

CASE STUDY



WATT-Net™ as the Meter Asset Management System of Record

Managing 1.8 million+ electric and gas assets across three utilities, six meter shops, 39 storage centers, and 1,140 individual tracking rules through a single, integrated platform.

A background image showing a city at night with long-exposure light trails from cars on a highway, creating a sense of motion and technology.

R A D I A N
— Research

Executive Summary

A Large US Utility serves approximately 1.3 million customers. Their metering operations span three distinct utility entities, each with its own regulatory requirements, meter populations, and operational workflows.

To manage this complexity, the Large US Utility selected **WATT-Net** as their Meter Asset Management (MAM) system of record. The platform now tracks the complete lifecycle of more than 1.8 million electric and gas assets—from procurement and acceptance testing through field deployment, periodic testing, and retirement—across six meter shops, 39 storage centers, and two manufacturer RMA facilities.

This case study examines how WATT-Net serves as the central hub for metering operations, integrating directly with test equipment hardware, handheld barcode scanners, regulatory compliance workflows, and business intelligence reporting to create a unified, end-to-end asset management ecosystem.

1.8M+	8	1,140	3
ASSETS TRACKED	ASSET TYPES MANAGED	TRACKING RULES	UTILITIES SERVED

System at a Glance

- 5 electric meter shops and 1 gas meter shop
- ~1.067 million electric meters, ~76K current transformers, ~11K potential transformers
- ~352K gas diaphragm meters, ~2K gas rotary meters, ~352K gas regulators, ~43K gas ERTs
- 39 meter storage centers plus RMA and fire evidence storage facilities
- Direct hardware integration with WECO Test Boards, Bantam Plus, transformer comparators, and SonicNine gas provers
- Wireless and smart handheld scanner integration for warehouse and field operations
- Built-in PSC sample and periodic selection for regulatory compliance
- Business intelligence reporting across all asset types and lifecycle stages

The Challenge

Managing meter assets at this scale creates challenges that go well beyond simple inventory tracking. The organization needed to solve several interconnected problems simultaneously:

Multi-Utility Complexity

Three separate utility entities, each with distinct company codes, regulatory jurisdictions, and reporting requirements. The system of record needed to maintain clean separation between these entities while enabling consolidated operations and reporting across all three.

Eight Distinct Asset Types

Electric meters represent only one piece of the puzzle. The Large US Utility manages current transformers (CTs), potential transformers (PTs), gas diaphragm meters, gas rotary meters, gas regulators, gas ERTs, and AMS gas modules. Each asset type has its own characteristics, test procedures, lifecycle stages, and regulatory requirements. A single system needed to handle all of them with appropriate specificity.

Massive Physical Footprint

Assets move continuously between 39 storage centers, six meter shops, manufacturer RMA locations, and a shared fire evidence storage center. Tracking which asset is where—and what state it's in—across this network requires granular location and status tracking at every handoff point.

Regulatory Compliance

The state's Public Service Commission (PSC) requires structured sample and periodic testing programs for electric and gas meters. The utility needed a system that could define selection programs and stratas annually, manage the selection process, handle alternate meter exchanges, and produce the documentation required for regulatory filings.

Hardware and Software Integration

The meter shops operate a diverse set of test equipment—WECO Test Boards, Bantam Plus, CT/PT comparators, and SonicNine gas diaphragm provers. Test results from all of these devices needed to flow into a single data repository without manual re-entry, alongside manual test ticket entry for assets tested outside the automated systems.



The Solution: WATT-Net as System of Record

RADIAN worked with the Large US Utility to implement WATT-Net as the comprehensive meter asset management platform—not just a test and data management system, but the system of record for the entire metering asset lifecycle. The implementation touched every aspect of metering operations.

1. Unified Equipment Faceplate

At the center of WATT-Net is the Equipment Faceplate—a single-view interface that consolidates all characteristics, history, and status information for any asset. The Utility's implementation supports all eight asset types through enhanced search functionality, giving operators the ability to pull up any meter, transformer, regulator, or ERT and see its complete profile instantly.

The faceplate includes additional custom fields and values specific to the Large US Utility's operational requirements—covering everything from material codes, construction class, and house line pressure to AML type, firmware revision, and multi-ERT count. Tabs at the bottom of the faceplate provide one-click access to comments, multimedia attachments, tracking history, readings, repairs, firmware history, AML install history, listener data, and alerts.

2. Asset Creation and Retirement

WATT-Net provides a unified asset creation process for all eight equipment types, with configurable import functionality that supports three intake methods: file-based bulk import from manufacturer files, serial number range entry, and individual asset creation. Each method enforces controlling and required values specific to the asset type, ensuring data integrity from the moment an asset enters the system.

The automated retirement process mirrors this rigor. Assets can be retired by file, by equipment number range, or individually. The system validates retirement eligibility, records the retirement date and reason, and updates the asset's tracking status across all connected systems.

3. Asset Testing and Acceptance

Before any asset enters active inventory, it passes through WATT-Net's acceptance testing workflow. The system supports individual acceptance with required testing, batch acceptance with required testing, and batch acceptance without testing restrictions—each appropriate for different asset types and procurement scenarios.

The Batch Acceptance Editor tracks total quantity, selected quantity, tested quantity, and failed quantity for each batch, with configurable inspection levels, Acceptable Quality Levels (AQL), and recommended sample sizes (automatically generated using the built in ANSI sampling tables). The system also includes a complete RMA (Return Merchandise Authorization) processing workflow with dedicated receiving and acceptance editors for managing manufacturer returns.



4. Direct Hardware Integration

One of the most significant value drivers of this implementation is the direct integration between WATT-Net and the physical test equipment used in the Large US Utility's meter shops. The system connects to:

Electric Test Equipment

- WECO Test Boards for electric meter accuracy testing
- Bantam Plus for on-site meter testing
- Electric transformer comparators for CT/PT testing

Gas Test Equipment & Scanners

- SonicNine provers for gas diaphragm meter testing
- Wireless handheld scanners (Shop Assistant) for warehouse operations
- Smart handheld scanners integrated directly into WATT-Net

When a technician runs a meter test on any of these devices, the results—accuracy percentages, element readings, weighted averages, pass/fail status—flow directly into WATT-Net without manual re-entry. For assets tested outside the automated test equipment (gas rotary meters, gas regulators, gas ERTs, and AMS gas modules), a comprehensive manual test ticket entry form captures the same depth of data with enhanced fields and validation.

5. Asset Tracking System

The asset tracking system is where the true complexity of this implementation becomes visible. WATT-Net manages tracking rules for all eight asset types across the organization's entire physical footprint: 5 electric meter shops, 1 gas meter shop, 39 storage centers, and 2 manufacturer RMA groups.

The system uses a workstation-based tracking model with defined stations for Receiving, Cleaning, Testing, Packing, Shipping, Retire Hold, and Retire. Each transition between workstations is governed by rules that enforce valid pathways and capture the data required at each stage. The business rules are configurable to manage and enforce desired processes.

"The tracking system alone comprises 574 incoming and 566 outgoing individual rules—and that's not including clearing rules for pallet assignments, shelf locations, issued-to records, or status flags. Every possible asset movement through the organization has a defined, enforced pathway."

— Based on the Large US Utility's system configuration data

Electric meters, gas diaphragm meters, current transformers, potential transformers, and AMS gas modules all have a complete tracking build-out covering both meter shops and storage centers. Gas rotary meters, gas ERTs, and gas regulators use a modified rule set optimized for their simpler lifecycle patterns within the meter shop environment

6. PSC Regulatory Compliance

WATT-Net includes a dedicated In-Service Testing module that manages the Public Service Commission sample and periodic selection process. The module provides:

- **Edit Selection Programs:** Define and configure the sampling programs that govern which meters are selected for testing each year
- **Strata Editor:** Configure the strata groupings (by meter type, age, manufacturer, or other criteria) that organize the selection population
- **Annual Selection:** Execute the selection process to populate each year's testing list from the qualified meter population
- **Alternates Management:** Exchange selected meters for alternates when the originally selected meter cannot be retrieved or tested
- **Program Archival:** Archive completed programs with full audit trails for regulatory reference

This process applies to both electric meters and gas diaphragm meters, with the system managing separate programs for each. The "Edit Failed Strata" function handles cases where a strata fails its sample test, triggering expanded testing requirements per PSC rules.

7. Comprehensive Reporting

WATT-Net provides reporting:

Operational Reports

Seventeen built-in report types cover the daily operational needs of the meter shop: basic test results, standards compare reports, reference standards calibration tracking, meter burden reports, strata reports, sample/periodic reports, tester productivity, shop production, inventory, site reports, pallet content, meter performance, employee performance, accuracy reports, out-of-date firmware reports, repair reports, and listener log reports.

Key Value Drivers

The breadth and depth of the Large US Utility's implementation delivers value across multiple dimensions:

Single Source of Truth

Every meter, transformer, regulator, and ERT in the organization has one authoritative record in one system. When a customer service representative, field technician, engineer, or regulator asks about an asset, the answer comes from the same place. This eliminates the data silos, spreadsheet workarounds, and reconciliation exercises that plague multi-system environments.

End-to-End Lifecycle Visibility

WATT-Net tracks each asset from the moment it's created in the system through acceptance testing, storage, deployment, in-service testing, return, retesting, and retirement. The Equipment Faceplate gives operators instant access to the complete history—every test result, every location change, every status transition, every firmware update, every repair—in a single view.

Automated Data Capture

Direct hardware integration with WECO Test Boards, Bantam Plus, transformer comparators, and gas provers eliminates manual data entry for the vast majority of test events. Barcode scanner integration extends this automation into warehouse operations. The result is faster throughput, fewer errors, and more time for technicians to focus on testing rather than data entry.

Regulatory Confidence

The built-in PSC sample and periodic selection module ensures that the Large US Utility can demonstrate compliance at any time. The system manages the entire process—from strata definition through selection, testing, alternate management, and archival—with full audit trails. When regulators request documentation, the data is already organized and ready.

Operational Control at Scale

With 1,140 individual tracking rules governing asset movements across 47 physical locations, WATT-Net enforces consistent processes that would be impossible to maintain manually. Every asset transition follows a defined pathway. Every required data point is captured. Every exception is visible. This level of process control is what makes it possible to manage 1.8 million assets without proportionally scaling headcount.

Multi-Utility Consolidation

Three utilities with different company codes, plants, and regulatory requirements operate within a single WATT-Net instance. This consolidation eliminates duplicate systems, reduces IT overhead, and enables cross-utility reporting and benchmarking that wouldn't be possible with separate platforms.



Conclusion

The Large US Utility represent one of the most comprehensive meter asset management deployments in the utility industry. The system serves as far more than test and data management software—it is the system of record for the full lifecycle of every metering asset across three utilities.

The scale of the implementation speaks for itself: 1.8 million assets, eight asset types, six meter shops, 39 storage centers, 1,140 tracking rules, direct integration with four types of test equipment, handheld scanner workflows, built-in regulatory compliance management, and comprehensive operational reporting. All of it runs through WATT-Net.

For utilities evaluating how to manage growing metering asset complexity—whether driven by AMI deployments, multi-utility consolidation, or evolving regulatory requirements—this implementation demonstrates what's achievable when a utility commits to a purpose-built, integrated platform rather than a patchwork of disconnected tools.

To Learn More

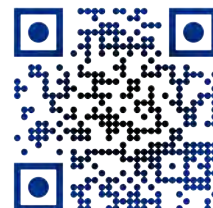
Contact RADIANT to discuss how WATT-Net can serve as your utility's meter asset management system of record:

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