



BOROUGH OF TARENTUM

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MEMORANDUM

TO: Borough Council, Mayor
FROM: Dwight Boddorf, Borough Manager
DATE: September 26, 2026
RE: Electric System Maturation: Evolution and Comparative
Position of Tarentum's Municipal Electric Utility, 2023-2026

Council Members,

Over the last several years, Tarentum's electric system has evolved from a relatively traditional small-municipal utility model into a more deliberate, data-informed, financially managed, and operationally documented public-power system. The Borough still operates with a very lean staff and does not have the layers of engineering, finance, market, operations, GIS, communications, and regulatory personnel found in larger utilities. Even so, the Borough's planning, power purchasing, risk management, asset maintenance, use of detailed GIS and metering data, outage communication, new-load evaluation, and reporting to Council and the public have become materially more sophisticated. A review of other Pennsylvania municipal electric systems and regional investor-owned utilities shows that Tarentum is increasingly using many of the same management disciplines, but at a much smaller organizational scale.

This memo documents that maturation. It is not meant to suggest that the system is finished or that all risk has been eliminated. Rather, it shows how a series of individual decisions since 2023 have increasingly become an integrated utility-management model built around predictability, reliability, transparency, institutional knowledge, and long-term cost control.

Maturation at a Glance

Area	Earlier Operating Posture	Current / Emerging Posture
Power procurement	Periodic supply contracting with limited internal market depth	AMP cooperative procurement, remaining-requirements supply, long-term portfolio resources, ARRs, and active capacity planning
Rate strategy	Larger corrections tied to contract cycles and market changes	Multi-year 3-5% annual planning range, reserve smoothing, separate capacity transparency, and five-year forecasting
Operations	Heavy dependence on outside line contractors	Planned in-house lead lineman / second-lineman model with contractors, AMP mutual aid, and specialized crews retained as backup
Maintenance	More reactive replacement and repair	Recurring pole, meter, vegetation, transformer, inventory, and equipment programs
Data	Metering used primarily for billing	AMI/Sensus analytics, detailed electric GIS layers, outage detection, automated alerts, load analysis, rate modeling, and operational decision support
Outage response	Telephone reports and manual awareness	Online outage reporting, automatic outage mapping, internal automated texts, Savvy Citizen, website updates, and coordinated public messaging
Commercial service	Project-by-project coordination	Load studies, written infrastructure agreements, deposits, cost recovery, engineering review, and tighter permitting

Area	Earlier Operating Posture	Current / Emerging Posture
Peer benchmarking	Limited formal comparison beyond rate awareness	PMEA rate benchmarking, public-power peer review, AMP participation, IOU practice comparison, and an emerging path toward formal reliability benchmarking
Governance/transparency	Electric system information dispersed across routine administration	Dedicated Council memos, annual budget narratives, public cost explanations, documented manager oversight, program goals, and performance reporting

1. Financial Planning Shifted from Reactive to Anticipatory

The first major change was financial. During preparation of the 2024 budget in late 2023, the Borough identified that the existing power-supply contract would expire in 2024 and that replacement supply was expected to cost substantially more. Rather than wait for higher wholesale costs, Council adopted an electric rate adjustment for 2024 and began moving toward a multi-year pricing strategy.

That timing mattered. Because wholesale costs were still comparatively low during the transition period, the additional margin could be retained in the Electric Fund and used to build financial capacity before the major PJM capacity increase took effect. By 2025, those surplus funds were available to absorb the capacity shock without an emergency rate increase or service reduction. The system moved from reacting after costs increased to pre-funding a known risk and using reserves intentionally to smooth the transition.

- **Formal 3–5% annual planning range.** Beginning with the 2025 budget cycle, the Borough formalized a strategy of smaller annual adjustments rather than waiting for major contract-renewal corrections. The strategy integrates expected energy, capacity, transmission, and operating costs into a predictable annual review.
- **Dedicated reserve philosophy.** Electric reserves are treated as a rate-smoothing and risk-management tool: they absorb temporary volatility and timing differences but are not intended to permanently subsidize recurring wholesale costs.
- **Separate capacity transparency.** Beginning in 2025, the Borough separated the PJM capacity component on customer bills so residents could see a major external pass-through cost instead of having it hidden inside a single bundled rate.
- **Longer-range forecasting.** Annual budgets now include multi-year electric forecasts, capacity explanations, comparisons with outside utilities, and explicit discussion of future market risk rather than only a one-year revenue and expense view.
- **Reduced General Fund dependence.** The Borough has also moved toward preserving electric revenue for power costs, stabilization, operations, capital reinvestment, and reliability rather than treating utility margin as an unlimited subsidy for general operations.

2. Power Procurement Became a Portfolio and Risk-Management Function

The 2024 move to American Municipal Power (AMP) was an important institutional change. AMP's value is not a guarantee that Tarentum will always obtain the lowest theoretical market price. The value is access to specialized power-supply expertise, broader market information, cooperative purchasing leverage, technical support, structured power-supply schedules, and opportunities that a small borough would have difficulty replicating on its own.

- **Remaining-requirements supply.** AMP arranged the Borough's long-term base energy supply, reducing exposure to short-term commodity volatility while leaving certain regional charges such as capacity, transmission, congestion, and ancillary services as pass-through costs.
- **Capacity diversification.** In 2026, the Borough added the Potomac Energy Center and Bright Mountain Solar arrangements through AMP. These long-term resources add energy and capacity value to the portfolio and reduce dependence on purchasing all future capacity exposure at prevailing PJM auction prices.
- **Auction Revenue Rights (ARRs).** Beginning in 2026, Tarentum began using ARRs, which provide credits from PJM congestion auctions that offset a portion of transmission costs. This represents a move into more sophisticated regional-market participation rather than treating every PJM charge as an uncontrollable invoice.
- **Long-term load forecasting.** The Borough began using longer-range demand and load forecasts, including the 2050 outlook, to understand whether future revenue, peak demand, and system costs are likely to move together. The data showed that flat energy usage does not eliminate exposure to peak-demand, capacity, and transmission costs.

- **Peak and load management.** The Borough has increasingly focused on when power is used, not only total kWh. Smart-meter data, peak-shaving analysis, and load-management planning are now part of the cost-management discussion.
- **Mutual aid access.** AMP membership also gives the Borough another contingency layer through mutual-aid access to other municipal electric systems during catastrophic storm events.

3. Distribution Operations Are Moving from Contractor Dependence to a Hybrid Utility Model

For years, Tarentum relied heavily on contracted lineman services for routine operations and outage response. Contracting remains important, but the Borough has recognized that a mature electric system also needs direct institutional knowledge, day-to-day operating control, and continuity within the organization.

- **In-house electric lead.** The Borough is transitioning core line operations back in-house through an IBEW structure, with a Lead Lineman / General Foreman serving as the primary day-to-day electric-system operator and technical field lead.
- **Redundancy and succession.** The long-term model contemplates a second lineman so the system is not dependent on one individual for safety, emergency response, leave coverage, training, and succession.
- **Contractors remain part of the model.** Outside crews will continue to be used for major storm restoration, pole replacement, reconductoring, underground primary work, substation work, specialized equipment, and any work requiring additional qualified personnel. The change is from contractor dependency to strategic contractor use.
- **Formal knowledge preservation.** The planned in-house model includes maintaining detailed GIS layers, system maps, drawings, outage notes, meter records, inventory information, work logs, and a Borough-owned field operations and inventory manual so institutional knowledge does not remain informal or tied to one contractor or employee.
- **Staff training and cross-functional support.** Electric-system training has expanded beyond the lineman function. Administrative staff, management, Public Works support, engineers, legal counsel, and contractors increasingly operate within defined roles and documented processes.

4. Asset Management Shifted Toward Planned, Preventive Work

The Borough is also managing the physical distribution system more deliberately. Instead of viewing poles, meters, transformers, vegetation, and vehicles as isolated purchases or failures, the Borough has increasingly treated them as recurring asset classes that require planned replacement, inspection, budgeting, and inventory management.

- **Pole replacement.** The Borough established recurring pole replacement goals, including replacing approximately 15 poles as a documented program accomplishment and continuing annual replacement objectives.
- **Meter replacement.** The Borough replaces electric meters on a planned annual cycle to maintain billing accuracy, preserve AMI capability, and reduce the risk of a large block of obsolete equipment failing at the same time.
- **Transformer refurbishment.** The Borough initiated a transformer refurbishment program and continues to evaluate when units should be refurbished, replaced, stocked, or rotated into service rather than treating every transformer issue as an emergency purchase.
- **Vegetation management.** Tree trimming has become a recurring reliability function intended to reduce preventable outages and improve access to lines and poles.
- **Bucket trucks and operating equipment.** The Borough replaced one smaller bucket truck and secured significant grant support for another major electric bucket truck. Grants reduce the local capital burden, but equipment replacement remains part of long-term utility planning rather than assumed to depend on future grants.
- **Lead-time and inventory planning.** Transformer and electrical-equipment lead times increasingly range from roughly 6 to 18 months depending on the item. This has forced the Borough to think earlier about stock levels, reorder points, vendor lists, capital schedules, and critical spares instead of assuming equipment can be obtained when a failure occurs.

5. AMI and System Data Became Operational Tools, Not Just Billing Tools

One of the clearest signs of maturation has been the Borough's improved use of data it already owned. Advanced metering and Sensus information are no longer viewed only as a billing platform. They are increasingly used for system awareness, outage response, revenue protection, planning, and analytics.

- **Automated internal outage alerts.** The Borough configured automated text messages to notify key staff when available system data indicates a loss of service, shortening the time between an outage occurring and the Borough beginning its response.

- **Online outage reporting.** Residents can report outages through an online tool rather than relying exclusively on telephone calls, creating another structured source of outage information.
- **Automatic outage mapping.** The Borough developed an automatic outage-map function so staff and residents can see current outage information more quickly. The in-house tool costs about \$13 per year, compared with the tens of thousands of dollars comparable commercial products can cost.
- **Detailed electric GIS layers.** The Borough maintains detailed GIS layers for the electric distribution system. These layers support asset location, circuit and infrastructure planning, outage response, engineering review, contractor coordination, capital projects, field verification, and long-term system documentation. The GIS is not simply a presentation map; it is increasingly a Borough-owned operating record that reduces reliance on paper maps and system knowledge held only by individual employees or contractors.
- **Integrated analytics.** Sensus meter information, detailed GIS layers, outage notes, load data, rate modeling, and field information are increasingly reviewed together rather than as isolated data sets. This allows management, field staff, engineers, and contractors to make decisions from a more complete picture of the system.
- **Revenue protection.** Meter data and administrative tracking are also being used to identify unauthorized usage, meter problems, disconnect issues, and potential revenue loss, linking operational data to financial controls.

6. Outage Communication Became a Managed Process

The Borough has also matured in how it communicates outages. Reliability is not only restoring power; it also includes how quickly the Borough learns of an event, how staff coordinate internally, and how residents receive accurate updates.

- **Internal alerts.** Automated texts help key staff know when the system detects an outage or loss of service.
- **Website tools.** The outage-reporting form and automatic map give residents a direct way to report problems and obtain current information.
- **Savvy Citizen.** The Borough uses Savvy Citizen to push outage notices and restoration updates to residents through official communication channels, supplementing the website and other Borough messaging.
- **Coordinated restoration communication.** The objective is a complete chain: system data and resident reports identify the event, staff are alerted, crews respond, management coordinates, and residents receive timely official updates.

7. Commercial and Development Controls Became More Professional

The Borough has also changed how it handles new or expanded commercial electric loads. A mature municipal utility cannot commit infrastructure or capacity based only on a service request; it must understand the engineering impact, wholesale-cost consequences, customer responsibility, and effect on existing ratepayers before work proceeds.

- **Load studies.** Significant new or expanded commercial services increasingly require load analysis before the Borough commits transformers, circuits, or other infrastructure.
- **Written infrastructure agreements.** The Electric Infrastructure Work Agreement under Ordinance 25-08 formalizes scope, cost, deposits, inspections, service activation, ownership, and customer responsibility. Requested infrastructure costs are assigned to the requesting company rather than the general rate base.
- **Cost recovery before service.** The standard agreement requires a 50% deposit before work is scheduled and final payment before activation or final connection, reducing the risk that existing ratepayers subsidize private development.
- **No informal commitments.** The agreement states that verbal representations are not binding unless reduced to writing and authorized, which is a meaningful internal-control improvement for a small utility.
- **Tighter permitting and coordination.** Work affecting electric infrastructure is now expected to be identified earlier and coordinated with Borough administration, the engineer, electric staff, and contractors so safety, capacity, procurement, cost recovery, and scheduling are addressed before construction.
- **Large-load policy development.** The Borough is also developing more formal standards for extraordinary loads so it can evaluate major users for system reliability, capacity impact, infrastructure needs, security, and ratepayer protection before making service commitments.

8. Governance, Reporting, and Public Transparency Have Become Part of Utility Operations

Another important change is that electric-system management is now documented and explained more routinely. The Borough no longer treats power purchasing, capacity costs, rate planning, and distribution operations as matters discussed only when a contract expires or a problem occurs.

- **Annual budget narratives.** The 2024, 2025, and 2026 budget messages each included dedicated discussion

of the Electric Fund. Over time, those sections expanded from identifying the upcoming supply-contract problem to explaining capacity markets, five-year forecasts, reserve strategy, program accomplishments, rate comparisons, and future operating objectives.

- **Dedicated Council memoranda.** Council has received stand-alone electric-system memoranda addressing financial position, market conditions, long-term load forecasts, capacity risk, AMP procurement, staffing structure, lineman services, reserve strategy, and the 2027 rate outlook.
- **Public-facing explanation.** Capacity charges, rate changes, and outage conditions are increasingly explained in plain language rather than simply appearing as unexplained bill or budget changes.
- **Program accomplishments and objectives.** The budget now identifies annual electric-system accomplishments and next-year objectives, including training, pole replacement, meter replacement, transformer refurbishment, bucket-truck investment, innovation, and bringing line services under Borough control.
- **Benchmarking.** The Borough uses PMEA and other comparison data to evaluate Tarentum against municipal and investor-owned utilities rather than considering local rates in isolation.
- **Formal management responsibilities.** The Manager's electric oversight role now includes supply contracts, consultant coordination, rate and capacity planning, capital programs, outage management, meter and theft controls, GIS, analytics, revenue recovery, and periodic Council reporting.

9. Grants Are Being Used as Strategic Capital Offsets

The Borough has become more aggressive in pursuing external funding where a grant can accelerate a necessary capital purchase or resilience improvement. The electric bucket-truck funding is an example of using outside dollars to reduce the local cost of an asset the system needs regardless.

At the same time, grants are not treated as a sustainable operating model. They are competitive, restricted, and uncertain. A mature utility must be able to support recurring power costs, staffing, maintenance, equipment replacement, and core capital needs through its own rates, reserves, and financial planning. Grants should continue to be pursued as strategic offsets when available, not assumed as the foundation of the Electric Fund.

10. Results of the Maturation to Date

The value of these changes is not that Tarentum has eliminated electric-market or infrastructure risk. It has not. The value is that the Borough now has more tools, more information, more documentation, and more options when risk appears.

- **The 2025 capacity shock was absorbed without an emergency rate increase or service reduction.** The 2024 rate decision and accumulated surplus provided the bridge the strategy was designed to create.
- **The 2026 capacity increase was spread over time.** Capacity costs were projected to rise by approximately 20%, while the planned customer adjustment remained 5% because reserves and the multi-year rate strategy were used as intended.
- **Rates remained competitive.** The 2026 PMEA residential survey listed Tarentum at \$178.50 for a 1,000 kWh monthly residential bill, compared with \$212.21 for West Penn Power and \$272.53 for Duquesne Light at that point in time.
- **System knowledge has increased.** The Borough now retains more rate modeling, load analysis, Sensus analytics, GIS work, grant administration, operational coordination, and market understanding, rather than relying exclusively on outside vendors or consultants.
- **Response and communication have improved.** The system now has multiple paths to detect, report, map, respond to, and communicate outages.
- **Capital planning is more deliberate.** Recurring meter, pole, vegetation, transformer, truck, inventory, and lead-time planning have replaced a greater share of run-to-failure decision-making.

11. Comparative Position: Pennsylvania Public Power and Regional Utilities

A peer review helps put the Borough's recent changes in context. Pennsylvania's municipal electric systems vary greatly in size, staffing, generation ownership, and internal technical capacity, and public-facing information does not reveal every internal practice. The comparison therefore should not be treated as a formal ranking. It does show, however, that Tarentum is increasingly using management practices found in more developed public-power systems and in regional investor-owned utilities while operating with a much smaller staff.

- **Tarentum is a mid-sized Pennsylvania municipal system, not one of the smallest.** The 2026 Pennsylvania Municipal Electric Association residential survey identifies 35 municipal electric systems. Tarentum reported approximately 2,253 meters. Fourteen systems reported more meters and twenty reported fewer, placing Tarentum 15th of 35 by meter count. This makes the Borough roughly middle-sized within Pennsylvania public power even though its dedicated staffing structure is comparatively lean.
- **AMP participation places Tarentum within the prevailing Pennsylvania public-power model.** American Municipal Power currently lists 33 Pennsylvania municipal members. Tarentum's move to AMP therefore aligned the Borough with the cooperative procurement and technical-support structure used by nearly all Pennsylvania municipal electric systems. For Tarentum, the practical value is access to specialized power-supply expertise, broader market information, cooperative purchasing leverage, mutual aid, technical services, and portfolio opportunities that would be difficult to replicate independently.
- **Zelienople is a useful near-size staffing comparison.** Zelienople reports roughly 2,400 meters in the PMEA survey, close to Tarentum's size, and publicly lists three Electric Department employees. Its broader municipal administration also includes a Borough Manager, Assistant Borough Manager, Public Works Director, Finance Director, accounts-payable/general-administration staff, and utility-billing staff. Tarentum pursues many comparable utility-management functions with a smaller dedicated electric and administrative structure, which helps explain the integration occurring through the Manager's Office.
- **Ephrata and Lansdale show the mature municipal-utility end of the spectrum.** Ephrata reports approximately 6,700 meters and eight Electric Division employees, uses AMP, participates in formal reliability tracking, and has received recognition for its use of GIS. Lansdale serves more than 8,000 customers with eleven electric professionals and publicly documents advanced metering, automatic outage detection, complete system mapping, computerized inventory, infrared inspection, and recurring preventive maintenance. Tarentum does not have their staffing depth, but its detailed GIS layers, AMI analytics, preventive asset programs, contractor coordination, and outage technology are increasingly performing the same categories of utility-management work at smaller scale.
- **Tarentum's outage tools mirror several functions of larger utility outage-management systems.** Duquesne Light's modern outage-management system uses GIS, real-time outage mapping, crew-status information, estimated restoration information, and personalized customer notifications. Tarentum does not operate a comparable enterprise control platform, but it has built scaled versions of several resident-facing and management functions through AMI-based alerts, an online outage-reporting tool, automatic outage mapping, detailed GIS layers, the Borough website, and Savvy Citizen. The significance is functional: the Borough has achieved greater visibility and communication without purchasing a large commercial platform.
- **Commercial-load review and long-lead planning increasingly resemble utility-industry practice.** Duquesne Light requires project scope and expected load information, engineering review, transformer and circuit sizing, site plans, payment of applicable construction costs, and significant lead time for more complex service requests. It also publicly identifies transformer and project lead times that can extend from several months to 12–24 months depending on equipment and project type. Tarentum's load studies, written infrastructure agreements, cost-recovery provisions, permitting controls, and 6–18 month equipment-planning assumptions reflect the same underlying discipline at municipal scale.
- **Vegetation and preventive asset work follow the same reliability logic used by West Penn Power.** FirstEnergy's West Penn Power reliability program includes recurring vegetation management, line and equipment inspections, and correction of identified reliability issues. Tarentum's recurring tree trimming, pole replacement, meter replacement, transformer refurbishment, equipment planning, and critical-spare approach apply the same preventive principle: address known risk before it becomes an outage or emergency purchase.
- **The comparative takeaway is organizational, not simply technological.** Tarentum is not equivalent in scale or capability to Ephrata, Lansdale, Duquesne Light, or West Penn Power. Those organizations have substantially larger staffs, specialized departments, control systems, engineering resources, and capital programs. Notably, Tarentum has increasingly adopted the same management disciplines—portfolio procurement, detailed GIS, advanced metering, outage visibility, preventive asset management, load review, cost recovery, public communication, and long-range financial planning—while retaining a very small municipal operating structure.

12. The Next Stage of Maturation

The next stage is less about adding isolated projects and more about making the current model durable. The Borough has built a more sophisticated system with limited staff, but integrating specialized functions through the Manager's Office and a small operating team creates continuity and succession risk if knowledge remains concentrated in too few people.

- **Complete the in-house lineman transition and preserve contractor / mutual-aid backup.** The hybrid

model should provide daily system knowledge without giving up the depth needed for major work and storm restoration.

- **Institutionalize field and inventory documentation.** Circuit information, maps, meter programming, transformer stock, material usage, vendor contacts, reorder points, outage records, and emergency procedures should increasingly reside in Borough-owned systems and manuals.
- **Continue formal asset planning.** Pole, meter, transformer, vegetation, truck, and critical-spare programs should be tied to multi-year budgets and known lead times.
- **Continue large-load and commercial protections.** Engineering review, cost recovery, special service agreements, and extraordinary-load standards should continue to evolve as new customer types emerge.
- **Continue resilience and emergency planning.** Backup power, communications continuity, critical traffic control, and electric restoration command functions should remain part of the Borough's broader emergency-management strategy.
- **Formalize reliability metrics and external benchmarking.** The Borough now has better outage detection and records. A logical next step is to calculate and retain standard reliability measures such as SAIDI, SAIFI, and CAIDI and consider APPA PowerTRX Reliability or a comparable benchmarking process. APPA's system compares utilities by customer count and region, allowing Council to evaluate reliability using an external performance measure rather than anecdotal impressions alone.
- **Continue building the GIS as a core asset-management record.** Detailed electric GIS layers should continue to be field-verified and expanded with useful asset attributes, condition information, replacement history, photographs, and links to work records where practical. The goal is to make the GIS, inventory records, and field manual complementary Borough-owned systems that preserve institutional knowledge and support planning.
- **Monitor administrative capacity.** The Borough should continue documenting, cross-training, and delegating electric-system work where practical and use AMP, engineers, legal counsel, contractors, and other specialists where their expertise adds value. As the system becomes more complex, Council should periodically evaluate whether the Borough's administrative and technical capacity remains sufficient.

Conclusion

Tarentum's electric system has matured because the Borough changed more than rates or suppliers. Since 2023, the Borough has increasingly connected financial forecasting, cooperative power procurement, capacity management, reserve policy, workforce planning, preventive maintenance, equipment replacement, AMI data, detailed electric GIS, outage technology, public communication, commercial-load review, permitting, grants, Council reporting, and external benchmarking into one management framework. Peer comparisons show that many of these are the same disciplines used by larger Pennsylvania public-power systems and regional investor-owned utilities, even though Tarentum carries them out with a substantially smaller organizational structure.

The most important shift is from reactive utility administration to deliberate system management. The Borough now anticipates costs before they arrive, uses system and GIS data before a failure occurs, documents responsibilities before a dispute develops, communicates before residents have to search for information, and plans replacement before every asset becomes an emergency. Tarentum is not attempting to replicate the bureaucracy of a large utility; it is increasingly adopting the functions and disciplines that add value while keeping the operating model lean. That is the clearest measure of the system's maturation over the last several years.

Sincerely,

Dwight Boddorf, Borough Manager