented to the results projected by the model for those same projects prior to implementation. In this manner, the predictive accuracy of a model can not only be tested, but improved over time. Software models can be improved over time by changing the inputs employed, the calculations applied to those inputs, the weights applied to various calculated results, and so on. As the model's projections continue to be compared to actual results, changes that make the model more accurate are retained, while changes that make the model less accurate are discarded.

EMM Witness Rebuttal testimonies are replete with repetitions that many utilities use AssetLens, that several utility regulators have been impressed by AssetLens, and so on. As just one of dozens of similar sentiments expressed throughout EMM Witness Rebuttal testimonies, Mr. Mulvany states "The Commission should conclude that EMM's use of AssetLens is consistent with widely accepted utility asset-management practices and

[7] Mulvaney Rebuttal at 8:7.

P

reflects a reasonable effort to improve investment prioritization through the use of data, risk evaluation, and engineering expertise."[8] All these observations and regulatory endorsements ignore a critical fact: AssetLens developers do not use validation to improve the model's accuracy at projecting reliability improvements. In fact, to my knowledge the accuracy of the AssetLens model's reliability improvement projections has never been validated.[9]

A software model whose predictive accuracy has never been validated cannot be considered 'data driven.' Further, I cannot understand how EMM's use of a software model without validated accuracy to make grid investment decisions in the tens of millions of dollars annually can possibly be considered "reasonable." I strongly encourage the Commission to reach its own, independent conclusions about the reasonableness of EMM's reliance on a software model with no validated accuracy to make grid investment decisions that EMM justifies on the basis of expected reliability improvements.

Q. Are there other reasons to doubt Mr. Mulvany's claim that AssetLens is data driven?

A. Yes. Though EMM witnesses repeatedly refer to AssetLens outputs as benefit-cost ratios, this is a completely inaccurate characterization. AssetLens prioritizes projects based on risk reduction scores; it does not project the likely benefits of projects in dollars, and thus cannot be used as a test of cost-effectiveness. I characterize AssetLens outputs as 'risk reduction score to cost' ratios, and the difference is difficult to overestimate.

[8] Mulvany Rebuttal at 20:17.
[9] Company response to OPC 2024.

P

A projected benefit-cost ratio of $3.00 to $1.00 dollar means that for every dollar spent, $3.00 in benefit can be expected. Instead of benefit-cost ratios, AssetLens projects a "Risk Loss per dollar." As just one example, Asset Lens projected a "Risk Loss per dollar' of 33 for a lateral rebuild project costing $146,000 and serving just 38 customers ($3,851 per customer).[10] The only thing a "Risk Loss per dollar" score of 33 can tell a decision-maker is that the project would be better to implement than a project with a score of 12.8, but not as beneficial as a project with a score of 51.6. The "Risk Loss per dollar" score does not indicate if any of the projects are likely to deliver reliability improvements of sufficient dollar value to exceed their costs. An Administrate Law Judge in Michigan, in a proposed utility rate case decision prepared for state regulator consideration, used a shopping list analogy to illustrate the deficiency of using prioritization scores to select projects for implementation:[11]

> "If I have a list of 10 possible purchases and I rank them from #1 through #10, that tells me what order to buy them in but it tells me nothing about whether to buy the first one of them, or the first three, or the first five, etc. Nor does it tell me how many of the purchases I can afford. Nor does it tell me which purchases will have more value to me than they will cost. Nor does it tell me whether to buy all of them over two years, or five years, or ten years. The GPM (Global Prioritization Model)[12] similarly tells DTE none of these things."

[10] Q5008S_Lateral Info-a, line 44, Project 0027012062.
[11] Michigan PSC Case No. U-21297. Proposed decision dated October 5, 2023. Page 188.
[12] The Global Prioritization Model is a spreadsheet-based tool DTE developed to create prioritization scores for capital projects and programs. The Model's approach is similar to that of AssetLens, and DTE does use AssetLens.

P

Q. If the Commission should not accept prioritization scores as a means to select projects for implementation, what do you recommend it do instead?

A. As I recommended in my Direct Testimony, the Commission should require EMM (and other Missouri utilities) to complete risk-informed benefit-cost analyses for all discretionary projects and programs of significant size. The equation to quantify risk reduction benefits in dollars (for comparison to costs) is presented again below for convenience.[13]

Annual Value of Risk Reduction (in $)	=	Annual Adverse Event probability %	✖	Reduction in probability % as a result of investment	✖	Consequence of the Adverse Event (in $)

I understand that the Commission and parties went through significant effort to ensure that the US Department of Energy's online Value of Reliability Improvement tool reflected Missouri-specific data. The "Consequence of the Adverse Event (in $)" term in the risk reduction benefit equation would represent an excellent application for the Missouri-specific version of the online tool (in instances in which the 'adverse events' being avoided are service interruptions).

[13] California Public Utilities Commission. Decision 22-12-027 dated December 15, 2022 in R.20-07-013. Appendix

P

III. MR. ALEXANDER'S REBUTTAL

Q. What aspects of Mr. Alexander's rebuttal testimony are you addressing?

A. Mr. Alexander's Rebuttal Testimony begins with three reasons why the Commission should support prospective equipment replacement generally, and I will address these. Turning to the lateral rebuild program specifically, he cites Commission precedent and the superior reliability of underground service as reasons for the Commission to reject OPC Witness Shapley's recommendation to disallow lateral rebuild project costs, and I will address these as well. Finally, I will address Mr. Alexander's support for EMM's use of AssetLens software to select prospective equipment replacement projects for implementation, which amounts to 'other regulated utilities are doing it.'

Q. What are the three reasons Mr. Alexander provides in support of prospective equipment replacement generally?

A. Mr. Alexander states 1) Much equipment in the EMM service territory is old, and must be replaced in coming decades; 2) Older circuits are built to less strict design standards; and 3) Surveys indicate that 93% of customers expect EMM to invest in replacing aging power lines, poles, and equipment.[14]

Q. Is it not true that much EMM equipment is old and must be replaced in coming decades?

A. It may be true that much of EMM's equipment is old, but EMM equipment (for example, equipment on a given circuit, lateral, or substation) is not universally old. Modern utility grids are in a constant state of renovation in the normal course of business. Load increases

[14] Alexander Rebuttal, from 4:10 to 5:17.

P

can require replacement of equipment with equipment of higher capacity. Equipment that fails an objective test or formal inspection is often replaced. A road expansion project may cause a section of overhead line to be relocated, and rebuilt to the construction standards of the day. An ice storm or falling tree limbs can break a conductor, causing it to be repaired or replaced. Thus, while a circuit or lateral may have been built in 1930, it is unlikely that much of that original equipment is still in operation today. The equipment has largely been replaced over time.

This means that in large rebuild projects, much of the equipment being replaced is not that old. In lateral rebuild projects, all the existing equipment is taken out of service and replaced with new, regardless of existing equipment age. This can be observed in OPC Witness Shapley's Rebuttal Testimony, in which many transmission replacement projects have significant proportions of undepreciated original cost remaining on EMM's books, indicating replacement of equipment that is not that old. In due time, all original equipment is eventually replaced in the normal course of business, with those costs appropriately spread out as needs dictate. In contrast, wholesale equipment replacement projects can be very costly with little to show for them, as indicated by the lateral rebuild cost-effectiveness analysis Mr. Shapley completed for his Rebuttal Testimony.

Q. Is it not true that older circuits were built to less strict construction standards?

A. I believe construction standards vary by utility. For example, Mr. Alexander states that Evergy has adopted Class B construction standards,[15] which require thicker poles and shorter spans between poles than Class C construction standards. To my knowledge,

[15] Alexander Rebuttal at 5:9.

P

adoption of Class B construction standards is not mandatory, and thus Evergy chose to adopt Class B construction standards. In Evergy's case, it may be true that any circuits not built recently were built to Class C standards. But this does not mean that hundreds or thousands of miles of circuit EMM's predecessor utilities built to Class C standards must be rebuilt. When a utility adopts a new construction standard, it means only that new construction must be built to the new (voluntary) Class B standard.

Importantly, I alert the Commission to the fact that EMM's adoption of the Class B standard can work to customer disadvantage. For example, Mr. Alexander's testimony refers to the replacement of copper conductor with ACSR (Aluminum) conductor.[16] If EMM had not adopted a Class B standard, conductor replacement could be accomplished without rebuilding entire laterals. (Because ACSR conductor is lighter than copper conductor, poles designed for copper can accommodate ACSR without pole replacement.) But unfortunately, conductor replacement constitutes new construction, and because EMM has adopted a Class B construction standard, replacement of copper conductor with ACSR now requires complete pole replacement and full lateral rebuilds. This is a comparatively high-cost proposition; Mr. Alexander estimates a $220 million cost to replace copper conductor with full rebuilds.[17] Had EMM retained a Class C construction standard, at least for laterals, the cost to replace copper conductor would be dramatically lower. In summary, while EMM's adoption of Class B construction standards offers benefits, it also suffers from drawbacks (dramatically higher costs).

[16] Alexander Rebuttal from 11:12 to 12:10.
[17] Alexander Rebuttal at 12:2.

P

Q. How do you respond to the report that 93% of customers expect EMM to invest in replacing aging power infrastructure?

A. Of course the vast majority of customers expect this. But customers maintain many other expectations Mr. Alexander does not report on, and that J.D. Power is unlikely to ask about in customer surveys. For example, customers also expect affordable rates, and Mr. Alexander does not report on that expectation. Customers also expect utilities to make prudent, cost-effective spending decisions, though I doubt J.D. Power asks about this expectation in utility surveys. Customers probably also expect regulators to ensure utility spending decisions are prudent and cost-effective. Anecdotes are not data, and objective review of data and datapoints that are not biased by utility perspectives, or by utility anecdotes intended to stoke fear in (appropriately) risk-averse regulators, is called for.

Q. What does Mr. Alexander state regarding Commission precedents?

A. Mr. Alexander states that the Commission has never disallowed an investment related to a program included in an annual reliability report, which the Company has filed annually since 2008. He also notes that neither Commission Staff nor OPC have objected to overhead investments since the enactment of Senate Bill 564 and associated public stakeholder meetings.

Q. What do you make of the fact that the Commission has never disallowed an investment related to program in an annual reliability report, first filed in 2008?

A. One reaction is that this fact is of no consequence. OPC hired Mr. Shapley and I to identify unnecessary, premature, inappropriate, and cost-ineffective project and program spending since the Company's last rate case, and that is what we have done. However, a more critical

P

reaction is that this observation is an indication of a significant shortcoming in for-profit utility regulation in Missouri.

Q. How so?

A. My perspective on advance regulatory review of spending plans is made clear in a paper I co-authored,[18] and in testimony before multiple state utility regulators in multiple proceedings. I believe advance regulatory review of utility spending plans reduces cost disallowance risk, because regulators may be reluctant to disallow the cost of projects arising from programs they have reviewed, but not rejected, in the past. As such, despite regulatory and legislated assurances to the contrary (depending on the state), this advance regulatory review of spending plans acts as a sort of advance determination of prudence, with concomitant reductions in cost disallowance risk for utilities.

Further, because cost disallowance risk is critical to encouraging utility capital spending self-governance, I believe advance regulatory review of utility spending plans discourages capital spending self-governance. My Wired Group colleagues and I have observed this phenomenon in multiple jurisdictions, noting that utilities will add programs to a spending plan to be reviewed in advance that they would never spend capital on absent spending plan presentation and associated reductions in cost disallowance risk. That the Commission has never disallowed an investment related to programs slated for spending in an annual reliability report is evidence that utility regulation in Missouri suffers from this deficiency, and I believe Missouri electric customers are worse off for it.

[18] Alvarez P, Costello K, Ericson S and Stephens D. Alternative ratemaking in the US: A prerequisite for grid modernization or an unwarranted shift of risk to customers? The Electricity Journal 35 (2022). 10700.

Q. How do you respond to Mr. Alexander's observation that neither Commission Staff nor OPC have objected to overhead investments since the enactment of Senate Bill 564 and associated public stakeholder meetings?

A. Again, this observation is of no consequence. No party's failure to object to a spending program should preclude that party from finding that a project completed as part of that program was imprudent. Further, I do not believe any utility should rest assured that programs or spending a party (or the Commission) fails to oppose in the past inoculates the utility from cost disallowance risk. Such perceptions discourage utility capital spending self-governance, and I think the Commission should avoid creating these perceptions among utilities as opportunities to do so arise. I believe the cost disallowances OPC Witness Shapley and I recommended present the Commission with just such opportunities.

Q. What do you make of Mr. Alexander's observation that the reliability of overhead lines is inferior to that of underground lines?

A. That underground lines are more reliable than overhead lines is not some sort of prescient revelation. Overhead line reliability will never be as good as that of underground lines. Even after rebuilding, overhead lines remain exposed to lighting, ice, falling trees and tree limbs, routine vegetation contact, animal contact, vehicle accidents, and other service interruption causes to which underground lines are not exposed. As underground lines will never be exposed to these, rebuilding overhead lines because underground reliability is superior is a fool's errand.

As reported by OPC Witness Shapley in his Rebuttal Testimony, lateral rebuild projects completed in 2022 improved reliability from an average of 153 minutes' SAIDI[19] to 122 minutes. But he noted that much of this improvement was probably due to the tree trimming completed as part of lateral rebuild construction, and I note 122 minutes is nowhere near the 59-minute average SAIDI that Mr. Alexander identifies for underground lines in any event.[20] In summary, the fact that underground line reliability is much better does not constitute a justification for sinking tens of millions of dollars annually into rebuilding overhead lines that will never approach the reliability of underground lines.

Q. How does Mr. Alexander support EMM's use of AssetLens software to select prospective replacement projects, including lateral rebuilds, for implementation?

A. Both Mr. Mulvany and Mr. Alexander use the fact that many for-profit utilities use software models like AssetLens to successfully convince regulators of the need for prospective equipment replacements, and that as a result, the Commission should recognize programs like EMM's lateral rebuild and substation equipment replacement projects as prudent. However, I do not believe the fact that regulators in some other jurisdictions have accepted the prudence of projects recommended by unvalidated project prioritization models should sway this Commission's decisions. (In fact, some regulators have removed some such projects from utility spending plans, as I will discuss later in this testimony.)

In considering the asset management models for-profit utilities use to justify capital spending decisions, I encourage the Commission to consider the competitive market for asset management software. No asset management software developer hoping for revenues

[19] System Average Interruption Duration Index.
[20] Alexander Rebuttal, "EMM Normalized SAIDI by OH/UG Customers", figure on page 9.

P

from for-profit utilities would miss the opportunity to help those utilities spend more capital, and indeed, none does. Other asset management software packages aimed at for-profit utilities, including Copperleaf's C55 and Hitachi's Lumada APM, also feature the capital spending recommendation and justification capabilities that for-profit utilities value. I have investigated all these models as part of utility rate case proceedings, and have found that ***none*** have been validated for reliability improvement projection accuracy.

Like Mr. Mulvany, Mr. Alexander states (word-for-word), "The Commission should conclude that EMM's use of AssetLens is consistent with widely accepted utility asset-management practices and reflects a reasonable effort to improve investment prioritization through the use of data, risk evaluation, and engineering expertise." As I explained above, use of a software model that has not been validated to justify tens of millions of dollars in investment is not reasonable. Further, because AssetLens projects relative benefits in terms of risk reduction scores, rather than dollars, EMM has not demonstrated that the lateral rebuild projects cost-effectively improve reliability.

Q. How would you summarize your response to Mr. Alexander's rebuttal testimony?

A. Based on the foregoing, I continue to endorse Mr. Shapley's recommendation that lateral rebuild project spending be disallowed, as EMM has not demonstrated such spending to be a cost-effective way to improve reliability.

IV. MR. RIETCHECK'S REBUTTAL TESTIMONY

Q. Which components of Mr. Rietcheck's rebuttal testimony are you addressing?

A. Mr. Rietcheck repeats the same biased perspectives that Messrs. Mulvaney and Alexander provide. These include that our recommended reliance on objective test and inspection

P

results is excessive; that our approaches amount to the practice of 'run to failure' (it does not); and that prospective equipment replacements are standard practice (though the level of replacements EMM practices appears to OPC Witness Shapley to be extreme). As this testimony and Mr. Shapley's Surrebuttal Testimony have addressed these repeated perspectives extensively already, I will not address them again here. However, Mr. Rietcheck goes one step farther, claiming that EMM's use of the risk-informed benefit-cost analysis Mr. Shapley and I recommend would be "highly irresponsible."[21] Instead, Mr. Rietcheck cites EMM's compliance with the ISO 55000 Asset Management standard. I will challenge this claim, and follow Mr. Rietcheck's rejection of economic screens such as risk-informed benefit-cost analysis to its logical conclusion.

Q. What does Mr. Rietcheck claim regarding EMM's compliance with the ISO 55000 Asset Management Standard?

A. Mr. Rietcheck implies that EMM's prospective replacement policies comply with the ISO 55000 Asset Management Standard, stating "(ISO) 55000 Asset Management Standards define asset management as balancing risk, cost, and performance throughout asset lifecycle." While this is the definition found in the Standard, I note that ISO 55000 says nothing about replacing equipment that has passed objective diagnostic or functional tests or formal inspections. I also note that EMM has provided no quantitative, rigorous analysis, whether risk-informed or not, to demonstrate that the level of prospective equipment replacement EMM practices achieves the 'balance' of risk, performance, and cost to which the ISO 55000 standard refers.

[21] Rebuttal Testimony of Andrew Rietcheck dated August 11, 2026 (hereinafter, "Rietcheck Rebuttal"). At 6:5.

P

Of significant interest to the Commission may be ISO Standard 55002, which concerns the implementation of Asset Management systems. ISO Standard 55002 provides significant guidance with respect to external stakeholders, specifically to include customers. Section 4.2.3 of the Standard states, in part, "Since the views of stakeholders can have a significant impact on the organization's asset-related decisions, it is important that their perceptions are determined, recorded and taken into account in the organization's decision-making process" and "The external (and internal) stakeholders' input to establishing decision-making criteria is important for setting priorities and resolving conflicting requirements. Decision-making criteria should be appropriate to the importance and complexity of the decisions being made. These criteria should be used to evaluate competing options to meet asset management objectives and develop asset management plans."[22] I note that utility capital bias and customer interest in affordable service certainly constitute "conflicting requirements," though there is no evidence that EMM's asset management practices comply with any of these passages from ISO 55002. As a case in point, I reiterate that Mr. Shapley testified in his Surrebuttal Testimony that the level of prospective equipment replacement in which EMM engages is far beyond the industry standards with which Mr. Shapley is familiar.

Q. What does it mean to follow Mr. Rietcheck's rejection of economic screens to its logical conclusion?

A. Mr. Rietcheck states, "By focusing primarily on economic screening methodologies and high-level reliability metrics, Mr. Alvarez largely overlooks the condition-based asset

[22] International Standards Organization. *International Standard ISO 55002, Asset management – Management systems – Guidelines for the application of ISO 55001*. Second edition, 2018-11. Page 4.

P

management processes that utilities employ to identify and mitigate risk before customer outages, equipment failures, or operational disruptions occur." In plain language, this statement says to me, "We have no interest in the quantitative approaches you recommend; trust us, we know what we are doing." Given capital bias, I do not believe the 'trust us' construct works in for-profit monopoly utility regulation. If there is no quantitative analysis, how can the Commission determine the level at which prospective equipment replacement becomes excessive? Taken to its extreme, a lack of quantitative analysis risks permitting any amount of capital spending, no matter how large, to improve reliability by any amount, regardless of how small. Clearly, failing to quantify the cost-effectiveness of discretionary spending is inappropriate, and this is what I mean to highlight by following Mr. Rietcheck's rejection of economic screens to its logical conclusion.

Q. What does all this mean from a utility customer's perspective?

A. In contrast to Mr. Rietcheck's perspective, which is to reject quantitative tests of cost effectiveness as "highly irresponsible," I think the average customer would find the lack of such tests to be "highly irresponsible." Use of the qualitative approaches Mr. Rietcheck seems to favor are fine as far as they go, but they should be applied in addition to, not in place of, rigorous, quantitative, risk-informed cost-effectiveness tests. In summary, I believe most customers would agree that starting with quantitative analyses, and adding the qualitative perspectives as appropriate, is the optimal approach, and I think the Commission will agree. Unsurprisingly, having reviewed the Rebuttal Testimonies of Messrs. Mulvany, Alexander, and Rietcheck, my recommendation is that the Commission order EMM to complete risk-informed benefit-cost analysis for discretionary projects and programs of significant size stands.

P

V. MR. DE STIGTER'S REBUTTAL TESTIMONY

Q. What components of Mr. DeStigter's rebuttal testimony are you addressing?

A. As the leader of the business unit that offers AssetLens, Mr. DeStigter understandably uses his Rebuttal Testimony to defend the software and utilities' use of it to justify capital spending decisions. He states that the software is not subjective;[23] that it does offer benefit-cost ratios;[24] and that six for-profit utilities have used the software to secure regulatory approval for $4 billion in grid investments intended to improve reliability.[25] I will address each of these in turn.

Q. How do you respond to Mr. DeStigter's claim that the software is not subjective?

A. I agree that parts of the software are objectively sound. In particular, though with reservations, I appreciate the software's use of equipment survivor curves to estimate the likelihoods of failure for various types of utility equipment. However, as the risk-informed benefit calculation indicates, both likelihoods of failure and consequences of failure are important to benefit projections, and I believe consequence of failure estimation is where AssetLens becomes subjective. It is my impression that the software was not designed to identify and discourage investments that are not cost-effective at improving reliability, but that it was designed to secure regulatory approval for the large increases in capital spending that for-profit utilities' capital bias drives them to propose in spending plans.

[23] Rebuttal Testimony of Jason D. DeStigter dated August 11, 2026 (hereinafter, "DeStigter Rebuttal"). At 6:1.
[24] DeStigter Rebuttal, page 5.
[25] DeStigter Rebuttal, at 20:8.

P

Q. How do you believe AssetLens is deficient when it comes to failure consequence estimation?

A. In two ways. First, I believe AssetLens failure consequence estimation to be subjective. Second, as I have repeated multiple times, risk reduction scores are poor substitutes for consequences estimated in dollars.

Q. Mr. DeStigter notes that utilities supply grid data as inputs, as specified in EMM's response to OPC DR 5010. Why do you believe resulting consequence scores to be subjective?

A. AssetLens may use grid data as inputs, but that does not mean the model is objective. For example, the Model measures and scores six consequence domains, including customer outages, critical customer outages, incremental restoration costs, safety consequences, environmental consequences, and collateral damage consequences. I ask, why these six domains? Why not four, or twelve? The selection of consequence domains to be employed by the model appears to be the result of subjective decisions.

Regarding customer outages, it seems the Model quantifies benefits in dollars at some point in its internal calculations. But these dollar values are not provided for review, and they appear to be converted back into scores in the Model's final outputs. This conversion of dollar values back into scores is inherently subjective.

Looking deeper, I am skeptical of the critical customer consequence score. I ask, what constitutes a critical customer? How was this definition determined? Why were small business outage costs utilized as a proxy for these customers, multiplied by some

P

factor? How was the multiplication factor determined? Again, all these decisions appear to be subjective.

Regarding the incremental restoration cost score, I am concerned associated calculations drastically overstate risk reduction benefits. I believe the Model's calculations of this benefit are overly simplistic, and are not based on marginal incremental labor expense. For example, DTE Electric is an AssetLens customer, and it uses supplemental modules custom-built by Mr. DeStigter's team to convert risk reduction scores into dollars. In testimony submitted just two weeks ago by one of my Wired Group colleagues, the annual savings from avoided incremental restoration costs of just two (admittedly large) capital programs out of ten evaluated by these custom-built modules amounted to more than 40% of the utility's entire annual ($559 million) emergent replacement budget.[26] That two capital spending program can create savings equal to 40% of a utility's annual emergent replacement budget does not pass the smell test, and it is an illustration of the consequences of failing to use validation to improve a model's predictive capabilities.

I harbor similar concerns about the incremental consequence multipliers assigned to primary conductor located near buildings, and cable splices near manholes (safety consequences); poles with transformers mounted on them (environmental consequences); and equipment installed in underground civil structures (collateral consequences). More broadly, I am concerned about the weights assigned to each of the six consequence domains. I ask, in what proportions are the six consequence domains combined to deliver

[26] Michigan Public Service Commission Case No. U-22046. Direct Testimony of Dennis Stephens dated August 26, 2026. From 20:14 to 21:17.

P

an overall consequence score? These multipliers, and the weights applied to domains, all appear to be subjectively determined.

Q. But don't all models employ some number of assumptions and subjective estimates?

A. Yes, I believe all models do. That is precisely why the predictive accuracy of a model must be validated by comparing the results projected by the model for specific projects (such as reliability improvements) against the actual results delivered by those same projects after completion. Only through validation can the assumptions and subjective estimates employed by the model be improved over time; only through validation can the correct domains be identified as drivers, and the correct weights for those domains be determined. Without validating the accuracy of projected results against actual results for specific projects, a model is just an accumulation of educated guesses. Until it is validated, AssetLens should not serve as a basis for making multi-million-dollar investment decisions, and my perspective that AssetLens scores are highly subjective remains unchanged.

Q. Regarding your claim that AssetLens estimates risk reduction benefits as scores rather than dollars, in his rebuttal testimony Mr. DeStigter includes a significant exhibit, JDD-2, that illustrates benefits calculated in dollars. How do you respond?

A. As the exhibit indicates, the illustrations in dollars are sourced from work Mr. DeStigter's firm completed for DTE Electric.[27] Having worked on the case cited on behalf of the Michigan Attorney General's office and a group of customer and environmental advocates, it is my understanding that this was all custom work commissioned by DTE Electric. It is

[27] EMM Exhibit JDD-2. Page 1.

P

my further understanding that the capabilities depicted in EMM Exhibit JDD-2 are not standard AssetLens features, and that EMM does not have access to the features custom-built for DTE Electric. Finally, as indicated above, while the AssetLens model EMM uses may calculate reliability improvement value in dollars at some point, these dollar values only appear to be used to calculate scores, and are not available for OPC review.

Q. Your critiques appear well-informed and well-considered, yet Mr. DeStigter's resume identifies multiple state utility proceedings in which regulators approved large capital spending plans justified by AssetLens software. Can you explain this?

A. Of course I cannot explain regulators' decisions. However, I can state with confidence; 1) that very few, if any, experts who routinely oppose utilities in state regulatory proceedings maintain the understanding of AssetLens software that Wired Group experts do; and 2) Wired Group experts do not work in all states. Of the twenty proceedings Mr. DeStigter lists on his resume,[28] Wired Group associates were involved in just four. Wired Group findings and testimony identified premature, unnecessary, and cost-ineffective utility spending plans in all four proceedings, and settlements or regulators' orders significantly reduced planned spending in areas identified by the Wired Group associates in three of the four proceedings. I continue to encourage the Commission to avoid assuming prudence for projects recommended by the AssetLens model.

[28] EMM Exhibit JDD-1, pages 2 and 3.

P

VI. TRANSMISSION SPENDING OBSERVATIONS AND DISALLOWANCES

Q. Would you please give a preview this section of testimony?

A. As indicated in my direct testimony, responses to outstanding data requests had not been received by the time that testimony was due. This section of testimony presents overall impressions of EMM transmission spending, and these impressions support the nature of disallowances OPC Witness Shapley recommends in his surrebuttal testimony. It also supports Staff Witness Young's assertion, challenged in Mr. Mulvany's Rebuttal Testimony,[29] that EMM transmission spending has increased markedly since the implementation of PISA. Additionally, I address the allocation to the EMM rate base of transmission substation spending by Evergy Kansas Central to accommodate the new Panasonic plant, recommending an additional disallowance of **_____ **

Q. Please present your overall impressions of EMM transmission spending.

A. My critiques of EMM transmission spending mirror my critiques of EMM distribution spending. That is, discretionary capital spending decisions are not made based on a rigorous assessment of benefits and costs, but on EMM's subjective impression of perceived 'needs,' generally consisting of prospective equipment replacements. This means that EMM does not quantify either the low likelihood of failures in service (transmission equipment is extremely reliable) or the availability of back-up capacity to avoid service interruptions when making prospective equipment replacement decisions. (While back-up capacity is reserved for significant proportions of distribution equipment, back-up capacity is reserved for virtually 100% of transmission equipment, in accordance with Critical

[29] Mulvany Rebuttal, from 10:17 to 19:7.

P

Infrastructure Protection Standards issued by the North American Electric Reliability Corporation.)

EMM claims reliability is the justification for prospective transmission equipment replacement decisions. Yet if EMM does not quantify the reliability improvements of such decisions, and the associated value to customers in dollars, EMM cannot possibly know if such spending will cost-effectively improve reliability. Any utility can spend capital to improve reliability. The question, for either distribution or transmission, is whether the reliability improvements to be expected are worth more than proactive equipment replacement's incremental costs to customers.

Q. Can you provide an example to illustrate the likelihood that a transmission transformer failure will result in a service interruption?

A. As reported by OPC Witness Shapley, according to the Company's own depreciation study, the likelihood that a 50.5-year-old power transformer will not survive to 51.5 years is 1.64%. Given that transmission grids are designed to N-1 redundance, the likelihood that back-up capacity will not be available to continue providing power in the event that 50-year-old transformer fails is also very small. For the sake of illustration, we will assume that back-up capacity is unavailable for 5% of the hours in an average year.

The math to calculate the annual likelihood that a transmission transformer failure (as an example) will result in a service interruption is simple. For a service interruption to occur, the transformer must fail (1.64% annual likelihood) during a time when back-up capacity is unavailable (5% annual likelihood). In this illustration, that amounts to 1.64% of 5%, or 0.00082, or 8.2 chances out of 10,000 annually that a service interruption will occur due to a transmission power transformer failure.

P

Q. That is a very small likelihood. Does EMM employ these calculations when making decisions to prospectively replace transmission equipment?

A. No. EMM provides no such calculations in support of its decisions to prospectively replace transmission equipment. The small likelihood that transmission equipment failure will result in a service interruption, combined with the high cost of prospective transmission equipment replacement, is precisely why the 'economic screens' Mr. Rietcheck rejects are essential to making cost-effective transmission equipment replacement decisions. As a result of these observations, I endorse OPC Witness Mr. Shapley's transmission spending cost disallowance recommendations.

Q. Would you please address the allocation to the EMM rate base of transmission spending by Evergy Kansas Central to accommodate the new Panasonic plant?

A. As the Commission is likely aware, the costs for transmission plant placed into service by Evergy utilities are allocated to one another by established allocation percentages. The thinking is that the ability to transport electric power into the Evergy companies' service areas, and the ability to transport electric power from one Evergy company to another, benefits all Evergy company customers.

Q. Did Evergy Kansas Central spend capital on transmission facilities to accommodate the new Panasonic plant?

A. Yes. EMM's share of that spending appears to be **_____ **

[30] Q5000S_CONF_Plant Adds 2021-2026 for Trans Mulvany_DRs WP_Justification. Cells F6 + F7.

P

Q. What is your concern?

A. My concern is that Evergy Kansas Central collected no Contributions In Aid of Construction (CIAC) from Panasonic to help offset the cost to construct the transmission facilities required to serve the Panasonic plant's load.

Q. Is collecting CIAC charges from large new customers common?

A. It is extremely common. All utilities that I know of maintain tariffs or line extension policies that specify how CIAC charges are to be calculated and collected from large new customers. A utility's standard tariffs are thought to recover most of the cost of new customer construction over time as the new customer is billed for electric service. However, if the sales volumes from the new customer fail to materialize as expected, customers at large would be forced to make up the difference. CIAC charges are thus intended to protect customers from having to cover new customer construction costs that might not be covered if sales volumes from the new customer are less than expected.

Q. How are CIAC charges calculated for new customers?

A. Utilities and states employ different approaches, but CIAC charges are typically based on the expected construction cost less an allowance for expected revenues from a new customer over a defined period (such as four or five years). In my experience, CIAC charges up to 50% of the cost of construction required to accommodate a new customer are not uncommon, and they can reach 100% of construction costs in some cases.

Q. Why did Evergy Kansas Central fail to collect a CIAC charge from Panasonic?

A. EMM claims Evergy Kansas Central's Line Extension Policy historically did not cover line extensions at transmission voltages. Evergy Kansas Central's Large Load Rate Plan was

P

under development at the time of Panasonic's connection request, so in the interim, the utility's existing line extension policy was applied.[31] This does not seem reasonable to me. Indeed, the Large Load Rate Plan the Kansas Corporation Commission ultimately approved for Evergy Kansas Central still exempts transmission spending from CIAC charges.[32] It does not seem fair to me that decisions made by Evergy Kansas Central and the Kansas Corporation Commission should increase EMM's rate base and Missouri customer rates.

Q. What is your recommendation?

A. I recommend the Commission disallow 50% of the **_____ ** transmission plant in service added to rate base **_____ ** on the basis that large load tariffs should not exempt transmission spending from CIAC charges. Even in Evergy Kansas Central's situation, where a transmission CIAC charge had not previously been contemplated, I believe the utility, and its parent company, should have anticipated that customers would expect their utilities to collect transmission CIAC charges from new customers, as is customary for distribution line extensions. I further recommend that the Commission, at upcoming opportunities in utility rate cases, and in the instant proceeding, eliminate the CIAC transmission cost exemption from utility large load tariffs.

[31] EMM Response to OPC 5050
[32] Evergy Kansas Central Tariff. Section 8.08 (C), Sheet 16.

P

VII. REVIEW AND CONCLUSION

Q. Would you summarily give a review of this testimony?

A. Upon review of the Company's rebuttal testimonies, including those of Witnesses Mulvany, Alexander, Rietcheck, and DeStigter, the primary recommendations from my Direct Testimony stand. Those are:

1) That the Commission should require discretionary investments of significant size that EMM makes or proposes to pass a risk-informed benefit-cost analysis test of customer cost-effectiveness; and

2) That I endorse the Rebuttal Testimony of OPC Witness David C. Shapley, including that the Commission should order $115.7 million in disallowances recommended in his testimony.

In addition, upon review of responses to data requests received after my direct testimony was due, I recommend 50% of the cost assigned to the EMM rate base for transmission spending by Evergy Kansas Central to accommodate the new Panasonic plant **_____** be disallowed. This is intended to represent the transmission CIAC charges I contend Evergy Kansas Central should have collected from Panasonic, as is customary for distribution line extensions.

Q. Does this conclude your Surrebuttal Testimony?

A. Yes, it does. However, given that responses to highly relevant data requests were not received in time to review and include in this testimony, I report that Mr. Shapley's and my review of the Company's application is ongoing. I thus reserve the opportunity to append this testimony as necessary and appropriate and permitted.

P