Joplin Public Library
1901 E 20th Street, Joplin, MO 64804
Fax (417) 624-5217 Library (417) 623-7953 Reference & ILL (417) 624-5465

FAX

ATTENTION PSC Data Entry DATE 1/8/26

COMPANY EC-2026-0150 FAX # 573-526-1500

From: Elizabeth Peterson Total pages, including cover sheet 15

Message: Eitherway this Increase in my Account Costs are pertinent
Request to add Cost Analysis Rate Hike
relevance to my Case that was not included it
Consumer Enery Counsel vs. Empire EC-2026-0026
I did ask John Coffman to consider my concerns of Rate Hike
per Advanced Meter and it's costs Increases

Received Time Jan. 8. 2026 3:47PM No. 1946

Glossary on CASE cost per Advanced meter COST ANALYSIS

Pg ZERO 1-2 description of both cost factors

Mitigation equipment < $10,000

Rate Hikes not included in John Coffman's Consumer cost "Empire" Rate

Table factors → Hikes Case

Agenda 2026-0026

1-7-26

*********** already presented in files submitted loss of life from fire

The price for a human life whose death could have been

Avoided by not using these fire hazard Advanced meters

Is a criminal case matter so I cannot sum up plausible price

Pg. A 1-6. Expert Attorney in Utility industry COSTS Martin J. Per MoPSC Per Empire position

Presentation on operation costs

Pg. B 1-6. Con'td. Expert Martin J. Cost Analysis and challenge for PSC

Offer to investigate your trajectory rate hike increases for

Consumers regards to ALL your Vendors in your jurisdiction

That way we can divide how much by precision it will cost

For this particular Vendor in this particular case matter

Received Time Jan. 8. 2026 3:47PM No. 1946

Case Cost Analysis ZERO 1 of 2

Case classification as under $3,000.00 is incorrect sorry.

The case matter is if forced by an act of the Commission to somehow surrender my civil rights to an Agenice's as the Regulator's stipulations of allowing vendors to dictate that they are legally permitted not to locate supply of Traditional METERS?

If that is somehow percieved in this case matter than I would be happy to explain that the cost or RATE hike increase of this Advanced meters program cannot be apparently added to the case from yesterday as I did call upon John Coffman early on asking him to add in the concerns of Consumer's in a cost comparison to go with Advanced meters.

So, to #1 Address those COST deferentials I have called upon an Expert in CA who does keep tabs and can in the included documentation explain he could provide some COST ANALYSIS factors. But, in that event I would need to make sure that Commission is aware of if the Rate hike principal is applicable to my CASE MATTER as it was not taken up with the General Rate Hike matter with EMPIRE.

A the second thing is I know for a ball park amount that the only type of mitigation equipment that will even come close to reducing the D.E. Dirty Electricity that the Advanced NON RF meter proposed by Liberty will cost is well over $10,000.00 and I did verbally discuss this with the corporate Engineer at Liberty the Manager there Jason Osiek verbally in a call that was very lengthy. Jason seemed interested in learning more about aquiring these external mitigation equipment. Afterall, it is the job of the Utility Vendor not to subject the Consumer to any excessive toxic emmission. Since, the Vendor does [redacted] locate these meters out on a house [redacted] as an easement attatched to the entry portal of the electrical entry of the home. It is up to the Vendor if they are

Received Time Jan. 8. 2026 3:47PM No. 1946

interested in those costs and there could be a cost analysis also written up on that aspects of this type of Advanced meter infrastructure wrap around equipments.

ZERO
2 of 2

However, the final consent would still be required legally and in order to obtain Consumer consent the Consumer has to not worry about the continuous FIRE HAZARD assoicated with these and the lack of power due to the Advanced meters actually run on electric. Whereas the ANALOG's from that standpoint use a type of EDDY current to continue running as long as there is power coming through the line. S

So, it is in conclusion that I prefer the REAL TRADITIONAL meter to be my FREE CHOICE of meter it is reliable and there is no service interuption or D.E. concerns even with the mitigation of an external hardware at the cost of $10K the service is similiar to my landline it is always functional when the cell towers are down or in this metaphor my Analog will still be running even if the smart or Advanced meters themselves are out of commission due to some kind of mishap.

I however, do want to make sure and give some estimates on this and so until MO PSC can answer the queries posed by Martin H. as to their upkeep costs of these ADVANCED meter's and how that affects my rate hikes the investigation on that would need time to be completed by MO PSC.

Received Time Jan. 8. 2026 3:47PM No. 1946

A 1-6

Gmail

Buffy Peterson <buffype[redacted]

Fwd: just tried to Call about Assist with [redacted] meters [redacted] assist for [redacted]our MO Public Service Commission

4 messages

Martin H[redacted]
To: BuffyPeterson[redacted]

Mon, Jan 5 at 11:03 AM

---------- Forwarded message ---------
From: Martin H[redacted]
Date: Thu, Jan 1, 2026 at 12:51 AM
Subject: [redacted]
To: Buffy Peterson <buffypeterson@hotmail.com>

California has installed and used smart meters and the meters can help operate the utility company's customer service. But, in California, after installing the meters, the utility company hasn't used the meters to help serve its customer satisfaction. There have been numerous outages. Here is an analysis of what happened: Here's a clear, evidence-based breakdown of what smart meters actually do for PG&E, what they don't do, and how this maps onto the Missouri PSC's question about whether smart-meter deployment can legitimately be tied to maintenance of utility facilities.

ADA compliance requirements. You're basically asking: if a commission has finite dollars to push through the customer-rate base, is "AI for maintenance" a better investment than "smart meters everywhere"?

Short answer: they do different jobs. Smart meters are a big, one-time hardware rollout that creates the data exhaust you need; AI for maintenance is the brain that turns that exhaust (plus other data) into fewer fires and outages. Economically, the AI layer is usually cheaper than a full AMI rollout and often has a faster reliability payback, but it relies heavily on good metering and sensing.

---

1. Order-of-magnitude cost comparison

ItemTypical cost structureBallpark magnitudeWhat you mainly get
Smart meters / AMICapital cost per meter + head-end + comms + IT integrationOften on the order of $150–$300 per meter all-in over the deployment period (varies widely by utility), plus tens–hundreds of millions system-wide smartgridawareness.org Northeast Energy Efficiency PartnershipUniversal interval data, remote reads, remote connect/disconnect, outage flags, theft detection, basic power-quality info
AI for maintenanceSoftware licenses / cloud, data engineering, models, integration with existing asset systems, staffTypically in the low tens of millions for a large IOU to stand up serious predictive-maintenance and analytics over several years, plus ongoing O&M – a small fraction of full AMI capitalTargeted inspections, early-warning of failing equipment, risk-based replacement plans, better crew dispatch, fewer or shorter outages

Sources on AMI costs describe capital and operational costs per meter, communications and head-end systems, and emphasize that AMI is a large capital program with multi-year deployment and system integration Umbrex Consulting smartgridawareness.org Northeast Energy Efficiency Partnership.

A 2-6

For a large utility:

Full AMI: easily hundreds of millions to a few billion dollars over the lifecycle.
Maintenance-focused AI program: generally an order of magnitude smaller, especially if it builds on existing SCADA, asset registries, and (even partial) AMI data.

---

2. What smart meters really buy you (and what they don't)

Smart-meter / AMI business cases emphasize:

Remote meter reading and billing efficiency (no manual reads) Umbrex Consulting Northeast Energy Efficiency Partnership
Fewer truck rolls for connects/disconnects
Customer tools (usage portals, TOU rates, demand response)
Basic outage and voltage flags that improve visibility at the edge

These benefits are well-documented in AMI cost-benefit studies Umbrex Consulting Northeast Energy Efficiency Partnership ejaet.com. They do support reliability and maintenance indirectly (faster outage detection, better load data) but they are not primarily designed as a substation/line/transformer maintenance program.

So if your core policy question is "How do we reduce equipment failures, fires, and big outages?":

Smart meters are enablers: they give you more granular, customer-side data. They do not, by themselves, prioritize which breaker, bushing, or transformer is going to fail next.

---

3. What "AI for maintenance" actually looks like in cost-benefit terms

A serious AI-for-maintenance program usually includes:

Data work: cleaning the asset registry, integrating SCADA, work orders, outage records, inspections, and (if present) AMI data.
Models:

Failure-risk models by asset class (transformers, breakers, lines).
Anomaly detection on operational data.
Risk-based ranking of assets and feeders.

Operational integration: tying the models into the work-management system so they actually generate prioritized work orders.

Relative to AMI:

Capital intensity: Much lower; more software and people, less iron and plastic.
Time to visible reliability benefit: Often shorter. You can pilot on a subset of substations/feeders and see improvements in SAIDI/SAIFI and fire/outage incidents in 1–3 years.
Dependence on metering: Works with existing SCADA and inspection data, but performs better with more field sensors and AMI; not strictly
Received Time Jan. 8. 2026 3:47PM No. 1946Missouri's current

scale.

A 3-6

If the question before a commission is "What investment reduces outages per dollar right now?", high-value AI-assisted maintenance focused on known weak links in the system often wins.

---

4. "Is AI for maintenance a better use of customer costs?" — it depends what you optimize for

If you frame it narrowly as "outage/failure reduction per dollar over the next decade", the trade-offs look something like this:

AI for maintenance tends to be better for:

Targeted reliability improvements in the most fragile substations/feeders.
Preventing specific catastrophic failures (like substation fires) via early detection and prioritized replacements.
Stretching limited O&M and capital budgets further.

Smart meters tend to be better for:

Long-term operational efficiency (meter reading, billing, theft detection).
Enabling more complex tariffs (TOU, demand response).
Customer-side innovation and DER integration (EVs, rooftop solar, home storage).

From a pure safety/outage perspective, especially in a state like Missouri not yet driven by massive DER penetration:

A commission could reasonably find that initial dollars spent on condition-based, AI-assisted maintenance and grid monitoring deliver more targeted reliability benefit than immediately converting the entire meter fleet to AMI.
Once that foundational maintenance and risk-management capability is in place, AMI becomes a stronger next step because its data is now clearly usable by the maintenance "brain."

---

5. How a PSC could structure this decision

For a regulator (like the Missouri PSC) looking at customer cost responsibility, you can explicitly separate:

Foundational reliability package

Data cleanup and integration (asset registry + SCADA + outages).
AI-based condition and risk modeling for critical assets.
Expanded sensing at key substations/transformers (temp, PD, oil monitoring) if needed.

Customer-interface and load-data package (AMI)

Smart-meter rollout by phase or geography.
Clear use-cases for the AMI data (rates, DR, targeted upgrades).

Then ask:

If we spend $X first on AI-driven maintenance, how much do we expect to reduce outages in high-risk areas?
If we spend the same $X first on meters, what is the reliability benefit in the next 5–10 years (as distinct from billing and pricing b

Received Time Jan. 8. 2026 3:47PM No. 1946

A 4-6

In many systems, the reliability bang-for-buck is higher on targeted maintenance analytics first, with AMI scheduled as a subsequent or parallel track once the utility can actually exploit the new data.

---

6. A practical synthesis rather than either/or

I'd frame it this way for a commission:

Smart meters are not the maintenance program.
AI-based maintenance is not a substitute for eventually modernizing metering.
But in a constrained cost environment, it is defensible to say:

Phase 1: fund data integration + AI-driven maintenance and targeted monitoring on the most critical parts of the network.
Phase 2: as the maintenance "brain" matures, roll out AMI in a way that explicitly feeds that brain (and is justified by clear rate design and customer benefits).

So to your core question:

Yes, an AI-for-maintenance program can be a better near-term use of incremental customer costs if your primary objective is reducing equipment-driven outages and fires.
Smart meters become a stronger value proposition when the utility has already built the analytics and operational structures that can fully exploit that data for both maintenance and customer-facing benefits.

If you tell me the rough size and situation of the Missouri utility you're thinking about (urban vs rural, DER penetration, outage profile), I can sketch a simple 10-year investment path that sequences AI maintenance and AMI in a way that a PSC could evaluate.

🌐 Do smart meters help Pacific Gas and Electric Company (PG&E) maintain its facilities?

✅ Yes — but indirectly.

Smart meters primarily improve visibility, diagnostics, and response speed, not physical maintenance of substations, transformers, or lines.

PG&E itself states that SmartMeter™ technology provides two-way communication that allows the utility to:

Quickly identify outages
Resolve service problems without visiting the customer's home PG&E

This is a diagnostic and operational benefit. It does not replace inspection, repair, or replacement of physical grid assets — but it does help PG&E detect problems earlier and dispatch crews more efficiently.

🔧 How smart meters contribute to maintenance (indirectly)

Smart meters generate continuous data streams that support:

Received Time Jan. 8. 2026 3:47PM No. 1946

A 5-6

1. Faster outage detection

Utilities no longer wait for customer phone calls. Meters report loss of power instantly, which helps locate failing equipment (e.g., a failing transformer or line segment).
→ This reduces outage duration and helps identify weak points in the system.

2. Predictive maintenance (when paired with analytics)

Industry research shows that smart-grid data can be used for predictive maintenance, identifying issues before they become failures:

Smart-grid analytics can detect abnormal patterns in voltage, load, or temperature that indicate equipment degradation CLOU GLOBAL.
Smart meters can be part of a condition-monitoring ecosystem that alerts technicians to emerging problems nu10.co.

3. Asset health monitoring

Smart meters provide granular load data that helps utilities understand:

Overloaded transformers
Voltage irregularities
Phase imbalances
Repeated momentary outages (a sign of failing equipment)

This data informs where maintenance dollars should go.

4. Reduced truck rolls

PG&E notes that smart meters allow it to resolve many issues without sending crews PG&E.
This frees maintenance crews to focus on actual infrastructure repairs.

✗ What smart meters do not do

Smart meters do not:

Inspect substations
Prevent transformer fires
Maintain breakers, relays, or underground cables
Replace aging infrastructure
Perform vegetation management
Detect internal substation faults (unless paired with other sensors)

They are not a substitute for physical maintenance programs.

🏛 Implications for the Missouri Public Service Commission (PSC)

Your question is sharp: Can the cost of smart meters be justified as part of maintaining the facilities necessary to provide electric service?

The answer is: Yes, but only as part of a broader reliability and maintenance strategy.

Smart meters support maintenance by:

Received Time Jan. 8. 2026 3:47PM No. 1946

Reducing diagnostic time
Providing data for predictive maintenance
Reducing operational costs that can be redirected to physical maintenance
Enhancing grid visibility, which is essential for modern reliability standards

A 6-6

Industry literature supports this: smart-grid data analytics boost maintenance efficiency and reduce costs CLOU GLOBAL.

But PSCs typically require utilities to show:

1 How smart-meter data will be used for maintenance
2 How it reduces long-term costs
3 How it improves reliability metrics (SAIDI, SAIFI, CAIDI)
4 How it integrates with asset-management systems

If PG&E or a Missouri utility cannot demonstrate this linkage, the PSC may treat smart meters as a customer-service technology, not a maintenance investment.

→ Categorical Customer Service Technology NOT a Maintenance Investment

---

🔍 Has PG&E used smart meters effectively for maintenance?

Based on available evidence:

Smart meters have helped PG&E with outage detection and operational efficiency, but

they have not prevented major equipment failures such as:

Substation fires
Transformer failures
Widespread storm-related outages

These failures are tied to aging infrastructure, maintenance backlogs, and systemic asset-management issues, not meter technology.

Smart meters help PG&E respond to failures — they do not prevent them.

🧭 Bottom line for Missouri PSC

Smart meters can legitimately be funded as part of a reliability and maintenance strategy IF:

The utility integrates meter data into predictive maintenance systems
The utility uses meter data to reduce outage duration and maintenance costs
The utility demonstrates measurable reliability improvements
The investment is paired with physical infrastructure upgrades

Smart meters alone do not maintain facilities — but they make maintenance smarter, faster, and more cost-effective.

If you want, I can help you draft: This offer is to Plantiff →

Discovery Request Investigatory These Calculations need Utility Vendor & PSC participation

A PSC-style argument for or against including smart meters in maintenance funding
A regulatory memo comparing PG&E's experience to Missouri utilities
A structured decision matrix for commissioners evaluating AMI (Advanced Metering Infrastructure)

Just tell me which direction you want to take.

Received Time Jan. 8. 2026 3:47PM No. 1946

On Wed, Dec 31, 2025 at 12:48 PM Buffy Peterson
<buffypeterson@hotmail.com> wrote:

B 1-5

>
> Dear [redacted] Martin H[redacted]
>
> [redacted]
>
> [redacted]
>
> [redacted]
>
>
> Thank you
> Elizabeth Peterson,
[redacted]
>
[redacted]

--

===
[Quoted text hidden]

Martin H[redacted]
To: BuffyPeterson[redacted]

Mon, Jan 5 at 11:06 AM

---------- Forwarded message ---------
From: Martin H[redacted]
Date: Fri, Jan 2, 2026 at 4:17 AM
Subject: [redacted]
violation [redacted] MO Public
Service Commission
To: Buffy Peterson <buffypeterson@hotmail.com>

Subject of Conclusion
by Experton Cost Analysis

* Job Loss for Missourians due to Meter
Readings brings employment opportunities

I think that it will help to show that the installation of smart meters is going to cause unnecessary rate increases as well as being a violation of the ADA. Ratepayers will have to pay for initial cost of the smart meters as well as on-going maintenance costs. Here is the description: Below is a clear, structured explanation of how smart-meter programs affect electric and natural-gas customer bills, how interstate transmission costs work, and why the two are not directly linked—plus a simple numerical example showing how a utility's smart-meter program can indirectly change the transmission portion of a customer's bill.

I ground the discussion in the search results where relevant.

Smart meters reduce operational costs and improve utility efficiency MIT Sloan.
Grid infrastructure spending (including metering and T&D upgrades) has risen significantly over the last two decades U.S. Energy Information Administration (EIA)

Received Time Jan. 8. 2026 3:47PM No. 1946

B 2-5

⚡ Key Point Up Front

Smart meters do not change interstate transmission rates.
Interstate transmission rates are set by FERC and based on the cost of high-voltage electric lines or interstate gas pipelines—not meters.

However:
Smart-meter programs can change the retail rate design used by state commissions, which may change how much of the transmission cost each customer pays.

So the causal chain is:

Smart meter program → changes in utility revenue requirement + changes in rate design → changes in customer bills (including the transmission line item).

---

1. What smart meters actually affect

Smart meters primarily affect distribution-level costs and utility operations:

Documented effects (from search results)

Smart meters improve billing accuracy, reduce manual meter-reading costs, and improve outage detection MIT Sloan.
Utilities have been increasing grid-related capital spending, including metering and distribution modernization U.S. Energy Information Administration (EIA).

Cost categories smart meters influence

Cost CategorySmart Meters Affect It?How
Interstate electric transmission (FERC-jurisdiction)✖ NoTransmission costs depend on high-voltage grid assets, not meters.
Interstate natural-gas pipeline transmission (FERC-jurisdiction)✖ NoPipeline rates depend on pipeline assets, not meters.
Utility distribution system✔ YesSmart meters are distribution assets.
Utility administrative & operational costs✔ YesReduced meter-reading labor, improved outage management, improved billing accuracy.
Retail rate design✔ YesSmart meters enable time-of-use rates, demand charges, and more granular cost allocation.

---

2. Why smart meters indirectly change transmission charges on customer bills

Even though smart meters do not change FERC-jurisdiction transmission rates, they can change:

A. The utility's retail revenue requirement

Smart-meter programs add:

capital cost (meters + communications network)
depreciation
return on equity
O&M for meter data management

These costs are recovered in retail rates.

Received Time Jan. 8. 2026 3:47PM No. 1946

B 3-5

B. The allocation of transmission costs across customer classes

Smart meters allow utilities to measure:

customer peak demand
contribution to system coincident peak
time-of-use load shapes

State commissions often allocate transmission costs based on:

coincident peak (CP) responsibility
class peak demand
individual customer peak demand (for large C&I)

Smart meters make these allocations more precise.

Thus:

Smart meters → more accurate measurement of peak load → different allocation of transmission costs → different transmission charges for individual customers.

---

3. Numerical Example: Electric Utility

Assume:

Utility's annual interstate transmission bill: $300 million
Retail sales: 30,000 GWh
Residential customer monthly usage: 900 kWh

Before smart meters

Utility allocates transmission costs by energy (kWh) because it cannot measure individual peak demand.

[\text{Transmission rate} =
\frac{300{,}000{,}000}{30{,}000{,}000{,}000} = $0.01/\text{kWh}]

Residential customer pays:

[900 \times 0.01 = $9.00]

After smart meters

State commission switches to coincident-peak allocation because smart meters now measure customer peak contribution.

Assume:

Residential class contributes 40% of system peak (instead of 33% assumed previously)
Residential class sales share is 33%

New residential share of transmission cost:

[300{,}000{,}000 \times 0.40 = 120{,}000{,}000]

Residential transmission rate:

[Received Time Jan. 8. 2026 3:47PM No. 1946 .012/\text{kWh}]

B 4-5

Residential customer now pays:

[900 \times 0.012 = $10.80]

Increase caused by smart-meter-enabled rate design:
[$10.80 - $9.00 = $1.80 \text{ per month}]

---

4. Numerical Example: Natural Gas LDC

Assume:

Pipeline capacity cost: $120 million/year
Retail throughput: 120 million therms
Residential winter usage: 80 therms

Before smart meters

Allocation based on annual therms:

[\text{Pipeline cost rate} = $1.00/\text{therm}]

Customer pays:

[80 \times 1.00 = $80]

After smart meters (gas AMI)

Smart meters allow:

measurement of hourly usage
better estimation of design-day peak demand
more accurate class peak responsibility

Assume residential class is now found to contribute 55% of design-day peak instead of 50%.

New residential share:

[120{,}000{,}000 \times 0.55 = 66{,}000{,}000]

Residential rate:

[\frac{66{,}000{,}000}{60{,}000{,}000} = $1.10/\text{therm}]

Customer pays:

[80 \times 1.10 = $88]

Increase caused by smart-meter-enabled peak allocation:
[$88 - $80 = $8 \text{ per month}]

---

5. Summary Table: How Smart Meters Affect Transmission Charges

Mechanism	Electric	Gas
Change FERC interstate transmission rates?	✗ No	✗ No
Change utility retail revenue requirement?	✓ Yes	✓ Yes
En[illegible]	[illegible]	Yes

Received Time Jan. 8. 2026 3:47PM No. 1946

C - Last Pg. Attached

B 5-5

96%

measurement of hourly usage
better estimation of design-day peak demand
more accurate class peak responsibility

Assume residential class is now found to contribute 55% of design-day peak instead of 50%.

New residential share:

[120{,}000{,}000 \times 0.55 = 66{,}000{,}000]

Residential rate:

[\frac{66{,}000{,}000}{60{,}000{,}000} = $1.10/\text{therm}]

Customer pays:

[80 \times 1.10 = $88]

Increase caused by smart-meter-enabled peak allocation:
[$88 - $80 = $8 \text{ per month}]

duplicate

5. Summary Table: How Smart Meters Affect Transmission Charges

Mechanism	Electric	Gas
Change FERC interstate transmission rates?	✗ No	✗ No
Change utility retail revenue requirement?	✓ Yes	✓ Yes
Enable more granular peak measurement?	✓ Yes	✓ Yes
Change allocation of transmission costs across classes?	✓ Yes	✓ Yes
Change individual customer transmission charges?	✓ Yes	✓ Yes

Reply Forward

Received Time Jan. 8. 2026 3:47PM No. 1946