Exhibit No. 100P

Staff – Exhibit 100P
Keenan B. Patterson, PE
Rebuttal Testimony
File No. GR-2021-0320

Exhibit No.:	
Issue(s):	*Transportation Tariffs*
Witness:	*Keenan B. Patterson*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case No.:	*GR-2021-0320*
Date Testimony Prepared:	*March 17, 2022*

MISSOURI PUBLIC SERVICE COMMISSION

FINANCIAL AND BUSINESS ANALYSIS DIVISION

PROCUREMENT ANALYSIS DEPARTMENT

REBUTTAL TESTIMONY

OF

KEENAN B. PATTERSON, PE

THE EMPIRE DISTRICT GAS COMPANY, d/b/a Liberty (Empire)

CASE NO. GR-2021-0320

Jefferson City, Missouri
March 2022

****** Denotes Confidential Information ******

TABLE OF CONTENTS

OF

REBUTTAL TESTIMONY OF

KEENAN B. PATTERSON, PE

THE EMPIRE DISTRICT GAS COMPANY,
d/b/a Liberty (Empire)

CASE NO. GR-2021-0320

REBUTTAL TESTIMONY

OF

KEENAN B. PATTERSON, PE

THE EMPIRE DISTRICT GAS COMPANY,
d/b/a Liberty (Empire)

CASE NO. GR-2021-0320

Q. Please state your name and business address.

A. My name is Keenan B. Patterson. My work address is 200 Madison Street, P.O. Box 360, Jefferson City, MO 65102.

Q. By whom are you employed and in what capacity?

A. I work for the Missouri Public Service Commission ("Commission") as a Senior Professional Engineer, a member of Commission Staff ("Staff").

Q. Please describe your background and relevant work experience.

A. A summary of my employment background and education is attached as Schedule KBP-r1.

EXECUTIVE SUMMARY

Q. What is the purpose of your rebuttal testimony?

A. My purpose is to address proposals related to transportation tariffs described in the direct testimony of Louie R. Ervin II, a witness for the Missouri School Boards' Association (MSBA).

The Empire District Gas Company ("Empire") has proposed changes to transportation tariffs that consolidate customer classes and certain rates, which are addressed in other Staff testimony. My testimony touches on Empire's proposed transportation tariff revisions only on those points related the MSBA requests.

Q. Please summarize the MSBA proposals.

A. MSBA has proposed three changes to the Empire transportation service tariff. Two of these would be changes to the current Commission-approved tariff that Empire has not proposed to change in its revisions, and one which opposes one of Empire's proposed revisions.

First, MSBA proposes to eliminate cash-out balancing and substitute a carryover method or, in the alternative, eliminate multipliers applied to the pricing of larger imbalances. Second, MSBA proposes to create a separate tariff that would apply only to school transportation pools, separate from other transportation tariffs. Finally, MSBA proposes to retain current language related to the responsibilities of transportation customers and pool operators in relation to balancing and the payment of imbalance and operational flow order charges rather than change to the language proposed by Empire.

Q. Please summarize Staff's recommendations related to MSBA's requests.

A. Staff recommends the Commission deny all of MSBA's requests related to the transportation tariffs. First, cash-out balancing is a common and reasonable practice used by most gas corporations and interstate pipelines in Missouri, and Empire's current Commission-approved balancing provisions will not be changed by its proposed revisions to the tariff.

Second, a separate transportation tariff for school aggregation is not required or necessary to provide such services. In light of the fact that Empire is already undertaking a complex tariff revision to consolidate customer classes, and that MSBA has not proposed specific and detailed tariff language, an effort to write such a tariff at this time is likely to introduce needless complications and errors to the tariff.

Finally, transportation services under the tariff are offered to customers, not to gas marketers or aggregators, and it is appropriate for the tariff to focus on the responsibilities of the utility and it customers, leaving other issues primarily to be resolved in the contracts between customers and their marketers or aggregators.

<u>BALANCING AND CASH-OUTS</u>

Q. What is balancing?

A. Balancing is a process by which a transportation service provider (TSP) and a shipper of gas reconcile the differences between the amounts of gas the TSP receives and delivers for the shipper. When a gas corporation delivers gas for a transportation customer, it is serving the role of TSP and the customer is a shipper. In some cases, including Empire's tariffs for small and medium transportation customers, customers may be aggregated for purposes of balancing.

Q. What is aggregation?

A. Empire's tariff includes an aggregation service for small and medium general service transportation customers in its proposed tariff, as it does to their predecessor classes in the current tariff. Aggregation pools are treated as a single transportation customer for the purpose of balancing. All eligible school entities that participate in the school aggregation program are in pools.

Q. What is an aggregator?

A. An aggregator is a gas supplier or marketer that contracts with transportation customers to aggregate and supply natural gas for a pool. They estimate how much gas will be needed by the pool, and they arrange supply out of their own resources or from gas they purchase. They also arrange for the shipping of gas on interstate pipelines. Empire releases firm interstate pipeline capacity to its transportation customers or their aggregators, and those customers or aggregators control the use of that capacity.

Q. What is a pool?

A. A pool is a group of transportation customers that are aggregated for certain purposes of receiving transportation services. For instance, a pool is treated as a single customer for the purposes of balancing. A single aggregator would source gas supply for all customers in a pool.

Q. Is the aggregation service that Empire provides to school aggregation pools and other small and medium transportation customers advantageous for those customers?

A. Yes. Because pools are treated as a single customer for balancing purposes, the over-deliveries and under-deliveries of the customer in the pool are netted out. One would expect the remaining pool imbalance to be less than the imbalances of the individual customer, reducing the average cost of imbalances for the pools.

Q. Why is balancing important?

A. Natural gas pipelines and gas corporations must assure that the amount of gas they receive into their transmission or distribution systems closely matches the amount they deliver to customers. Transportation customer imbalances may impact a gas corporation's management of supply, which can effect costs for sales customers. Transportation customer imbalances could cause a gas corporation such as Empire to buy additional gas on the spot market, inject or withdraw gas from storage, or adjust other supply purchases. All of these actions could cause the sales customers' gas costs to be higher than they otherwise would have been if the costs are not recovered from the transportation customers.

Q. Does balancing serve other purposes?

A. Yes. Balancing allows TSPs and shippers to be "made whole" by allowing parties to make up for shortfalls or recover excesses in the difference between the gas delivered and received. This is often accomplished by cash-outs, as I will describe later in this testimony.

Q. Who is responsible for balancing?

A. Transportation customers are responsible for balancing. These customers, or agents acting on their behalf, purchase gas and nominate deliveries on pipelines.

Q. Are balancing provisions common in pipeline and gas corporation tariffs?

A. Yes. All of the gas pipelines that transport gas to Empire have balancing provisions in their tariffs. These pipelines are ANR Pipeline, Panhandle Eastern Pipe Line (PEPL), and Southern Star Central Gas Pipeline (SSC). In addition, all Missouri gas corporation tariffs have balancing provisions for transportation customers.

Q. How is balancing accomplished under these various tariffs?

A. TSPs have balancing provisions that fit the need of their systems. Each of the pipelines that serve Empire use cash-out balancing. All Missouri gas corporations use cash-out balancing for non-school transportation customers. With the exception of Spire Missouri, all also use cash-out balancing for schools. Spire Missouri requires schools aggregation pools to balance by adjusting nominations in the month following the month in which an imbalance occurs. It is this carry-over method of Spire Missouri that MSBA proposes for adoption in Empire. Empire's cash-out balancing provisions have many similarities to those in the ANR FERC-approved tariff.

Q. What is the advantage of cash-out balancing?

A. Cash-out balancing is administratively simple compared to other methods of balancing. In addition, cash-outs provide an economic incentive to balance. Transportation customers or aggregators pay for or receive credits for their imbalances at a price that recognizes the market cost of gas and the utility resources that are used to deal with imbalances. Another advantage to cash-outs is that it is a timely economic signal to customers or aggregators about the occurrence and degree of imbalances. Each month, the customer receives a bill or payment indicating its balancing performance.

Q. Are cash-outs a just and reasonable method of resolving imbalances of school aggregation pools and other transportation customers?

A. Yes. The Commission recognized this when Atmos Energy Corporation, whose prior Missouri assets are now owned by Empire's sister company Liberty (Midstates Natural Gas) Corp., implemented cash-out balancing. The Commission found in that case it was "just and reasonable to have a standardized policy regarding cash-outs"[1] and that "the Cash-Out Policy…provide[s] for just and reasonable rates."[2]

Q. You mention that Spire Missouri, which MSBA suggests as a model of carry-over balancing, is unique in that it does not use cash-out balancing for school aggregation pools. Is this an appropriate model for Empire or other gas corporations?

A. No. Each utility's tariff related to balancing is shaped by its history, resources and demands, which differ from other utilities.

[1] MoPSC, *Report and Order* issued February 22, 2007 (Case No. GR-2006-0387, EFIS Item No. 206), pg. 37.
[2] Ibid., p. 46.

Q. How do Spire Missouri and Empire differ in ways that are reflected in the way each balances school aggregation pools?

A. In Missouri's largest metropolitan areas, Spire Missouri operates extensive distribution systems with high pressure lines that provide it with greater flexibility of managing line pack than smaller utilities. While Empire may also apply line pack as a balancing resource, it cannot do so at the scale of Spire Missouri.

Spire Missouri East also has on-system storage, which no other Missouri gas corporation has. This provides it with some capacity to respond to imbalances without resorting to supply adjustments or storage on interstate pipelines. A portion of the cost of these facilities is allocated to its transportation customers.

Spire Missouri West presents another unique situation. Schools within its pools may be on different meter reading schedules, making it difficult to properly determine imbalances and calculate cash-outs. Staff anticipates that as a new generation of meter reading is implemented that incorporates modern communication technology, Spire Missouri West will be able to read meters with greater flexibility and frequency.

Spire Missouri now cashes out all of its transportation customers except for school aggregation pools. The continuation of carry-over balancing for school aggregation pools served by Spire Missouri is an accommodation to the metering limitations of Spire Missouri West.

Q. What is line pack?

A. Line pack is the amount of natural gas in a distribution or transmission system. Natural gas is compressible, so as the pressure in a gas line goes up or down, so does the line pack. A line that can operate at a higher pressure can have more line pack a line of the same size is limited to a lower pressure. Similarly, a line has broader range of pressures it can operate in will have more flexibility in the amount of line pack it holds.

Q. Based on this, does Staff recommend that cash-out balancing should be the norm for school aggregation pools as it is for other transportation customers?

A. Yes. As I stated in my testimony in the Spire Missouri rate case, Case No. GR-2021-0108:

> In the long term, cash-out balancing of school aggregation pools… [is] desirable…. [T]he incentives for [school aggregation pool] balancing in the [Spire Missouri] proposal are weak. Schools and their pool operators [aggregators] have an incentive to look out for their own interests by shifting gas purchases from days when price (*sic*) are high to those when prices are low, regardless of projected demand for the current day, and they are only restrained by Spire's [Spire Missouri's] involvement in supply planning for school aggregation pools. Spire [Missouri] is able to recover its gas costs through the PGA, and can therefore cover its gas costs related to balancing school aggregation pools even if it does not fully recover them from the schools and pool operators. Under a cash-out system, pool operators…would have financial incentives to closely balance delivered gas and use.[3]

Q. How much does Empire typically charge the school aggregation pools for cash-outs?

A. In response to MSBA Data Request (DR) No. 3.1, Empire submitted copies of its bills to school aggregation pools for which Symmetry is the aggregator, covering cash-outs for the period of January 2020 through December 2021. Excluding the period of the February 2021 cold weather event (Winter Storm Uri), the four pools combined received an average annual credit of ** [redacted] **. They received a credit because cash-out balancing credits payments back to the pools when they over-deliver gas as well as charging them for

[3] Case No. GR-2021-0108, Exhibit No. 120-Rebuttal Testimony of Keenan B. Patterson, pg. 16, l. 19-pg. 17, l. 8.

make-up gas when they under-deliver. This amounts to an average annual credit of approximately ** [redacted] ** per school.

Q. Why did you exclude the period including the February 2021 event from your calculation of the average annual cash-out for these pools?

A. Gas prices and indices reached extraordinarily high levels during that event. Because of this, cash-outs charged the pools for the period of the February 2021 event exceeded the total cash-outs of the remaining 23 months of the period reviewed. This is shown on the following table.

**

[redacted]

**

Q. Did MSBA have other issues related the aggregation and balancing services?

A. Yes. Though Mr. Ervin's direct testimony specifically requested the elimination of cash-out balancing, he brought forward other complaints about aggregation and balancing in Empire's tariff. First, MSBA suggests the fees Empire charges for aggregation and balancing services are inappropriate. Next, MSBA objects to the application of multipliers to the index-based cash-out prices established in the tariff for greater levels of imbalance.

Q. What fees does Empire charge for aggregation and balancing services?

A. Under its proposed tariff, Empire would charge small and medium general service transportation customers, including school aggregation pools, an aggregation fee of $0.004 per 100 cubic feet (Ccf) and a balancing fee of $0.015 per Ccf. These are the same fees that are charged to predecessor customer classes in the current tariff.

Q. How much do school aggregation pools pay in aggregation and balancing fees annually?

A. The bills Empire supplied in response to MSBA DR No. 3.1 also show the charges for aggregation and balancing fees. The four pools combined paid an average annual amount of ** [redacted] ** in aggregation fees and ** [redacted] ** in balancing fees. This amounts to an average annual charge of about ** [redacted] ** per school.

Q. Are these just and reasonable rates for these services?

A. Yes. The Commission approved these rates in Case No. GR-2009-0434 based on the record in that case, and they are presumably just and reasonable.

Q. Has MSBA presented evidence about what these fees should be?

A. No. Though Mr. Ervin compares the Empire fees to those of other corporations, he does not address what it costs for Empire to provide these services. Mr. Ervin's comparison could as easily be interpreted to suggest the fees of those other gas corporations, which have changed little if at all in the 20 years of the school aggregation program, may no longer be high enough to cover the cost of these services. Such comparisons as Mr. Ervin makes can invite comparisons that undermine his conjecture. For instance, an Empire sister company in Iowa that does business as Liberty Utilities charges $0.013 per Ccf for this service to school transportation customers,[4] which is higher than any aggregation and balancing fees Missouri gas corporations charge to school transportation customers, excepting Empire.

Mr. Ervin frequently mentions that rates must be based on costs, but he presents no information on Empire's actual cost of providing aggregation and balancing services to small and medium transportation customers, or to schools specifically. To Staff's knowledge, MSBA has not even sought such information through discovery in this case. MSBA proposes a rate change, and it is incumbent upon them to provide the evidence supporting what it believes would be an appropriate cost-based rate.

Q. Are the rates for aggregation and balancing fees for school aggregation set by the authorizing legislation?

A. No, though one might get that impression from the manner in which Mr. Ervin cites it. The law sets forth minimum requirements for tariffs to implement the school aggregation program in Section 393.310.4 RSMo, which includes:

> (2) Provide for the resale of such natural gas supplies, including related transportation service costs, to the eligible school entities at the gas corporation's cost of purchasing of such gas supplies and transportation, plus all applicable distribution costs, plus an aggregation and balancing fee ***to be determined by the commission,*** not to exceed four-tenths of one cent per therm delivered ***during the first year*** [Emphasis added].[5]

The law established an initial fee for aggregation and balancing services for the first year of the program to expedite the adoption of tariffs. Since then, it has been within the Commission's authority to establish just and reasonable rates for school aggregation and transportation services.

[4] Liberty Utilities (Midstates Natural Gas) Corp. d/b/a/ Liberty Utilities Gas Tariff, Sheet No. 24C. https://wcc.efs.iowa.gov/cs/idcplg?IdcService=GET_FILE&allowInterrupt=1&RevisionSelectionMethod=latest&dDocName=133961&noSaveAs=1

[5] A copy of Section 393.310 RSMo is attached to Mr. Ervin's direct testimony as Appendix 1.

Q. When the Commission approved the aggregation and balancing fees for small and medium transportation customers in Case No. GR-2009-0434, were these fees addressed in the record?

A. Yes. Staff reviewed the record of that case. There was extensive testimony on the transportation tariffs and fees from six witnesses representing Empire,[6] Staff[7] and Constellation New Energy-Gas Division, LLC,[8] a gas marketing company that supplied gas to transportation customers. The Commission approved a stipulation that settled the issue in that case,[9] establishing the current fees for aggregation and balancing services for small and medium transportation customers, which are unchanged in the proposed Empire tariff revisions.

Q. What was the basis of the balancing fee in that case?

A. Witnesses in the prior Empire rate case based their balancing fee proposals on the cost of storage and transportation services on SSC. Empire's south service is the largest, and it is served by SSC.

Q. Are storage-related fees on SSC the same as they were when the balancing fee was established in the 2009 rate case?

A. No. These fees increased as of November 1, 2021.[10]

Q. Did Staff conduct an analysis of an SSC storage-based balancing fee?

---

[6] Case No. GR-2009-0434, Exhibit No. 12- Rebuttal Testimony of H. Edwin Overcast, Exhibit No. 13-Rebuttal Testimony of W. Scott Keith and Exhibit No. 14-Surrebuttal Testimony of W. Scott Keith.
[7] Case No. GR-2009-0434, Exhibit No. 31-Staff Report: Class Cost-of Service and Rate Design and Exhibit No. 33-Surrebuttal Testimony of Michael J. Ensrud.
[8] Case No. GR-2009-0434, Exhibit No. 21-Rebuttal Testimony of Richard Haubensak, Exhibit No. 23-Rebuttal Testimony of Wendi P. Brown and Exhibit No. 24-Rebuttal Testimony of Wendi P. Brown,
[9] Case No. GR-2009-0434, Order Approving Partial Stipulation and Agreement and Partial Stipulation and Agreement on Transportation Issues issued January 20, 2010, and Partial Stipulation and Agreement on Transportation Issues (EFIS Item No. 131).
[10] FERC Gas Tariff First Revised Volume No. 1 (Superseding Original Volume No. 1) of Southern Star Central Gas Pipeline, Inc, (SSC Tariff) Seventh Revised Sheet No. 8.
https://csimain.southernstar.com/EBBPostingDocs/other/TariffShark/tariff.pdf#toolbar=1&nameddest=titlepage

A. In response to issues raised in direct testimony in this case, Staff reviewed the cost of SSC storage and transportation services that are applicable to small and medium transportation customers.

Q. How did Staff conduct this analysis?

A. Staff allocated the storage and transportation resources used by Empire's small and medium volume pools on SSC based on the usage and imbalances of those pools in the last actual cost adjustment case for which Staff completed a review (Case No. GR-2021-0121). Imbalances were treated as injections or withdrawals from storage. Based on this, Staff calculated the storage and transportation quantities that would need to be set aside to accommodate such injections or withdrawals. This is shown in Schedule KBP-r2.

Staff then applied the rates in the current SSC FERC-approved tariff to those quantities. This is shown in Schedule KBP-r3.

Q. What would be an appropriate rate for balancing services based on Staff's analysis?

A. The appropriate rate would be $0.0197 per Ccf.

Q. Would it be advantageous for school aggregation pools to have a rate calculated separately from that of other small and medium volume transportation customers?

A. No, it appears they would be similar to the rate for all small and medium transportation customers without telemetry. Generally, as the number of pools included in the calculation increases the average unit cost for the balancing service decreases. Staff estimated the balancing costs for the Symmetry SSC small volume pool, which serves MSBA customers in Empire's south service area. The balancing fee based on that pool would be $0.0201 per Ccf. Staff calculations are included in Schedules KBP-r4 and KBP-r5

Q. Has Staff conducted a similar analysis of the aggregation fee?

A. No. This fee appears to be based on the $0.004 per therm established in the authorizing legislation for the school aggregation program.

Q. Does this fee recover the cost of this service?

A. Staff has not analyzed this cost, but it seems unlikely. Assuming it was a reasonable estimate of the cost of administering the program when it was initiated 20 years ago, inflation alone is likely to have resulted in increased costs for administering aggregation services.

Q. Has MSBA presented a cost-based fee proposal?

A. No. As I mentioned earlier, MSBA compared the rate to the rates of other Missouri gas companies, but has not shown what the costs are for administering aggregation services at Empire or the cost basis for the rates of other gas corporations. MSBA proposed changing these rates and repeatedly demands services at cost, but it has failed so far to produce any evidence of what the costs are or what cost-based rates would be.

Q. Is this aggregation fee applicable only to school aggregation pools?

A. No. Though Mr. Ervin describes it as a "school only" charge,[11] it is applicable to all small and medium general service transportation customers that do not have telemetry in Empire's proposed tariff, as it is to the successor customer classes in the current tariff. Generally speaking, the Empire tariff treats school aggregation pools more like similar aggregated transportation customers than the tariffs of Missouri's other gas corporations.

Q. Do large transportation customers pay a similar fee?

[11] Ervin direct, pg. 10, l. 17.

A. Yes. Though Mr. Ervin states that "an Aggregation and Balancing charge is not mandated for large transportation customers," they actually have a balancing fee. Because these customers have telemetry that support daily meter reading, they are charged based on the amount of their imbalances each day. They pay $1.25 per Ccf for each daily imbalance greater than a tolerance of 10 percent. They can expand this tolerance range by subscribing to an optional service, which is charged based on the daily nominations. The monthly balancing charge for the small and medium transportation customers that do not have telemetry is in lieu of this charge that applies to the large transportation customers.

Q. What is MSBA's objection to the application of multipliers to the cash-out prices for greater levels of imbalance?

A. MSBA describes these multipliers as penalties.

Q. What is the purpose of these multipliers?

A. These multipliers are intended to encourage transportation customers and aggregators to closely balance their system by charging a higher price for increasingly severe under-deliveries and crediting them decreasing prices for more severe over-deliveries.

Because the index-based prices for cash-outs is a weekly average, these multipliers also decrease the likelihood that the cash-out prices would be advantageous in relation to the daily spot prices. Gaps between these prices could create situations where it would be advantageous for a transportation customer to buy or sell gas to the gas corporation at an average price that is advantageous relative to the spot price and therefor create large imbalances. Multipliers discourage imbalances by reducing such opportunities.

Q. Are these multipliers out of line with what transportation customers would have to pay elsewhere?

A. No. Transportation customers are also shippers of upstream pipelines, and would balance on them if not balancing on Empire. The multiplier schedule used by Empire is the same one used by ANR.[12] SSC is more severe in that, even though its top tier multiplier is also 1.5, it reaches this level for imbalances greater than 15 percent rather than the larger 20 percent used by ANR.[13] The PEPL tariff applies the same 1.5 multiplier as the ANR tariff at a 20 percent imbalance, but it is more severe in that it applies a multiplier for the smallest tier of imbalances of 5 percent or less[14]—Empire applies no multipliers to imbalances of 5 percent or less. Of the three upstream pipelines, Empire's cash-out multipliers and tiers are based on the least severe.

Empire is passing on the multipliers that apply to its imbalances on upstream pipelines to its transportation customers. Each of these pipelines has its own schedule of cash-out multipliers, but Empire applies the least severe of them to all of its service areas.

Q. Does the highest multiplier of 1.5 (or a 50 percent increase in cash-out price) apply to the entire amount of the imbalance?

A. No. It only applies to that part of the imbalance that is greater than 20 percent of the nomination. Lower multipliers apply to lesser tiers of imbalance, with that portion of the imbalance within 5 percent being charged at an index-based price without multipliers. As I previously mentioned, the school aggregation pools tend to receive a credit through cash-outs even with the multipliers applied.

Q. Since transportation customers provide for their own gas supply, can they limit their exposure to cash-outs by balancing the gas they nominate for their supply with their usage?

---

[12] ANR Pipeline Company FERC Gas Tariff Third Revised Volume No. 1, General Terms and Conditions, Section 6.15.1(c). http://ebb.anrpl.com/

[13] SSC Tariff Third Revised Sheet No. 244 and Fourth Revised Sheet No. 245.

[14] Panhandle Eastern Pipe Line Company, LP, FERC NGA Gas Tariff Fourth Revised Volume No. 1, General Terms and Conditions Sections 12.11(a) and (b). https://peplmessenger.energytransfer.com/InfoPost/tariff/pe/PEPLTariff.pdf%23TitlePage&activeMenu=tariff

A. Yes. Transportation customers or their agents nominate the gas to be delivered on their pipelines for their use. The Commission has noted this in a previous case in which Summit Natural Gas Company of Missouri implemented cash-out balancing with multipliers, saying that "schools control their nominations through a pool operator [aggregator]."[15] According to the Commission order in that case, the change from the previous system to the cash-out system with multipliers "means only that the schools pay the cost of serving them."[16]

SEPARATE SCHOOL AGGREGATION PROGRAM TARIFF

Q. Should the Commission order Empire to create a stand-alone tariff for school transportation customers?

A. No. While Staff does not object to organizing the tariff in this fashion, it is not necessary. School aggregation pools are fundamentally transportation customers, and to the degree the tariff must address unique requirements, it can do so in the context of its transportation tariff.

In addition, the aggregators are gas marketers with expertise in gas trading. They provide services to commercial, industrial, and utility customers in multiple utilities and states. In light of the many tariffs such a company must understand, including interstate pipeline tariffs, it should not be a hardship for the aggregator to gain an understanding of the Empire tariff.

Q. Does the law that authorized the school aggregation program require a separate tariff, either directly or as a practical matter?

---

[15] Case No. GR-2014-0086, Report and Order issued October 29, 2014, pg. 53.
[16] Ibid., pg. 54.

A. No. The law is silent, leaving the issue to the Commission's discretion. There is not a "mandate"[17] for a stand-alone school aggregation tariff.

Q. Do differing balancing schedules for school aggregation pools and other transportation customer necessitate a separate tariff for schools?

A. No. Mr. Ervin claims that school aggregation pools are balanced monthly and large transportation pools are balanced daily, suggesting this is a statutory requirement.[18] The Empire tariff calls for the balancing of all transportation pools and customers monthly.

While it is true that the law authorizing the school aggregation prohibits "telemetry or special metering" for individual schools with use of less than "one hundred thousand therms,"[19] it does not require daily balancing for anyone, nor does it prohibit daily balancing of the larger schools that may be required to install telemetry. The monthly balancing of schools is simply a practical effect of most schools being too small to be required to have telemetry. In Empire's proposed tariff, telemetry is optional for all small and medium transportation customers (and their predecessor classes in the current tariff), so the school aggregation pools are treated in the same manner as other pools of small and medium transportation customers and consistently with the law.

Q. Are there other reasons to deny MSBA's request for a separate tariff in this case?

A. Yes. There is little time left in this case to properly vet a new tariff. A new tariff is likely to have complex interactions with the existing transportation tariff and possibly other tariff provisions, and these may result in unintended consequences if the tariff is not thoroughly reviewed. MSBA is requesting the separate tariff, yet it did not propose specific tariff language

[17] Ervin direct, p. 15, ll. 19.
[18] Ervin direct, pg. 12, ll. 5-7.
[19] Section 393.310.4(3), RSMo.

in direct testimony. In one part of the testimony Mr. Ervin points to the Spire Missouri tariff as an example, but elsewhere he points to Liberty (Midstates Natural Gas). Because both tariffs have differences in structure and terminology from the Empire tariffs, one cannot simply cut and paste the school aggregation provisions from them into the Empire tariff and hope that it will work.

<u>TRANPORTATION CUSTOMER AND AGGREGATOR RESPONSIBILITIES FOR IMBALANCES ,OPERATIONAL FLOW ORDERS, AND OTHER LIABILITIES</u>

Q. What changes to the tariff does Empire propose to the tariff related to transportation customers and aggregators in relation to imbalances, operational flow order (OFO) charges, and other liabilities?

A. Throughout the transportation tariff, Empire proposes to remove references to "Marketer or Aggregator" and make other clarifications related to specifying that, in the event an aggregator or other agent for transportation customers fails to meet the requirement of the tariff, the customer is ultimately responsible.

Q. Is this a sound principle?

A. Yes. The transportation customers, both school and otherwise, are receiving services under the tariff. Aggregators and marketers act as their agents. If the agents fail to meet the tariff requirements, they are acting on behalf of their client customers. If the agents are failing to represent the interests of their clients, that is primarily a matter of their contract rather than the tariff.

Q. Does the Empire proposed tariff specify that it will seek relief for tariff non-compliance from the aggregator or agent before seeking it from the customer?

A. Yes. Referring to balancing liability, the proposed tariff states, "In the event of Marketer or Aggregator default, Customer is responsible for unpaid imbalance related penalties and unresolved cash-outs."[20] Charges for unauthorized receipts, unauthorized deliveries and pipeline overrun penalties during OFO penalties would be charged to the "Customer or, if the Customer(s) has designated a Marketer(s) and/or Aggregator(s) to act on its behalf, such Marketer or Aggregator."[21]

Q. Does the proposed tariff unfairly shift responsibility from the transportation customer's agents to the transportation customers?

A. No. The transportation customers are receiving services under the tariff, and they bear ultimate responsibility from complying with applicable provisions. The aggregators and marketers are acting as their agents, and the relationship and share of risks, responsibilities and liabilities between the transportation customer and their agents is a matter of their contracts. Empire's practice, which will be enshrined in the proposed tariff, is to charge aggregators and agents for OFO penalties, cash–outs, and other transportation service charges and to charge customers only in the event that their agents fail to comply.

RECOMMENDATIONS

Q. What does staff recommend in relation to MSBA's request related to balancing?

A. Staff recommends the Commission deny MSBA's request related to balancing. Cash-outs are a common and reasonable practice for resolving imbalances for both gas corporations and interstate pipelines. The application of multipliers to cash-out prices is another common practice of gas corporations and interstate pipelines that use an economic signal to

---

[20] Empire's Tariff Revision (YG-2022-0040) (EFIS Item No. 35), Sheet No. 30, paragraph numbered 17.
[21] Ibid., Sheet No. 43, Section 2 of Operational Flow Orders (OFO), paragraphs A, B and C.

encourage shippers to closely balance gas delivered and received. The specific multipliers used by Empire are consistent with those it is charged by upstream pipelines, and it uses the same schedule as the least severe pipeline tariff. Empire's fee for balancing services to small transportation customers were supported on a cost basis when they were established in Case No. GR-2009-0434. Staff's analysis suggests that these costs have increased, and a likely driver of that change is increased rates for storage services in the SSC tariff.

Gas corporations are permitted to recover gas supply, transmission, and other costs associated with providing transportation services to schools as provided in Section 393.310.4(2) RSMo. These tariffs must also protect the gas corporation and other customers from financial harm as specified in Section 393.310.5 RSMo.

Q. What does Staff recommend in relation to MSBA's request to require a separate tariff for the school aggregation program?

A. Staff recommends the Commission deny MSBA's request for a separate school aggregation tariff at this time. A separate tariff is not required nor practically necessary to implement a school aggregation tariff. In addition, it would be challenging to properly vet a new tariff section in the time remaining in this case to assure it does not introduce confusion or unintended consequences.

Q. What does Staff recommend in relation to MSBA's request to keep the current tariff language related to the responsibilities of transportation customers and their agents in relation to compliance balancing, OFOs, and related tariff compliance?

A. Staff recommends the Commission deny MSBA's request and approve these changes to the tariff. Transportation customers are the recipients of service under the tariff, and they are responsible for compliance and charges under the tariff. Aggregators and marketers act as agents of transportation customers, and their relationships and responsibilities to each other are governed by their contracts. Further, Empire's proposed tariff clarifies that it will charge aggregators and agents for cash-outs, OFO penalties, and related fees, charging customers if their agents fail to comply.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Gas Company's d/b/a Liberty Request to File Tariffs to Change its Rates for Natural Gas Service	)))	Case No. GR-2021-0320

AFFIDAVIT OF KEENAN B. PATTERSON, PE

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW KEENAN B. PATTERSON, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of Keenan B. Patterson, PE;* and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Keenan B Patterson

KEENAN B. PATTERSON, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 16th day of March, 2022.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070

D Suzie Mankin

Notary Public

KEENAN B. PATTERSON, PE

Education and Employment Background and Credentials

I am currently employed as a Senior Professional Engineer for the Missouri Public Service Commission (Commission) in the Procurement Analysis Department. I have been employed by the Commission in this position since February 2018. From August 2015 through January 2018, I was employed by the Commission as a Utility Engineering Specialist/Utility Regulatory Engineer in the Engineering Analysis Department.

I am a graduate of the University of Missouri where I earned the degrees of Bachelor of Science in Agricultural Engineering and Master of Public Administration. In addition, I am licensed as a Professional Engineer in Missouri.

Prior to working for the Commission, I was employed as an Environmental, Health and Safety Coordinator by Pittsburgh Corning Corporation from 2013 to 2015. I have also been employed as an Associate at The Cadmus Group from 2010 to 2013, an Environmental Engineer at GREDELL Engineering Resources in 2009, the owner of Infra Consulting LC from 2006 to 2013, and various environmental engineering positions at the Missouri Department of Natural Resources from 1994 to 2006. In addition, I am a member of the National Association of Regulatory Utility Commissioner's Staff Subcommittee on Gas.

Other cases I have been assigned to or that I have participated in are listed below.

Case Number	Company
GR-2022-0136	Spire Missouri (Spire West)
GR-2022-0135	Spire Missouri (Spire East)
GR-2022-0128	Liberty Utilities (Midstates Natural Gas)
GO-2022-0022	Spire Missouri
GO-2021-0367	Summit Natural Gas of Missouri
GO-2021-0366	Liberty Utilities (Midstates Natural Gas)
GO-2021-0365	The Empire District Gas Co.
GO-2021-0364	Spire Missouri (Spire East)
GO-2021-0363	Spire Missouri (Spire West)
GO-2021-0362	Ameren Missouri
GC-2021-0353	Spire Missouri
GC-2021-0316	Spire Missouri
GC-2021-0315	Spire Missouri
AO-2021-0264	Investigation of the February 2021 Cold Weather Event
GR-2021-0241	Ameren Missouri
GR-2021-0128	Spire Missouri (Spire West)
GR-2021-0127	Spire Missouri (Spire East)

GR-2021-0108	Spire Missouri
GR-2021-0101	Liberty Utilities (Midstates Natural Gas)
GA-2020-0251	Summit Natural Gas of Missouri
GR-2020-0126	Liberty Utilities (Midstates Natural Gas)
GR-2020-0122	Spire Missouri (Spire West)
GR-2020-0121	Spire Missouri (Spire East)
GR-2019-0123	Liberty Utilities (Midstates Natural Gas)
GR-2019-0120	Spire Missouri (Spire West)
GR-2019-0119	Spire Missouri (Spire East)
GR-2019-0077	Ameren Missouri
WR-2018-0170 SR-2018-0171	Liberty Utilities (Missouri Water)
GR-2018-0122	Empire District Gas Company
GR-2018-0106	Summit Natural Gas Company of Missouri
GR-2018-0077	Liberty Utilities (Midstates Natural Gas)
EO-2018-0062	Kansas City Power & Light Company
WM-2018-0023	Liberty Utilities
WM-2018-0018 SM-2018-0017	Seges Partners Mobile Home Park
GR-2018-0013	Liberty Utilities (Midstates Natural Gas)
WR-2018-0001	Environmental Utilities
GR-2017-0341	Ameren Missouri
GR-2017-0300	Spire Missouri (Spire West)
GR-2017-0299	Spire Missouri (Spire East)
WR-2017-0285	Missouri-American Water Company
WR-2017-0259	Indian Hills Utility Operating Company
GR-2017-0216	Missouri Gas Energy
GR-2017-0215	Laclede Gas Company
SM-2017-0187 WM-2017-0186	Lake Region Water & Sewer Company
WA-2017-0181	Missouri-American Water Company
SM-2017-0150	Elm Hills Utility Operating Company, Inc.
WF-2017-0143 WR-2017-0110	Terre Du Lac Utilities Corporation
WR-2017-0139	Stockton Hills Water Company
SR-2017-0130	Gladlo Water and Sewer Company, Inc.
SR-2017-0099	Seges Partners Mobile Home Park, L.L.C.
WO-2017-0236 WC-2017-0200 WR-2017-0042	Ridge Creek Water Company LLC
ER-2016-0285	Kansas City Power & Light Company
SR-2016-0202	Raccoon Creek Utility Operating Company, Inc.
EM-2016-0213	Empire District Electric Company
ER-2016-0179	Ameren Missouri
WM-2016-0169	Woodland Manor Water Company, LLC

SR-2016-0110 WR-2016-0109	Roy-L Utilities, Inc.
WM-2016-0094	Foxfire Utilities Company
WA-2016-0054	Missouri-American Water Company
WA-2016-0031 SA-2016-0030	Peaceful Valley Service Company
WR-2015-0301	Missouri-American Water Company

SCHEDULE -r2

SCHEDULE -r3

SCHEDULE -r4

SCHEDULE -r5

HAVE BEEN DEEMED

CONFIDENTIAL

IN THEIR ENTIRETY