ELDRIDGE ELECTRIC AND WATER UTILITY BOARD

June 2nd, 2026 – 5:00 pm

City Hall, 305 N. 3rd Street

1. Call to Order
2. Public Comment
3. Approval of Agenda
4. Approval of Utility Board Minutes from June 2nd, 2026

5. Presentation from Iowa American Water
   A. Discussion on Iowa American Water Proposal

6. Financial & Administrative
   A. Consideration to Approve Bills Payable
   B. Discussion and consideration on the Proposal from VanWert for AMI metering
   C. Consideration to approve Resolution 2026-06 Setting Salaries of Employees of Eldridge Electric and Water
   D. Department Update

7. Electric Department
   A. Outages
   B. Consideration to approve the IAMU Mutual Aid Agreement
   C. Consideration to approve the Market Services Agreement
   D. Department Update – Collin Wilson

8. Water Department
   A. Water Main Breaks
   B. Water Test Results
   C. Department Update – Cegan Long

9. Adjournment

NEXT REGULAR MEETING: Tuesday, July 7th, 2026, at 5:00 pm

Abby Petersen Mark Goodding Jeff Hedrington Jeff Hamilton Michael Bristley

AGENDA

ELDRIDGE ELECTRIC AND WATER UTILITY BOARD

The regular meeting of the Board of Trustees of the Eldridge Electric and Water Utility Board was called to order at 5:00pm on 6/2/2026, at Eldridge City Hall.
The board members present were Michael Bristley, Jeff Hedrington, Jeff Hamilton, Abby Petersen, also present were Gage Lane, Collin Wilson, and Sade Wagner. Mark Goodding was absent.
Public Comment – None
Petersen Made Motion for Approval of Agenda. Second By Hamilton. All Ayes. Motion Carried.
Hedrington Made to Approve Utility Board Minutes from May 19th, 2026. Second By Petersen. All Ayes. Motion Carried.
Financial & Administrative
Hamilton Made Motion to Approve Bills Payable in the amount of $300,095.66. Second By Hamilton. All Ayes. Motion Carried.
Department Update- The PCA will be adjusted this month to reflect the July 1, 2026, bills. Wagner is still waiting for a couple of invoices and does not yet have a final calculation. She will provide the updated calculations at the next meeting. The PCA will no longer result in credit, however, compared to last year, the increase will be substantially lower. Electric rates will be updated from winter rates to summer rates, which will be reflected on the July 1 bills. Budget billing accounts are being reviewed, and any account with a change of 10% or more will be adjusted accordingly. Wagner plans to bring the AMI proposal forward for discussion at the next meeting.
Electric Department
Outages- None
Department Update – Staff completed the pole installations and installed new floodlights for the ball fields. A pole replacement was completed at 111 W. Davenport Street, across from the laundromat. Crews have continued working on electric service projects.
The new mini stand-on skid loader was delivered.
Water Department
Water Main Breaks- None
Water Test Results – May and June testing has been sent in and staff is currently waiting for the results.
Iowa American Water- A discussion was held among Utility Board members regarding the Iowa American Water proposal. Representatives from Iowa American Water will attend the next meeting to provide additional information and discuss the proposal with the Board.
Hedrington made motion to approve the purchase of a 50 HP motor for Well #4. Second by Hamilton. All Ayes. Motion carried.
Department Update- Verizon has fully removed its temporary cell tower, including the gravel base, and has restored the green space. KLN inspected the installation of Verizon's cell equipment on Monday. Peterson Plumbing completed the City's annual backflow prevention testing and will provide reports once they are finalized. The water main for Grunwald's Third Edition has been installed. Staff will coordinate with N.J. Miller to fill the main and conduct bacteriological testing before placing it into service. Operations continue to run smoothly overall. The water system has experienced several high-production days exceeding 1,000,000 gallons per day. Staff is hopeful for rainfall to help reduce demand on the system.
Petersen Made Motion for Adjournment at 5:23pm. Second By Hamilton. All Ayes.

Respectfully submitted,
Gage Lane
Utility Billing Clerk

Abby Petersen Mark Goodding Jeff Hedrington Jeff Hamilton Michael Bristley

BILLS PAYABLE

AGENDA

Check #	DEPT	FUND	VENDOR	DESCRIPTION	AMOUNT
227584	ELECTRIC	630-5-820-6310	A & A AIR COND & REFRIGERATION INC	ICE MACHINE RENTAL	$ 62.50
227585	WATER	600-5-810-6411	AHLERS & COONEY P.C.	ELECTRIC AND WATER LEGAL SERVICES	$ 1,800.00
227585	ELECTRIC	630-5-820-6411	AHLERS & COONEY P.C.	ELECTRIC AND WATER LEGAL SERVICES	$ 2,808.00
227586	WATER	600-5-810-6371	ALLIANT ENERGY CO.	UTILITIES	$ 185.03
227587	ELECTRIC	630-5-820-6310	ALWAYS CLEAN LLC	CLEANING SVCS	$ 300.00
227588	ELECTRIC	630-5-820-6506	AMAZON CAPITAL SERVICES	PHONE CHARGER	$ 8.45
227589	WATER	600-5-810-6373	CENTRAL SCOTT TELEPHONE	TELEPHONE/WIFI SVCS	$ 260.13
227589	ELECTRIC	630-5-820-6373	CENTRAL SCOTT TELEPHONE	TELEPHONE/WIFI SVCS	$ 449.95
227590	ELECTRIC	630-5-820-6310	CINTAS CORPORATION	FLOOR MATS	$ 103.90
227590	ELECTRIC	630-5-820-6310	CINTAS CORPORATION	FLOOR MATS	$ 103.90
227590	ELECTRIC	630-5-820-6310	CINTAS CORPORATION	FLOOR MATS	$ 67.33
227591	ELECTRIC	630-5-820-6310	CINTAS FIRST AID & SAFETY D89	FIRST AID KIT	$ 31.62
227592	ELECTRIC	630-5-820-6413	COMMUNITY ACTION OF EASTERN IOWA	PROJECT SHARE	$ 52.50
227593	ELECTRIC	635-5-820-6710	DITCH WITCH	SKID STEER	$ 46,488.32
227594	WATER	600-5-810-6331	DULTMEIER SALES	CAR WASH SUPPLIES	$ 29.25
227594	ELECTRIC	630-5-820-6332	DULTMEIER SALES	CAR WASH SUPPLIES	$ 29.25
227594	WATER	600-5-810-6310	DULTMEIER SALES	WASH BAY SOAP	$ 29.25
227594	ELECTRIC	630-5-820-6310	DULTMEIER SALES	WASH BAY SOAP	$ 29.25
227595	ELECTRIC	630-5-820-6414	EASTERN IOWA PUBLICATION LLC	PUBLISHING	$ 138.29
227596	ELECTRIC	630-5-820-6332	EASTERN IOWA TIRE	TRAILER #655	$ 1,191.72
227597	ELECTRIC	630-5-820-6560	FLETCHER-REINHARDT CO.	INVENTORY	$ 2,949.46
227598	WATER	600-5-810-6501	HAWKINS INC.	CHLORINE CYLINDERS	$ 1,619.73
227599	WATER	600-5-810-6181	JK INDUSTRIES	CITY SHIRTS	$ 78.00
227600	WATER	600-5-810-6331	LAWSON PRODUCTS INC.	WASHERS, DRILL BITS, HAIRPIN COTTER STEEL ZINC	$ 172.51
227600	ELECTRIC	630-5-820-6332	LAWSON PRODUCTS INC.	WASHERS, DRILL BITS, HAIRPIN COTTER STEEL ZINC	$ 172.54
227601	WATER	600-5-810-6371	MIDAMERICAN ENERGY COMPANY	UTILITIES	$ 15.18
227601	WATER	600-5-810-6371	MIDAMERICAN ENERGY COMPANY	UTILITIES	$ 27.66
227601	WATER	600-5-810-6371	MIDAMERICAN ENERGY COMPANY	UTILITIES	$ 35.84
227601	WATER	600-5-810-6371	MIDAMERICAN ENERGY COMPANY	UTILITIES	$ 48.44
227601	WATER	600-5-810-6371	MIDAMERICAN ENERGY COMPANY	UTILITIES	$ 186.50
227601	ELECTRIC	630-5-820-6371	MIDAMERICAN ENERGY COMPANY	UTILITIES	$ 90.68
227602	WATER	600-5-810-6331	MOLO PETROLEUM, LLC	FLEET ANTIFREEZE	$ 30.40
227602	ELECTRIC	630-5-820-6332	MOLO PETROLEUM, LLC	FLEET ANTIFREEZE	$ 30.43
227603	WATER	600-5-810-6451	QC ANALYTICAL SERVICES LLC	BACTERIA TESTING	$ 200.00
227603	WATER	600-5-810-6451	QC ANALYTICAL SERVICES LLC	FLOURIDE SAMPLE	$ 27.00
227604	WATER	600-5-810-6451	QC METALLURGICAL LAB	BACTERIA AND E COLI REPORTED TO IOWA DNR	$ 25.00
227605	WATER	600-5-810-6373	QUAD CITIES TAS	ANSWERING SERVICE	$ 29.92
227605	ELECTRIC	630-5-820-6450	QUAD CITIES TAS	ANSWERING SERVICE	$ 29.92
227606	WATER	600-5-810-6407	SHIVE-HATTERY ENGINEERS	FELLNERS ADD ROAD RECON	$ 4,350.00
227607	ELECTRIC	630-5-820-6560	STUART C IRBY CO	BUST ANCHOR 3/4"	$ 181.90
227607	ELECTRIC	630-5-820-6560	STUART C IRBY CO	ANCHOR BUST ROD	$ 176.55
227608	ELECTRIC	630-5-820-6332	TEREX GLOBAL GMBH	VEHICLE MAINTENANCE	$ 741.34
227609	ELECTRIC	630-5-820-6560	TERRY-DURIN CO.	2.0 DUCT BLK RD WITH TAPE	$ 4,280.00
DFT0000820	WATER	600-5-810-6331	WEX BANK	FUEL	$ 452.93
DFT0000820	ELECTRIC	630-5-820-6331	WEX BANK	FUEL	$ 197.13
DFT0000823	ELECTRIC	630-5-820-6402	PAYMENTECH (TYLER CC)	PAYMENT TECH FEES	$ 3,434.98
DFT0000824	ELECTRIC	630-5-820-6402	PAYMENTECH (TYLER CC)	PAYMENT TECH FEES	$ 168.99
DFT0000825	ELECTRIC	630-5-820-6402	PAYMENTECH (TYLER CC)	PAYMENT TECH FEES	$ 385.41
DFT0000826	WATER	600-5-810-6150	EBS	EBS ADMIN FEES	$ 69.35
DFT0000826	ELECTRIC	630-5-820-6150	EBS	EBS ADMIN FEES	$ 45.42
DFT0000828	INS REIMB	821-5-630-6184	EBS	SELF INSURED PAYMENT	$ 39.47
ACH	SPLIT	SPLIT	PAYROLL 6/4	PAYROLL 6/4	$40,426.35
				TOTAL	**$ 114,887.67**

Eldridge Electric & Water

MEMORANDUM

To: Eldridge Electric & Water Utility Board of Trustees

From: Utility Administrative Manager, Sadie Wagner

Re: Recommendation to Consider Advanced Metering Infrastructure Metering Upgrade

Date: June 12th, 2026

Executive Summary

Eldridge Municipal Utilities operates 3,001 electric and 2,982 water meters entirely on aging AMR (drive-by) infrastructure with no AMI communication capability. The proposed overlay approach (Option A) upgrades these existing meters in place — adding a communication module to each electric meter and activating existing water meter endpoints — rather than replacing the meters themselves. This is why the overlay investment of $322,894 is significantly less than the $709,967 required to fully replace all electric meters (Option B). This memorandum presents a data-driven business case for transitioning to Advanced Metering Infrastructure (AMI) through Tantalus/Van Wert, our established meter vendor.

Every cost figure in this analysis was derived from Eldridge's own operational records — payroll data, CMPAS power invoices, federal filings, Tyler Technologies billing history, and the 2025 water production report. No industry averages were used for documented costs.

$51,277 Documented annual costs from Eldridge's own records	**$221,561** Net annual benefit after $26,610 ongoing AMI fees
~1.46 years Overlay deployment payback (full case)	**$322,894** Overlay deployment cost

1. Why We Need to Act — Documented Pain Points

The following operational problems are documented from our own records. These are not projections or industry estimates — they reflect what Eldridge is experiencing today.

Billing Errors — $125,600/Year

Our AMR drive-by system generates billing errors when the radio signal captures an incomplete or incorrect meter reading. In the last 12 months we processed 211 billing adjustments totaling $125,600.43. At an average of $595 per adjustment, these are not minor corrections — they are significant billing events requiring Gage to investigate, correct, and process each one, with 70% also requiring a field crew verification trip.

These 211 adjustments fall into three categories, all confirmed by Gage from the Monthly Transaction Report:

CATEGORY	APPROX. AMOUNT	CAUSE & ACCOUNTS
Water Meter Truncation Errors AMR capturing wrong digit count in water reads — both over and under-billing	**~$47,800**	**Account "A":** Too few digits captured → water consumption recorded too high → over-billed → credits issued to customers. Appeared monthly across multiple units. **Account "B":** Too many digits dropped → under-read → under-billed → catch-up charges issued. Multiple billing period corrections processed. Additional residential and small commercial accounts with recurring water read corrections.
Electric Demand Scale Setup Errors Meters configured with incorrect demand scale multiplier — systematic under-billing until caught	**~$73,000**	**Account "A"** $17,117 | **"B"**: $7,566 | **"C"**: $7,181 | **"D"**: $16,303 **"E":** $5,782 | **"F":** $7,238 (3 months) | **"G":** $5,562 **"H":** $3,300 | **"I":** $816 | **"J":** $1,052 | **Others:** ~$5,000 These accounts were under-billed each month until the configuration error was caught. Corrections are charges to customers — revenue the utility should have been collecting all along.
Electric Reading Errors AMR misreads corrected after billing	**~$4,800**	**Account "A":** Multiple months of read corrections. And other various commercial and residential accounts
TOTAL — ALL CATEGORIES	**$125,600**	Every adjustment in this report traces to an AMR system limitation or a meter configuration error that went undetected because monthly reads provide no real-time visibility into billing accuracy.

The $125,600 figure represents the gross dollar value of all 211 corrections processed in both directions — some were credits issued for over-billing (water truncation), and some were catch-up charges for under-billing that was ultimately collected (demand scale errors). Because the under-billed amounts were eventually recovered, this figure is not treated as lost revenue in the business case. What is included is the operational cost of processing these 211 corrections — 88 hours of staff time and 148 field verification trips — which represents a real, recurring cost regardless of which direction any individual correction runs.

BILLING ERROR COST COMPONENT	ANNUAL	SOURCE
Gage admin time — 88 hours/year investigating and processing	**$2,862**	Payroll records
Field verification trips — 148/year to confirm actual reads	**$4,298**	Payroll/fleet records

TOTAL TRUE ANNUAL COST OF BILLING ERRORS	**$7,160**	14% of the total $51,277 documented annual cost

Why AMI addresses billing errors: TRUConnect meters transmit reads via confirmed two-way cellular communication — the meter retransmits until the gateway acknowledges receipt of a complete reading. There is no drive-by signal capture, no one-shot window, no partial read possible. Water and electric read errors are eliminated on day one. For demand scale configuration errors — which are a setup mistake, not a read error — AMI does not prevent the error from being entered, but interval data makes the anomaly visible within the first billing cycle rather than running undetected for months.

Dead Meters & Estimated Reads — 336 Estimated Bills Per Year

Each monthly drive-by read cycle reveals meters with no ERT response — the radio endpoint has failed and the meter cannot be read remotely. Last month 34 meters returned no response, which is typical given that the majority of Eldridge's water meters are approaching end of life. This triggers a multi-step reactive workflow every single month with a hard deadline: bills must print.

STEP	CURRENT AMR WORKFLOW — MONTHLY
Step 1 Service orders	Gage manually opens each of the affected accounts in Tyler Technologies, creates a reread service order for each, and prints the batch of service orders for the water operator to take into the field. This is done for all 34 no-ERT accounts before any field work begins.
Step 2 Reread run	Water operator returns to all 34 addresses (~1 hour + driving) to physically attempt reads and confirm which meters are genuinely dead vs. missed on the drive-by. Service orders brought back to Gage.
Step 3 Gage scheduling	Of the 34, typically 28 come back as confirmed dead ERTs. Gage calls each of those 28 residents to schedule a meter replacement appointment — 2 to 5 minutes per call, with callbacks required for residents who don't answer.
Step 4 Estimated reads	In the window between confirming dead ERTs and the billing print deadline, only a limited number of meters can be swapped and read. The remaining accounts — 28 last month — receive estimated reads. Tyler Technologies calculates a bill based on prior consumption history and sends it to the customer as a normal bill.
Step 5 Swap appointments	Water crew returns to each of the 28 scheduled addresses for the actual meter replacement. These are separate trips from the confirmation visit — two crew dispatches per dead meter.
Step 6 Follow-up adjustments	When the new meter is read the following month, the true consumption may be lower than the estimate. Gage processes billing adjustments for those accounts — approximately 5 per month — adding to the 211 annual adjustment count.

ANNUAL VOLUME	COUNT	OPERATIONAL IMPACT
No-ERT responses discovered	**~408/year**	34/month × 12. Each triggers the full workflow above.
Confirmation trips (water crew)	**~408/year**	1 hour + ~15 miles of driving per monthly run = $692/year in crew and fleet cost.

Estimated reads issued to customers	**~336/year**	28/month × 12. Customers receive bills not based on actual reads.
Resident scheduling calls (Gage)	**~336/year**	28 calls/month. 2–5 min each plus callbacks = ~2.2 hrs/month of Gage's time.
Follow-up billing adjustments	**~60/year**	5/month when estimated read exceeded actual. Adds to the 211 annual adjustment count.

Note on meter replacement cost: The physical meter swap cost is not included in this operational analysis — meter replacements are already budgeted. What is captured above is the reactive scramble that AMR forces every billing cycle: the confirmation run, the scheduling calls, the estimated reads, and the follow-up adjustments. These are pure operational waste that AMI eliminates.

With AMI: The Insight dashboard flags a non-communicating meter the day it stops transmitting — not at the end of the month when our water operator can't read it. Gage sees the alert, schedules the replacement at any convenient time during the billing cycle, and no estimated read is ever issued. The swap still happens — it's still budgeted — but it happens on a planned schedule instead of a reactive scramble before bill print. The 336 estimated reads per year, the 408 confirmation trips, and the 60 follow-up adjustments are eliminated entirely.

Water Leak Detection — 29-Day Blind Spot

Water leaks run for up to an entire billing cycle before we detect them. The following event illustrates what this means in practice.

March 2026 — Actual Eldridge Event: A resident's underground irrigation line broke and leaked directly into the detention pond behind her home — spread out across two billing cycles. There was no visible sign of the leak. We caught it on the monthly read. Her water bill alone was just under $2,000. Because the water never entered the sewer system, we adjusted her sewer charges — $366.73 — but she was responsible for the full $1,859.52 water bill. When asked why the leak wasn't caught sooner, we had no good answer — because under our current system, we simply can't. With AMI, that leak is detected the morning after it starts. The call comes that same day. And a $366.73 sewer adjustment and $1,859.52 in water charges become unnecessary because the leak is stopped before it ever runs long enough to generate an abnormal bill.

Truck Roll Volume — Field Dispatch for Every Event

Under our current system, every service event requires dispatching crew. With 75% of our 52 monthly connects being rental/apartment turnovers, we are sending a truck for a rental-related event nearly every working day.

ANNUAL FIELD DISPATCH EVENTS	VOLUME	ANNUAL COST
Connects & final reads	**624 trips**	**$16,957**
Rereads / unread meters	**283 trips**	**$6,571**
Billing error field verifications	**148 trips**	**$4,298**
Water field verifications (tamper/pressure/dispute)	**36 trips**	**$1,407**
Electric disconnects/reconnects	**156 trips**	**$7,645**

TOTAL ANNUAL TRUCK ROLL COST	1,247 trips	$36,878

After-Hours Overtime — Guaranteed 2-Hour Minimum

Any after-hours call for electric service triggers a guaranteed 2-hour overtime minimum for all responding crew. Even a 15-minute reconnect job still triggers the 2-hour minimum — Gabe typically responds and earns a guaranteed $136.71 in overtime pay before he arrives on site. With 18 after-hours electric calls per year, this guaranteed overtime represents a meaningful recurring cost that AMI's remote disconnect capability directly reduces for rental turnover events.

Electric Energy Loss — 4.85% Gross Loss

Using 12 months of actual CMPAS power invoices (April 2025 through March 2026) compared against our EIA-861 (Annual Electric Power Industry Report) billed MWh:

ELECTRIC ENERGY LOSS (ACTUAL CMPAS DATA)	MWh	AT RETAIL
Total purchased from CMPAS (12 months)	**41,539.7**	—
Total billed to customers (EIA-861)	**39,523.0**	—
Gross loss (4.85%)	**2,016.7**	**$286,407**
Comparable municipal benchmark (small distribution-only systems)	—	**3–5%**
Technical losses (unavoidable — est. 2–3%)	**830–1,246**	—
Non-technical losses (AMI-addressable)	**770–1,186**	**$109K–$168K**

At a conservative 60% AMI recovery rate, non-technical loss recovery is estimated at $83,353 per year — based on actual CMPAS invoice data, not industry benchmarks.

Water Loss — 13.2% Unaccounted-for Water

Using the 2025 water production report:

WATER LOSS ANALYSIS — 2025 ACTUAL DATA	GALLONS	% OF PUMPED
Total pumped to system	**222,377,232**	**100.0%**
Billed to customers	**181,226,900**	**81.5%**
Tracked known losses (backwash, flushing, breaks, etc.)	**11,846,665**	**5.3%**
Unaccounted-for water (UAW)	**29,303,667**	**13.2%**
UAW value at $5.50/1,000 gallons	—	**$161,170/yr**
Estimated AMI recovery (60%)	—	**$96,702/yr**

Note: The AWWA (American Water Works Association) benchmark for a well-managed utility is less than 10% unaccounted-for water. At 13.2%, Eldridge is above that benchmark. The water department diligently tracks all known operational losses — the 13.2% UAW reflects aging meters across a mixed-age fleet and residential leaks not detected until billing. AMI directly addresses both through improved meter accuracy and same-day leak detection.

Additional System Benefits — Identified by Van Wert

Van Wert identified four additional categories of savings from peer utility deployments not yet formally captured in our financial analysis:

- **Transformer problem detection:** The system continuously monitors voltage data at every meter, identifying failing transformers through flickering and sag patterns before they fail. Van Wert states this has saved peer utilities hundreds of thousands of dollars annually by converting emergency after-hours failures into planned maintenance events.
- **CAT bank (capacitor bank) issues:** Power factor and voltage monitoring identifies capacitor bank problems that reduce system efficiency and increase power costs. Currently invisible to Eldridge without meter-level voltage data.
- **Blink and momentary interruption logging:** Brief power interruptions are automatically logged with timestamp and location. Recurring blink locations indicate vegetation contact, cracked insulators, or loose connections that can be addressed before they become full outages.
- **Voltage spike detection:** Equipment-damaging voltage events captured at the meter level, providing documentation for insurance purposes and identifying problem locations in the distribution system.

Van Wert specifically noted: 'The resolution of these issues have saved utilities hundreds of thousands of dollars annually.' Full analytical capability is available through the optional TRUGrid analytics module ($5,000 setup + $9,000/year). The base system's continuous voltage monitoring makes these issues visible from day one without the add-on.

High-Bill Complaint Calls — 120 Per Year

We receive approximately 10 high-bill complaint calls per month — rising to 20 per month in summer. When customers ask why their bill spiked, we can only confirm that it did. We cannot tell them when the increase began, how long it lasted, or what caused it. With AMI, Gage pulls up the account and shows the customer exactly which day consumption changed and what pattern it shows — resolving the call with actual information instead of an estimate.

2. Complete Business Case

Note on Van Wert ROI Document: Van Wert confirmed that they do not produce a formal ROI estimation program, noting that savings vary too much by utility to generalize. They stated: 'it becomes hard to determine all of the potential cost savings received by the utility.' This is precisely why staff built Eldridge's own analysis from our actual records. Our data-driven business case is not supplementary material — it is the definitive business case for this proposal.

The analysis below separates costs we can document directly from our own records (labeled 'Documented') from revenue recovery estimates that use our actual revenue figures with conservative industry benchmark rates (labeled 'Estimated').

Documented Operational Costs

COST CATEGORY	ANNUAL	SOURCE
Billing errors — Gage admin time (88 hrs/yr)	**$2,862**	Payroll
Billing errors — field verification trips (148/yr)	**$4,298**	Payroll / fleet
Connects & final reads (624/yr)	**$16,957**	Payroll / fleet
Rereads / unread meters (283/yr)	**$6,571**	Payroll / fleet
Electric disconnects/reconnects (1 lineman per dispatch)	**$7,645**	Payroll / fleet
Meter reading labor — Bryson + Tanner	**$6,752**	Payroll
Water field verifications (36/yr)	**$1,407**	Payroll / fleet
Fleet / vehicle reading miles	**$2,011**	Fleet records
Customer complaint handling (120 calls/yr)	**$976**	Payroll
Outage / reliability savings	**$1,798**	Calculated
DOCUMENTED SUBTOTAL	**$51,277**	All from Eldridge's own records

Current AMR System Annual Cost — $11,554.50/year (from Van Wert/Itron invoice, January 2025):

Itron Temetra Software Essentials Annual Subscription: $9,800.00

Itron Mobile Radio 2 Annual Maintenance: $199.23

MC4Core Annual Maintenance: $1,555.27

Eldridge currently pays $11,554.50 per year to operate the AMR system being replaced. This amount is not added to the $170,597 documented cost total above, but it is directly relevant to the fee comparison. The $26,610 AMI annual fee does not represent $26,610 in new spending — it replaces $11,554.50 already being paid. The net new annual fee obligation of switching to AMI is $15,055.50 per year.

Revenue Recovery — Estimated

These figures use Eldridge's actual revenue and actual operational data (CMPAS invoices, the water production report) with a conservative 60% AMI recovery rate.

REVENUE RECOVERY CATEGORY	ANNUAL	BASIS
Water UAW recovery — 29.3M gal × $5.50 × 60% (Cegan actual data)	**$96,702**	Actual 2025
Electric non-technical loss recovery — CMPAS actual 12-month data	**$83,353**	Actual CMPAS
Electric theft recovery (0.5% of $5,613,036 actual revenue)	**$16,839**	Benchmark
ESTIMATED REVENUE RECOVERY SUBTOTAL	**$196,894**	Conservative benchmarks on actual revenue

Net Annual Benefit Summary

	FIGURE	NOTE
Total annual benefit (documented + estimated recovery)	**$248,171**	$51,277 + $196,894 (Documented Costs + Revenue Recovery)
Less ongoing annual AMI fees (Tantalus, Year 2+)	**–$26,610**	Hosting, cellular, maintenance, support
NET ANNUAL BENEFIT	**$221,561**	Full case
Conservative case (documented costs only, no revenue recovery)	**$24,667**	$51,277 – $26,610
Conservative overlay payback	**13.09 years**	$322,894 ÷ $24,667
Full case overlay payback	**~1.46 years**	$322,894 ÷ $221,561

20-Year Net Position

TIMEFRAME	FULL CASE	CONSERVATIVE	NOTE
Year 1	**-101,333**	**–$298,227**	
Year 3	**+$341,789**	**-$248,893**	Full case breaks even in year 2
Year 5	**+$784,911**	**-$199,559**	
Year 10	**+$1,892,716**	**-$76,224**	
Year 20	**+$4,108,326**	**+170,446**	Cumulative net after upfront investment and all annual fees. Conservative case crosses positive in year 20.

3. Investment Detail

Option A — Overlay Deployment (Recommended): $322,894

Reuses most existing electric meters. Reuses all 2,982 water meters.

COST COMPONENT	AMOUNT
Electric hardware — all modules (single-phase, remote disconnect, polyphase — confirmed count)	**$151,883**
Water hardware	**$0 — all reused**
Network infrastructure — 16 TRUSense gateways, collectors, repeaters	**$23,684**
Head end software + all licenses (TRUConnect Insight)	**$61,161**
Year 1 hosting (moves to annual fee structure in Year 2)	**$6,636**
Deployment services — engineering, PM, training, billing integration, travel	**$79,530**
TOTAL UPFRONT INVESTMENT	**$322,894**
Annual fees starting Year 2 (hosting, cellular, maintenance, support)	**$26,610/yr**

Option B — Full Electric Deployment: $709,967

Replaces all electric meters with new Itron units. Reuses all water meters. The additional $387,073 over Option A covers new Itron meters for all 2,952 electric accounts. Annual fees are slightly lower at $26,340 due to reduced maintenance needs on new meters. Recommended only if existing meters are at or near end of life.

Upfront Investment Split

COST COMPONENT	ELECTRIC	WATER	NOTES
Electric hardware — single-phase TRUConnect modules	**$80,313**	**$0**	100% electric. Electric meters only.
Electric hardware — remote disconnect modules 120 × $90.58 = $10,870	**$10,870**	**$0**	100% electric. Remote disconnect for rental turnover accounts.
Polyphase modules 261 units (11 industrial + 250 commercial)	**~$60,700**	**$0**	$241.55/module × count.
Water hardware	**$0**	**$0**	100% water. All 2,982 water meters reused as-is. Zero hardware cost.
Network infrastructure 16 gateways — $23,684 → 50/50	**$11,842**	**$11,842**	Shared. Same 16 gateways serve both electric and water meters.
Head end software + all licenses Insight — $61,161 → 50/50	**$30,580**	**$30,580**	Shared. One system, one platform, both utilities.
Year 1 hosting — $6,636 → 50/50	**$3,318**	**$3,318**	Shared. Included in upfront total.
Deployment services PM, training, Tyler, travel — $79,530 → 50/50	**$39,765**	**$39,765**	Shared. One deployment, both utilities trained together.
TOTAL UPFRONT INVESTMENT	**~$237,388** (73.5%)	**~$85,506** (26.5%)	Electric's higher share reflects the hardware investment — all new modules are electric-specific. Water pays only for its share of shared infrastructure.

Annual Fees — What Changes vs. Today

	ELECTRIC	WATER	NOTES
Current annual AMR fee (50/50 split today)	**$5,777/yr**	**$5,777/yr**	$11,554.50 total ÷ 2. Both departments currently pay this. Confirmed on Van Wert/Itron invoice January 2025.
Annual AMI fee — $26,610 total (50/50)	**$13,305/yr**	**$13,305/yr**	Hosting $4,800 + cellular $1,836 + maintenance $13,024 + support $6,950 = $26,610. Split 50/50.
NET NEW ANNUAL COST PER DEPARTMENT	**$7,528/yr** = $627/month	**$7,528/yr** = $627/month	$13,305 AMI − $5,777 current AMR = $7,528/yr net new. Both departments add the same amount to their operating budget.

3b. Pilot Phase — Option to Validate Before Full Commitment

Before committing to the full $322,894 deployment, the board has the option to authorize a pilot phase at a cost of $3,500. Van Wert confirmed the pilot structure. Staff presents this as a formal option alongside full deployment.

Van Wert Written Confirmation: Tantalus will deploy 20 electric meters with TRUConnect communication boards in Eldridge for a 2–3 month evaluation. Cost to Eldridge: $3,500. Tantalus provides the cellular collar for backhaul, head end software platform, and a dedicated project manager at no additional charge. If Eldridge proceeds to full deployment, all 20 meters stay in place and are absorbed into the full system at no additional cost. If Eldridge chooses not to proceed after the pilot, total exposure is $3,500.

What the $3,500 Gets Eldridge

PILOT COMPONENT	DETAIL
20 live electric meters	TRUConnect communication boards installed on 20 Eldridge electric meters. These are real meters on real accounts — not a lab test. Staff recommendation: deploy at 20 of the highest-turnover rental/apartment addresses to generate the most meaningful operational data.
Cellular collar for backhaul	Tantalus provides the cellular communication infrastructure at no charge for the pilot duration. Each meter communicates directly to Tantalus's network.
Full head end software access	Eldridge staff has full access to the Insight head end platform for the entire pilot period — the same system that would be used in full deployment. Gage can pull reads, view consumption data, set alarms, and see the dashboard exactly as it would operate at full scale.
Dedicated Tantalus project manager	A Tantalus PM is assigned to Eldridge for the pilot duration at no additional charge. They handle setup, configuration, training, and

	are available to answer operational questions throughout the evaluation period.
2–3 month evaluation window	Enough time to capture at least two full billing cycles. Staff will evaluate read accuracy, system reliability, dashboard usability, billing integration performance, and operational impact on Gage's daily workflow.
Total cost to Eldridge	**$3,500 — approximately 1% of the full $322,894 overlay investment**

What Happens After the Pilot

SCENARIO	OUTCOME
Board approves full deployment after pilot	The 20 pilot meters stay in place and roll directly into the full deployment — no additional cost for those 20 meters. Staff returns to the board with 2–3 months of actual Eldridge operational data: confirmed read accuracy rates, billing system integration performance, staff feedback, and any issues identified. Full deployment proceeds under the same $322,894 proposal terms Van Wert has committed to.
Board chooses not to proceed after pilot	Total exposure is $3,500. Nothing more. The 20 pilot meters can remain in place indefinitely — they continue reading and providing data even without proceeding to full deployment. Eldridge has no further obligation to Van Wert or Tantalus.

4. Iowa AMI Landscape

The technology being proposed is not new. 15 Iowa utilities are already running the exact Tantalus TRUConnect system proposed for Eldridge, including the original IAMU DOE pilot utilities that participated in the Department of Energy's Smart Grid Investment Grant program.

UTILITY	LOCATION	STATUS
Atlantic Municipal Utilities	Southwest Iowa	Active — original IAMU DOE pilot, since 2013
Mt. Pleasant Utilities	Southeast Iowa (closest to Eldridge)	Active — best peer reference
Cedar Falls Utilities	Northeast Iowa	Active — original IAMU DOE pilot, since 2012
Algona Municipal Utilities	Northwest Iowa	Active — original IAMU DOE pilot
Waverly Utilities	Northeast Iowa	Active
Sioux Center Utilities	Northwest Iowa	Active
Vinton Municipal Electric	East Central Iowa	Active
Winterset Municipal Utilities	South Central Iowa	Recently kicked off — same Van Wert pathway
New Hampton Municipal	Northeast Iowa	Recently kicked off
Also active:	City of Fonda, Grundy County REC, Butler County REC, Franklin Rural Electric, Manning Municipal, Indianola Municipal (approved)	**15 total + 2 pending**

Winterset Municipal Utilities — Peer Response to Eldridge Outreach: *"We made the decision to go that route mostly for the ease of being able to get readings all on the same day to simplify billing. We want to be able to show customers what their electric usage is at any given time — because as you well know, there is no way they can be using so much electricity. It was a pretty easy sell to the Board simply telling them that there are so many advantages for the customer and for us to simplify the process." — Winterset Municipal Utilities.*

Context: Utilities Already Surrounding Eldridge

- Alliant Energy surrounds Eldridge's service territory with 335,000+ smart meters already deployed across Iowa.
- Maquoketa Municipal Electric — approximately 40 miles northwest of Eldridge — has deployed AMI.
- Maquoketa Valley Electric Cooperative, serving areas bordering Scott County, describes itself as a nationwide leader in smart grid technology.
- 68% of all U.S. electric customers are currently served by AMI. This is no longer emerging technology — it is the established standard.

Our customers compare their experience to these utilities. When an Alliant customer calls with a high-bill question, the representative pulls up interval data and shows exactly when usage changed. When an Eldridge customer calls Gage with the same question, Gage can confirm only that the monthly total was higher.

5. Recommendation

Staff recommends the board move forward with Advanced Metering Infrastructure through Tantalus/Van Wert, beginning with the $3,500 pilot phase described in Section 3b. The financial case for full deployment is strong on its own merits — but the pilot lets the board validate the technology on Eldridge's own infrastructure, with Eldridge's own billing system integration, before committing the full $322,894 investment.

AGENDA

Tantalus Systems Inc.

1130 Situs Court
Suite 230
Raleigh, NC 27606
USA

AMI Proposal

Eldridge Municipal Utilities
Advanced Metering Infrastructure (AMI)
September 10, 2025

AGENDA

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September 10, 2025

Eldridge Municipal Utilities
305 North 3rd St.
Eldridge, IA 52748

Proposal - Advanced Metering Infrastructure and Grid Modernization

Tantalus Systems Inc. is pleased to present our proposal for AMI and Grid Modernization. We appreciate the opportunity to provide you with this information.

Tantalus is dedicated to helping utilities modernize their distribution grids by harnessing the power of data across all their devices and systems deployed throughout the entire distribution grid – from the substation to the EV charger behind the meter. We offer smart grid solutions across multiple levels: intelligent connected devices, communications networks, data management, enterprise applications, and analytics.

Our proposed Tantalus Grid Modernization Platform (TGMP) offers your utility a differentiated approach that addresses each of your requirements, with the unique advantage of providing a technology architecture from one partner designed to deliver true data interoperability across new and existing devices, systems, and vendors. TGMP provides the devices and communications network to support day-to-day operations, such as activating and monitoring service connects and disconnects, while also enabling the specific grid modernization applications that your utility will need in the future.

Tantalus recognizes these are very important projects for every utility, and we look forward to discussing and demonstrating the details of our solution and how it supports all of your grid modernization goals.

Please do not hesitate to contact me at (325) 260-6717 or cchristensen@tantalus.com if you have any questions or require additional information.

We thank you for your consideration.

Best Regards,

Chris Christensen
Regional Sales Manager - Midwest

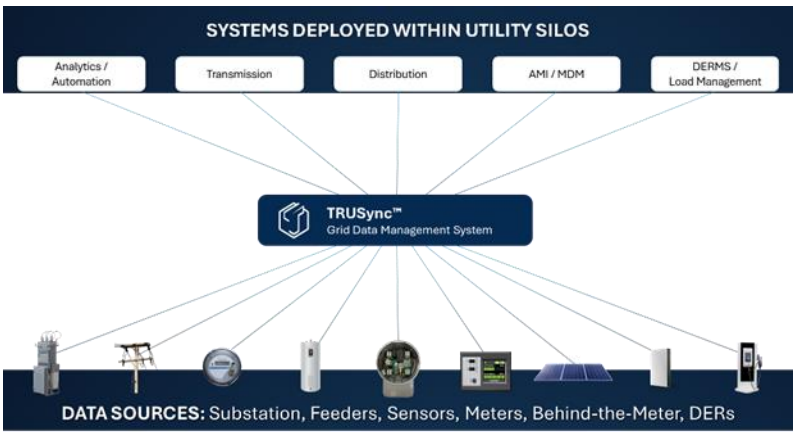
Executive Summary

Tantalus is a technology company dedicated to helping utilities modernize their distribution grids. We do this by harnessing the power of data across all devices and systems deployed throughout the entire distribution grid – from the substation to the EV charger behind the meter. We offer smart grid solutions across multiple levels: intelligent connected devices, communications networks, data management, enterprise applications, and analytics.

The Tantalus portfolio of solutions proposed meets all the requirements of both your AMI and Grid Modernization goals. We can deliver the unique capabilities needed to develop an AMI system and related Grid Modernization applications that will meet your needs today and decades into the future with the least possible risk of obsolescence.
In a recent survey, 93% of utilities said modernizing their distribution grids was an important priority. The real challenge, however, is that utilities cannot modernize the distribution grid without truly interoperable data. To modernize the grid, utilities need to harness the power of data across every device deployed throughout the entire distribution grid — which now extends from the substation to emerging devices located behind the meter.
The Tantalus Grid Modernization Platform (TGMP) is a technology architecture that provides a secure, flexible, affordable path to grid modernization by delivering true data interoperability across new and existing devices, systems, and vendors. By accessing data from devices deployed throughout the distribution grid, TGMP delivers unprecedented visibility, command, and control levels to improve a utility's operations.

Connected devices that deliver the right data at the right time to the right system. One of our most important devices, the TRUSense Gateway™, provides substation-level power quality measurement at the electric meter socket AND control of Distributed Energy Resources (DERs), such as electric vehicle chargers, solar and storage inverters and smart appliances located behind the meter. The TRUSense Gateway ensures that no existing asset is stranded while creating a foundation for the future.

Communications, such as the TRUConnect™ Network, deliver the necessary flexibility and compatibility to evolve as the edge of the grid expands to include DERs deployed behind the meter.



Grid data management, such as the TRUSync™ Grid Data Management system, is a revolutionary system that automates data integration across every device, system, and vendor.

Software applications, such as the Insight head end / intuitive user interface and TRUFlex™ Load+DER Management, take advantage of having all a utility's data in one place.

Data analytics, such as our TRUGrid™ Transformer and TRUGrid Reliability analytics offerings, leverage Artificial Intelligence (AI) to protect assets and prioritize investments, proactively anticipate critical issues before an event occurs, and respond to problems in real-time.

Why our firm is qualified to handle this project – differentiators and strengths.

We understand that a future-ready metering infrastructure (AMI) provides robust bi-directional communications and interval-capable meters, interfaces with multiple software applications, and accommodates innovative technologies such as distributed automation, electric vehicles/fleets, and managing voltage levels. We support your mission to promote safety, improve member satisfaction and system reliability, and develop a strategic electrification plan for your communities.

We are excited about the opportunity to assist you in achieving those goals.

Our customer retention rate currently stands at 99.4%. This key proof point shows how we work with and support our clients at every engagement stage. Overall, we listen carefully to what our customers seek from the TRUConnect AMI system and Tantalus as a vendor.

With that in mind, ***key differentiators that our solution offers include:***

- **Backward compatibility:** As we develop new applications and deploy innovative technologies, Tantalus brings our customer community along, eliminating stranded assets. Each new innovative offering can be seamlessly integrated with previously deployed assets, enabling customers to enjoy new benefits without having to rip and replace.

- **Customer access to multiple meter platforms:** We want to provide you with the choice to implement a metrology platform that works best for you now and in the future. We are one of the only AMI vendors to support multiple meter manufacturers, including Itron, Landis+Gyr, and Aclara. This allows us the flexibility to seamlessly meet your needs from multiple vendors in the marketplace.

- **The TRUSense Gateway: A new, multi-purpose socket-based device that helps utilities to:**
    - Create a reliable and secure utility communications path into the premises using the same standards-based technologies that consumer-centric DERs need.
    - Monitor power quality at the socket, providing a high-resolution measurement of power delivery, transient power events, and local conditions such as sags, swells, outages, and even phase information.
    - Couple power quality monitoring with real-time communications, allowing utilities to avoid truck rolls while gaining a granular view of the distribution network.
    - Simplify the process of integrating behind-the-meter DERs onto the distribution system at scale through a translation layer to support the growing protocols and personalities involved.

The TRUSense Gateway is unique within the utility industry. It enables direct utility communications and coordination between DERs within the premises by linking with them using onboard, utility-secured Wi-Fi or HomePlug access. This enables scalable DER connectivity and management for the utility so they can be relied upon as assets for grid services. These connections allow the collection of revenue-grade metering data, operational status, configuration changes, and even active real-time control, depending on the applications chosen by your utility and the capabilities available in the DERs. Tantalus is the only vendor with the expertise and solutions to allow utilities to fully leverage their member's investment as the foundation of a modern grid.

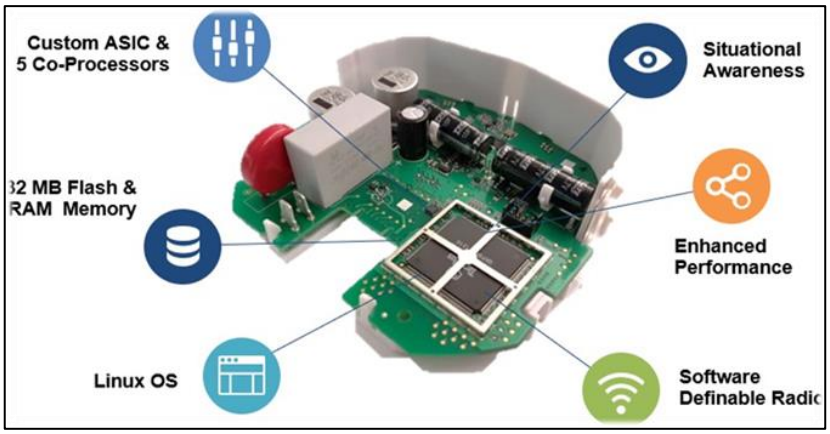
Most importantly, TRUSense provides a dedicated communications channel to the DER that is not subject to the variability of the consumers' broadband connections. Utility programs see connectivity losses of 20% per year when customer broadband is relied upon to reach smart devices, usually due to router failure and Wi-Fi password changes. Further, not all electric service customers have home broadband or Wi-Fi, so such models are inequitable to the community. TRUSense's equitable and innovative industrial-grade security and connectivity approach for behind-the-meter communications avoids the pitfalls of alternative AMI 2.0 solutions. For behind-the-meter DER communications, these other solutions depend upon the hit-or-miss communications that a utility customer's broadband service and Wi-Fi router represent compared to TRUSense.

Given the complexities associated with utilities' traditional approach to integrating and managing data across multiple systems and the compounding nature of the amount of data available to build comprehensive system plans, utilities need a single platform that gives them visibility, command, and control. By leveraging TGMP, you can become a data-driven utility without all the expertise needed to manage the flow of raw data. That means your team can focus on putting the data to good use and on strategic priorities by leveraging the data from existing assets, including AMI systems, grid optimization tools and load management programs, connectivity, grid optimization, EV infrastructure, and behind-the-meter load and DER management.

In addition to the higher-level differentiators above, ***the TRUConnect AMI solution has multiple technical differentiators, including*:**

1. **Insight –** A simple and easy-to-use interface for smart grid management. The intuitive interface lays out a clear path for users to get what they need quickly. Users can drill down from strategic macro displays to tactical component views in just three mouse clicks.
2. **TRUPush Data Delivery** - The TRUConnect AMI system utilizes a push method (TRUPush™), enabling the meters to deliver interval data as frequently as every five minutes for electric meters. Alerts, voltage events, and outages are pushed from the meters in near real-time. With TRUPush technology, data arrives sooner and will remain fresher than data provided in a batched method three or four times a day. Because of this, utilities can react faster to incoming information, and with the analytical tools available, they can preempt many undesirable situations, thus mitigating the negative impacts. Tantalus Closed Loop Voltage Reduction (CLVR) is an example of an application that utilizes TRUPush for real-time feedback across the grid edge to optimize voltage reduction.

3. **LAN Technology** - Tantalus designed TRUConnect AMI to accommodate smaller LANs to ensure effective command and control communications. Smaller LANs are more efficient, but they provide a more robust network. The frequency hopping channel management efficiency is achieved partly through the support of smaller LAN sizes, which leads to processing fewer messages per controller, thus making command and control more robust and dependable. Using smaller LANs also allows TRUConnect A.M.I. field deployments to be designed with fewer hops than most mesh-based AMI systems. This results in a more robust network with lower latency because meters rely on fewer devices to relay messages to the head end, which is especially valuable in outage and restoration reporting. Intelligent network routing and self-healing ensure the fewest hops possible without sacrificing the quality of the links.



4. **Endpoint Power** - Tantalus was the first to introduce a high-resolution real-time data processing platform, the Tantalus TRUConnect Edge module. TRUConnect Edge supports distributed intelligence across the TRUConnect AMI system with a powerful ASIC, five co-processors, 32MB RAM + 32 MB flash, and powerful computing capacity. Since its initial deployment in 2013, we have continually added capabilities and applications.

Tantalus offers the most cost-effective, efficient, and future-proof path. It is a future in which your utility becomes a playbook for utilities nationwide.

Advanced Metering Infrastructure

Tantalus is pleased to present our TRUConnect AMI solution for your consideration. Our TRUConnect AMI head end application software is offered in version 5.0.

A narrative description of the proposed AMI, system components, and capabilities:

- **Electric meters**
- **Network collectors**
- **Repeaters or other network devices**
- **Backhaul communication system**
- **Meter head end**

TRUConnect AMI (formerly known as TUNet) is a unique AMI system that will provide complete visibility to your network. We are proposing a system capable of addressing the multiple challenges you face. Our base bid includes the TRUSense Cellular Gateway, which enables visibility past the meter, specifically to distributed energy resources. TRUSense is equipped with advanced power quality measurement capability, which provides greater insight into the distribution network. In concert with the TRUGrid Reliability analytics solution, our solution includes everything necessary for you to achieve complete visibility of your network – and beyond.

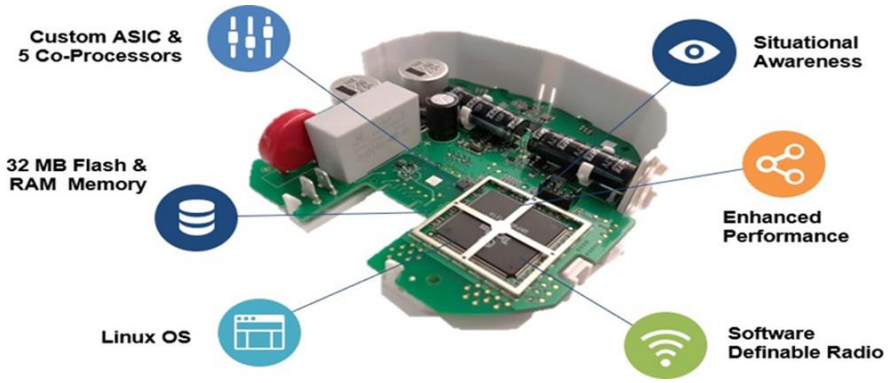
Our offer includes an option for the TRUGrid Transformer and TRUGrid Reliability analytics applications, which provide an enhanced view of general and transformer health on the grid, enabling you to work proactively in asset management. Optional applications include Closed-Loop Voltage Reduction (CLVR) and TRUFlex Load+DER Management, providing the ability to manage peak demand and a means to provide demand management. This system is purpose-built for the public power market and has been designed to meet your short- and long-term needs.

The system tailored for you includes:

- AMI head end
- Fully integrated ITRON meters equipped with Tantalus TRUConnect Edge modules; single phase standard, single phase disconnect, polyphase
- TRUSense Fiber Gateways
- TRUGrid Reliability analytics
- TRUGrid Transformer analytics

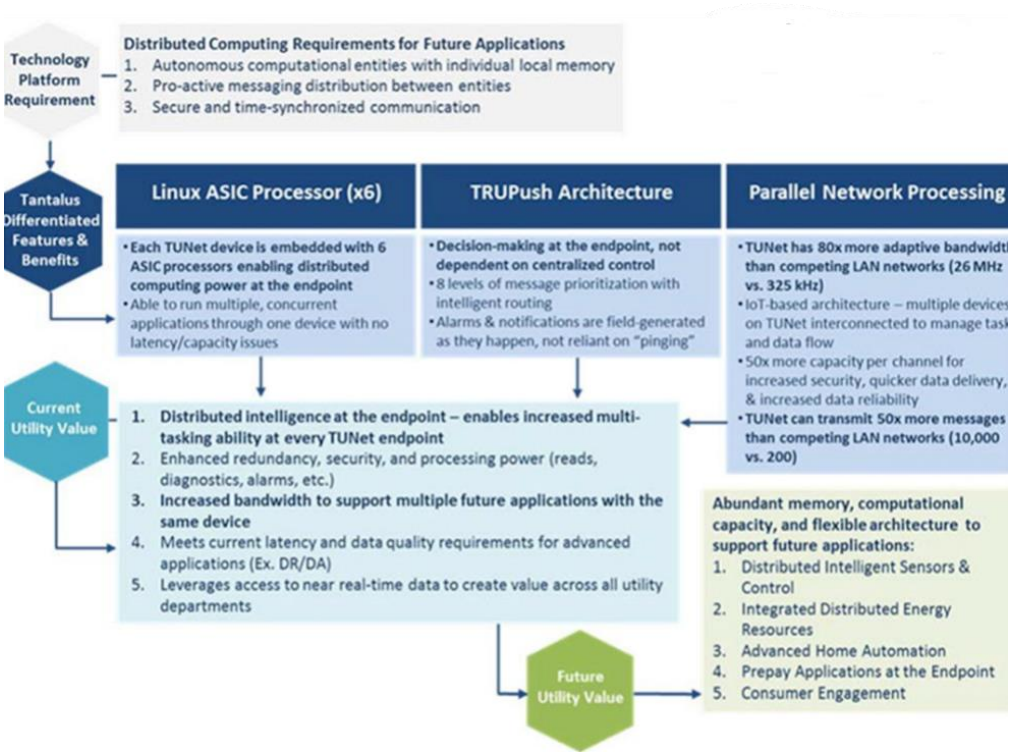
Electric Meters - Future Proof Module Capability
The TRUConnect Edge is an intelligent meter endpoint that supports edge applications and reports more granular data for your utility to leverage the power of this data in Tantalus Systems' advanced grid optimization operational and analytic applications. The resulting distributed intelligence allows your utility to analyze more granular data at the endpoint and make location-specific decisions faster without

transmitting all the data to a central server before acting. Tantalus has embedded highly parallel computing power into our Advanced Metering Infrastructure 2.0 (AMI 2.0) communication module, making smart meters and devices even smarter, which enables advanced communications and far higher-resolution data processing than other AMI systems. This platform was built in anticipation of tomorrow's bi-directional grid, predictive analytics, and applications that interact from the utility to the edge behind the meter to interact with consumer energy technologies within the premises.



TRUConnect Edge intelligent endpoint module

Security-Enhanced Linux (SELinux) OS provides a secure application platform. It also provides for rapid software development on a standardized platform that can support third-party endpoint applications. Based on work by the National Security Agency (NSA), SELinux provides enhanced security over many other systems and is utilized by the Department of Defense for critical systems.



Architectural/Processing Overview

Network Collectors - TRUSense Gateways
TRUConnect AMI can leverage multiple transport methods for the WAN/backhaul infrastructure, including cellular, fiber, broadband, etc. E ach transport method can b e used individually throughout the service territory or with others to provide the infrastructure best suited to current and evolving needs. Tantalus offers a variety of gateways to provide coverage for all types of deployments and terrain while limiting the risks associated with a single point of failure.

The TRUSense Gateway is a unique communications gateway that is a dual-purpose device that fits in the meter socket and:

- Creates a secure utility communications path into the premises that uses the same standards-based technologies that consumer-centric DERs use
- Monitors electric service at the socket, acting as a sensor that provides cutting-edge power quality, reliability monitoring, and even phase identification and measures two-way power flow
- Greatly simplifies AMI deployment by eliminating the need for pole-mounted or tower-mounted infrastructure that is complex and more difficult to maintain
- It connects directly to your Fiber-to-the-Home (FTTH) network with a single fiber strand at each point.

With this device, the utility can manage connectivity with important devices like EV chargers, solar inverters, and smart appliances so that these important resources are not reliant on the customer's Wi-Fi password or sharing bandwidth with Netflix and "Call of Duty." The consumer continues to have access to a device without any responsibility or inconvenience relating to managing its connectivity. Virtually all smart devices use standard IP-based communications like Wi-Fi and HomePlug, which the TRUSense Gateway supports. Standard protocols such as OpenADR and IEEE 2030.5 can be directly managed from Tantalus applications.

Hybrid Architecture—Tantalus' system leverages a hybrid design that combines the benefits of a point-to-multipoint system and a mesh system. Our networks make direct connections from the endpoint to the network and are intentionally designed with fewer hops. As a result, our system can outperform a mesh but has the added benefit of a self-healing network, unlike a point-to-multipoint system.

The TRUConnect Network was developed specifically to meet the needs of utilities with varied service territories and offers the best characteristics of both point-to-multipoint and hierarchical network architectures, using the most appropriate combination of technologies for a given coverage and application needs.

The TRUConnect Network leverages such technologies as:

- 900MHz non-licensed band hierarchical Neighborhood/Local Area Network (NAN)/(LAN)
- Flexible backhaul options (Fiber, cellular, satellite, microwave)

The TRUConnect Network draws from the strengths of these technologies. It improves their use by allowing them to be combined for network coverage certainty regardless of the geographic characteristics of the distribution network. The flexible backhaul options work with an unlicensed hierarchical 900MHz LAN to provide efficient coverage in low and high-density areas and full system functionality to all endpoints regardless of location. The LAN connects directly to an IP-based backhaul, such as Fiber (including Fiber to the home), cellular, and broadband, allowing the most cost-effective and reliable communications

technology deployed in each part of the utility's territory. In addition, Tantalus always looks to leverage a utility's existing IP communication infrastructure, such as your FTTH network, for efficient backhaul.

The TRUConnect Edge module in every TRUConnect AMI device also acts as a repeater, extending LAN coverage if needed, providing economical coverage in more rural deployments, and providing network redundancy. Even though we offer Repeaters that can be used to extend the reach of the LAN when needed, these are not required for your deployment.

Communications System

TRUConnect Network LANs are self-initializing, self-healing, and self-optimizing. Upon initial power-up, the meters find an optimal path to the head end and several alternate paths, which are stored in the TRUConnect Edge module in the meter. If the primary path is not viable (loss of communication between the meter and the head end), the meter will utilize one of its alternate paths to push data to the head end. The meter will search for new paths to the head end if the alternate path is unavailable. During periods of self-healing, interval and alarm data continue to be recorded in non-volatile memory so that no data is lost. The self-healing feature does not require any manual intervention.

During the design process, the capacity of the TRUSense Gateways is evaluated to ensure path redundancy and reduced hop levels. While the system can support up to 15 hops, each utility's TRUConnect Network is purposefully designed with fewer hops. The design targets fewer than three hops on average across the system to ensure effective command and control communications. Smaller LANs are more efficient, and they provide a more robust network. Lower latency results because meters rely on fewer devices to relay messages to the head end, a feature especially valuable in outage and restoration reporting functions. Intelligent network routing and self-healing capability ensure the fewest hops possible without sacrificing the quality of the links.

Other AMI systems communicate to thousands of meters through a single data collection point controller. These systems also utilize polling to bring back meter data, with many meters pouring data into one controller collection point. This bottleneck makes it difficult for high-priority messages to get through. The inefficient use of network capacity means there is either limited capacity to support basic AMI such as remote disconnect, outage, and alarms, or additional infrastructure is needed to ensure support, limiting the ability to add applications beyond AMI.

The following points are critical to successfully implementing your wider Grid Modernization Solutions and goals.

TRUConnect AMI's data delivery method is unique and significantly benefits our customers. The network utilizes a predominantly push method (TRUPush™) for data delivery, which enables the meters to deliver interval data as frequently as every five minutes without needing to be queried by control software or wait for an allotted timeslot. Bellwether meters receive one-minute reads within several seconds. Alarms and exceptions, including sag/swell and outage/restoral messages, are pushed in real-time with high priority to the head end.

With TRUPush technology, data arrives sooner and will remain fresher, enhancing a utility's situational awareness. Alternatively, most other AMI systems continue to batch data that is polled between 1 and 6 times daily. Tantalus' distinct approach to push data rather than wait for batched data allows utilities to react

faster to the incoming information and leverage analytical tools available to preempt many situations, thus mitigating potential disruptions, outages, and other operational issues that can inconvenience customers. With TRUPush, the intelligent TRUConnect Edge modules act as a community to ensure the highest value data is delivered first, dynamically utilizing available network capacity to push the highest priority data to the head end (TRUConnect AMI supports eight levels of priority with DA and Outages prioritized over statistics and interval data).

Tantalus utility customers use TRUPush technology to enable applications where near-real-time data is required, such as voltage management, checking transformer/line loading before servicing, power factor management, grid optimization (e.g., Conservation Voltage Reduction, Volt/VAR Optimization) and faster response to exceptions such as consumption on inactive accounts. Tantalus also provides more timely and robust input to enhance the value of engineering and operational tools such as Milsoft's Windmill and advanced DMS and SCADA. The TRUConnect Network's real-time data delivery enhances customer portals and enables customer service calls to be resolved effectively.

All data, including outage notifications, sags, and swells, provide a timestamp and full-scale register read and are pushed to the head end in real-time. The TRUConnect Network's TRUPush design also enables utilities to provide consumers with more detailed and timely consumption data and alerts, such as outages and water leaks (when coupled with ERT/ORION/R900 technology).

AMI Head End

The TRUConnect AMI head end provides a seamless interface for smart grid management, leveraging an intuitive user experience that allows views from strategic macro displays to tactical components with only a few clicks. Reports and analytics are easily accessible, and the user interface is supported on smartphones and tablets, allowing authorized employees secure access on the go. We have eliminated the frustration of having to click and drill down endlessly to get where you need to be. The CSR landing page is user-configurable and supports robust search capabilities to help retrieve data quickly and better serve customers.

The dashboards provide a wealth of information at a glance. Users can evaluate the entire system and easily pinpoint and address critical issues. The user interface delivers a variety of methods (slide-out menus, drop-down boxes, and expanding widgets) for the next actions, which makes an enormous amount of information instantly accessible without cluttering the screen. Information and controls presented to the user are appropriate to their role within the utility, completely configurable, and password protected (e.g., a Customer Service Representative should not be bothered with or have access to network performance statistics).

The head end supports horizontal scaling by adding more CPU cores to support additional message-handling processes. Messages are received by the head end and put into queues. The SP process handles the single-phase messages, and the PP process takes polyphase messages. As more CPU cores are added, more processes are run to utilize the additional CPU cores. In addition to adding more cores, more memory is added to support the different methods, allowing the system to scale up and down. The other major message handlers are the OEM processes for Itron ERT, ORION, Neptune MIU, and DNP3 for SCADA messages.

The optional TRUGrid Reliability analytics solution enables your team to proactively find latent issues affecting system reliability. With this tool, engineering can identify portions of their feeders that frequently experience blinks and flickers that are not detected at the substation or reported by the OMS. They can see if disturbances are due to environmental effects such as lightning, high wind gusts, freezing rain or snow, or seasonal disturbances such as known migratory animal patterns. Dispatchers and supervisors are alerted to flickering locations typically indicative of failing transformers, splices, secondaries, underground micro faults, service lines, socket corrosion, and loose lugs through the alarming and reporting system before they become larger problems.

The optional TRUGrid Transformer analytics solution is included with our offer. For the first time, utilities can monitor, anticipate, and prioritize transformer issues in near real-time before they happen. This means they can avoid the costs, disruptions in service, and safety issues that transformer failures bring. Moreover, they can proactively plan how to manage and upgrade their assets to stay one step ahead of trouble.

With visualized real-time transformer data across the grid, you will be better equipped to prevent outages, explosions, meltdowns, and major associated costs to prevent needless capital expenditures. You will preserve existing transformer assets and prioritize which aspects of your system need attention next, allowing you to forecast transformer requirements and streamline the order process for new components.

Additional/Optional Network Applications

TRUSync Grid Data Management Applications

The TRUSync Grid Data Management platform from Tantalus enables the interoperability of a wide range of devices through an emerging Institute of Electrical and Electronics Engineers (IEEE) standard. By deploying TRUSync, a utility's smart grid deployment can operate as one intelligent, interoperable system with the necessary scalability and flexibility as more electric vehicles (EVs) and distributed energy resources (DERs) are deployed at the edge of the grid. Simplifying the acquisition, transport, and integration of data over energy networks, TRUSync gives utilities and renewable energy producers the technology they need to manage and control power distribution at every point on the grid. This suite of advanced software applications acquires, transports, and presents complex energy data for analysis, action, and automated control – so utilities can keep the energy flowing to customers effectively, efficiently, and safely.

TRUFlex Load+DER Management System

TRUFlex provides aggregated management of behind-the-meter loads and DERs. Modules include participant management, device and diagnostics, event scheduling, execution, and monitoring. Application Program Interfaces (APIs) support integration with an upstream Distributed Energy Management System (DERMS) or Advanced Distribution Management System (ADMS).

The LC-2300 load controller series features a TRUConnect Edge module and works with TRUFlex to independently manage up to four loads from each device: two directly with 30A 240VAC relays, the two by controlling lower-current control circuits such as central air conditioning. TRUFlex will be a key component of our Grid Modernization Proposal.

Closed Loop Voltage Reduction (CLVR)

The Tantalus CLVR application is designed to give real visibility of voltages at the grid edge so that the system can be truly optimized. CLVR turns any TRUConnect Network-connected smart meter and TRUSense Fiber Gateway anywhere in the grid into a bellwether voltage monitoring DA device. While all TRUConnect meters send alarms when voltages cross high and low thresholds, those meters chosen as CLVR bellwethers quickly send these alarms using DNP3 to the SCADA/DMS so the voltage controls can be adjusted accordingly to bring grid edge voltages back into line. Furthermore, CLVR bellwether devices provide one-minute streaming voltage data to the SCADA/DMS for trending and advanced control logic that completes the ideal voltage management solution.

To help choose appropriate devices to designate as CLVR bellwethers, TRUConnect AMI collects and stores more than 12 months of detailed interval voltage data. By analyzing this data, an optimal set of bellwethers can be chosen that covers all seasons, times of day, and load conditions so that the set truly represents all customers on the system.

CLVR optimized voltage optimization results, whether the goal is reducing peak demand with Demand Voltage Reduction, energy consumption with Conservation Voltage Reduction, or system losses with Voltage/VAR optimization.

Insight Overview

- Provides an intuitive visualization of the system and the AMI functionality
- Manages and monitors the network
- Displays meter interval data, alarms, and events
- Provides a platform for 3rd-party applications over TRUConnect™ AMI
- It interfaces with the utility's other applications, such as billing, MDM, CIS, OMS, Prepay, DA, LMS, and SCADA. The web-based interface provides easy access to a wealth of data and functionality to facilitate customer service and improve operational efficiency. Insight supports a variety of integration methods and formats, including MultiSpeak, DNP3, and flat-file.

Insight provides a central database designed to collect and accommodate large amounts of data. Insight accumulates and processes the data pushed from the LAN (e.g., meter read data, DA devices, events, alerts ...) in real-time. The data is stored in Insight for up to 14 months and can be exported to other systems (such as an MDM or billing system) for longer retention.

Network Analysis and Troubleshooting

Insight, the graphical user interface, includes many diagnostic and troubleshooting capabilities. Please see the Insight section below, which includes a detailed description and screenshots.

- System Dashboards provide read reliability reports, active event logs, the status of networking equipment, and performance.
- TRUView is a geolocation GIS tool that displays real-time events and system performance data in a graphical format.
- Insight provides the Network and System Status snapshot as a landing screen. It includes network and system statistics such as meter read rate and communication infrastructure health.

Insight

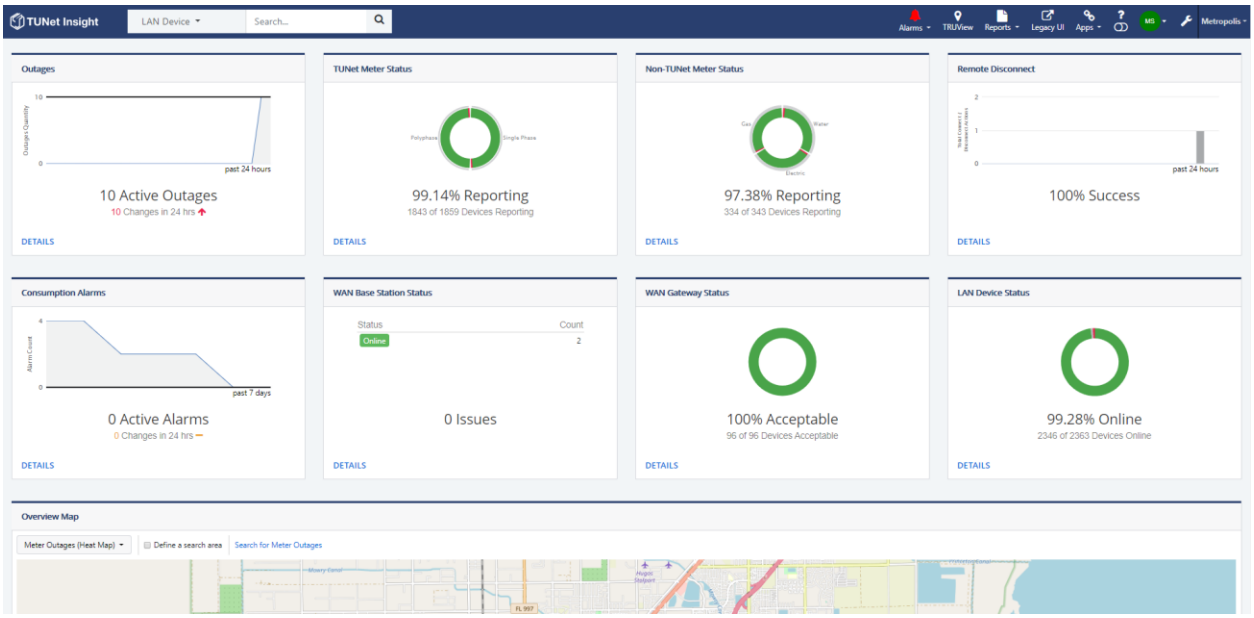
Working with a design consultant and receiving feedback from current customers, the Insight GUI is user-centric - providing more content at a glance with a configurable, intuitive design. Reports and analytics are easily accessible, and the GUI is supported on smartphones and tablets, allowing authorized employees secure access on the go.

Starting with a deep understanding of the tasks to be accomplished and the typical utility workflow, the GUI facilitates maximum productivity. For example, the initial screen differs depending on the User's login credentials. A System Administrator will be taken to one landing page, while a Customer Service Representative (CSR) will be taken to another. The information they need differs greatly because the Administrator and CSR perform different tasks. The CSR landing page is user-configurable and supports robust search capabilities to help retrieve data quickly and better serve customers.

The intuitive interface lays out a clear path for users to get what they need - quickly. Users can drill down from strategic macro displays to tactical component views in just three clicks. This ease of use reduces the learning curve and improves productivity for users at all levels of the organization.

The dashboard provides a wealth of information at a glance. Users can evaluate the entire system and easily pinpoint and address critical issues. Balancing the format of the data content with a combination of tables, text, and graphics improves comprehension. The Insight GUI provides a variety of methods for the next actions (slide-out menus, drop-down boxes, expanding widgets), which makes an enormous amount of information instantly accessible without cluttering the screen.

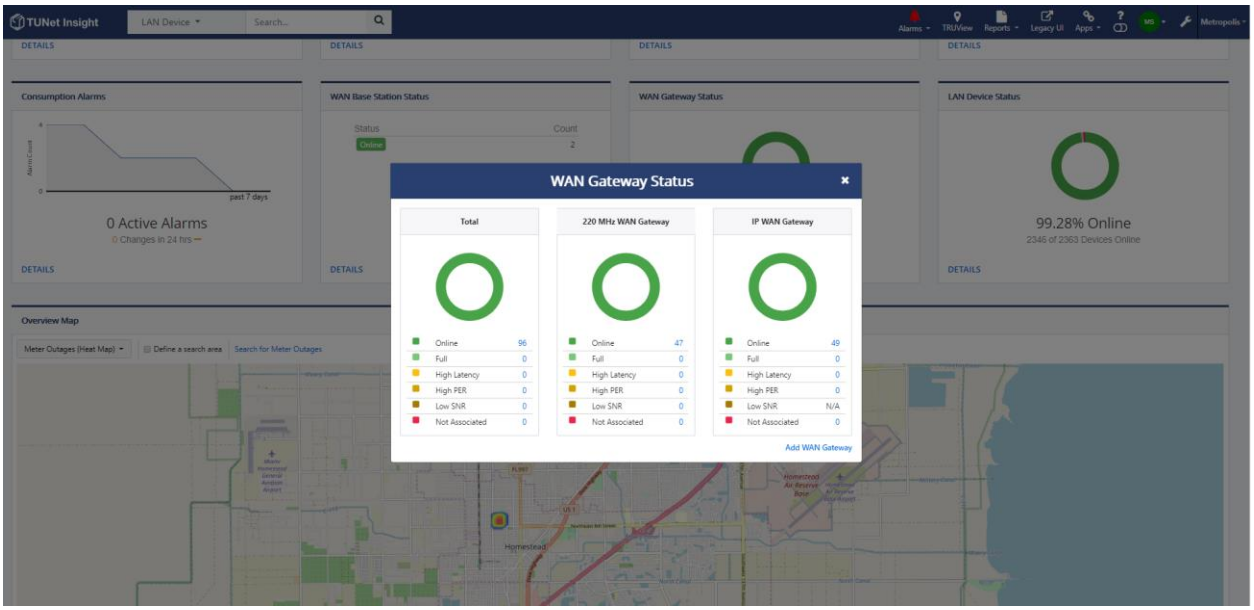
System Landing Screen for the Network Administrator



From this screen:

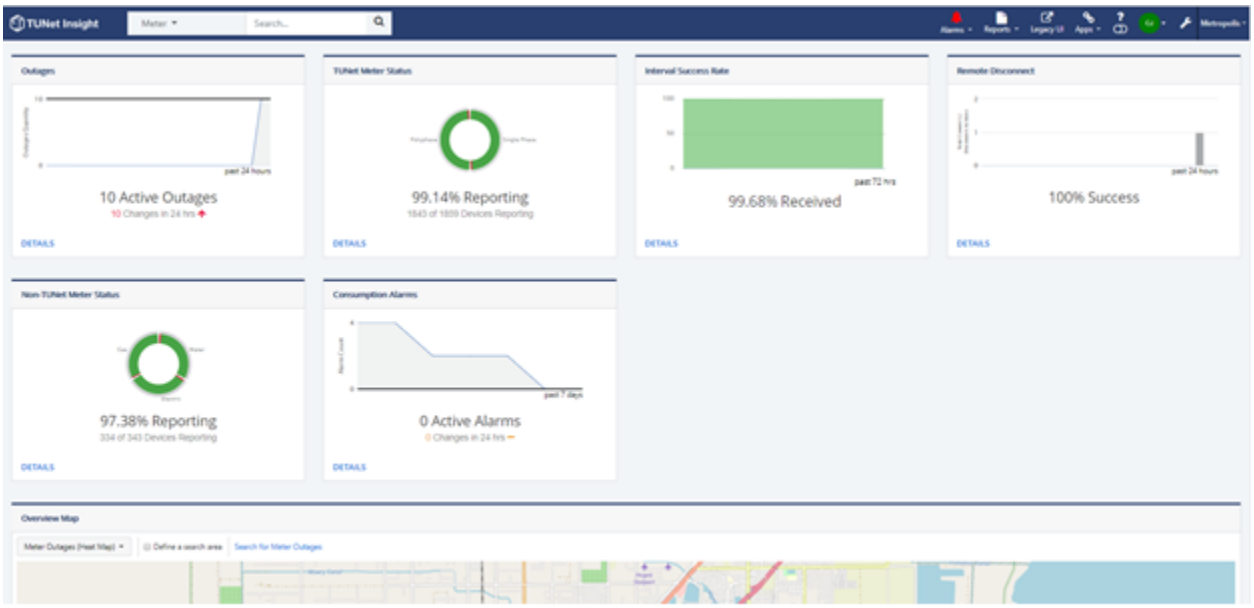
- The Network Administrator can manage User Accounts and assign privileges.
- System Dashboards provide read reliability reports, active event logs, and the status of networking equipment and performance.
- Access to system-wide meter outages
- Status of Remote Disconnect meters
- Status of Water and Gas meters and RF modules
- Access and manage specific applications for each utility and application on the headend.
- Additionally, TRUView GIS displays real-time events and system performance data in a geographical format.
- Access and notification of alarms

WAN Gateway Status Drop-down Details Screen for the Network Administrator

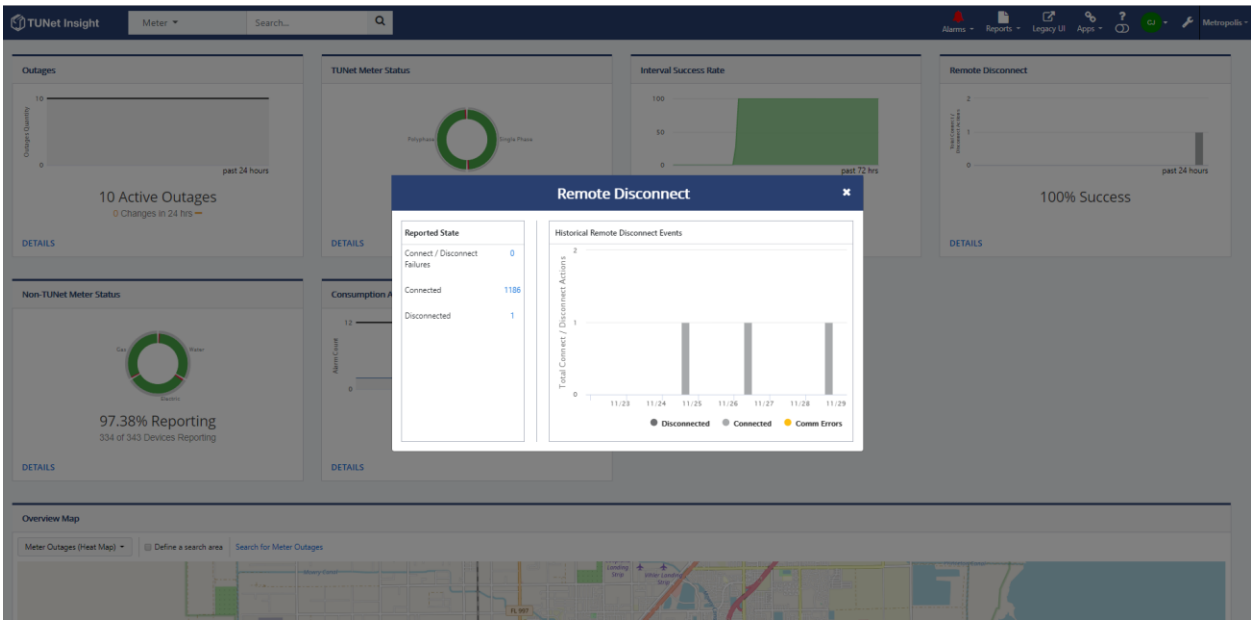


The above screen provides the status of your network infrastructure in one easy view.

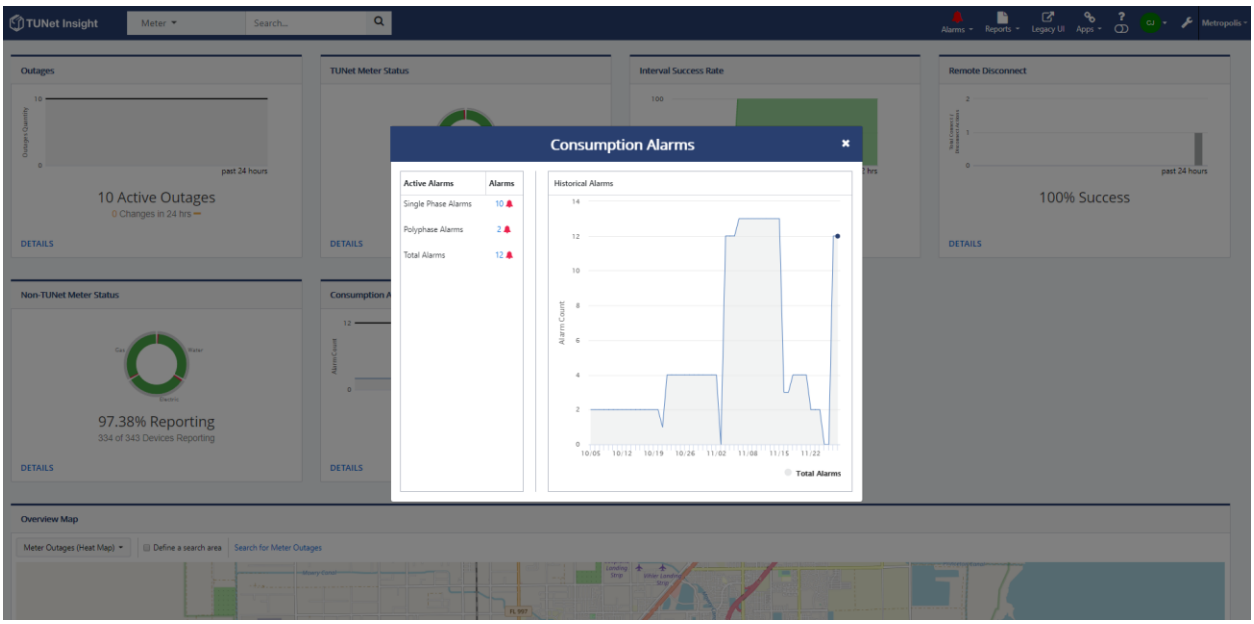
Landing Page for Customer Service Representative



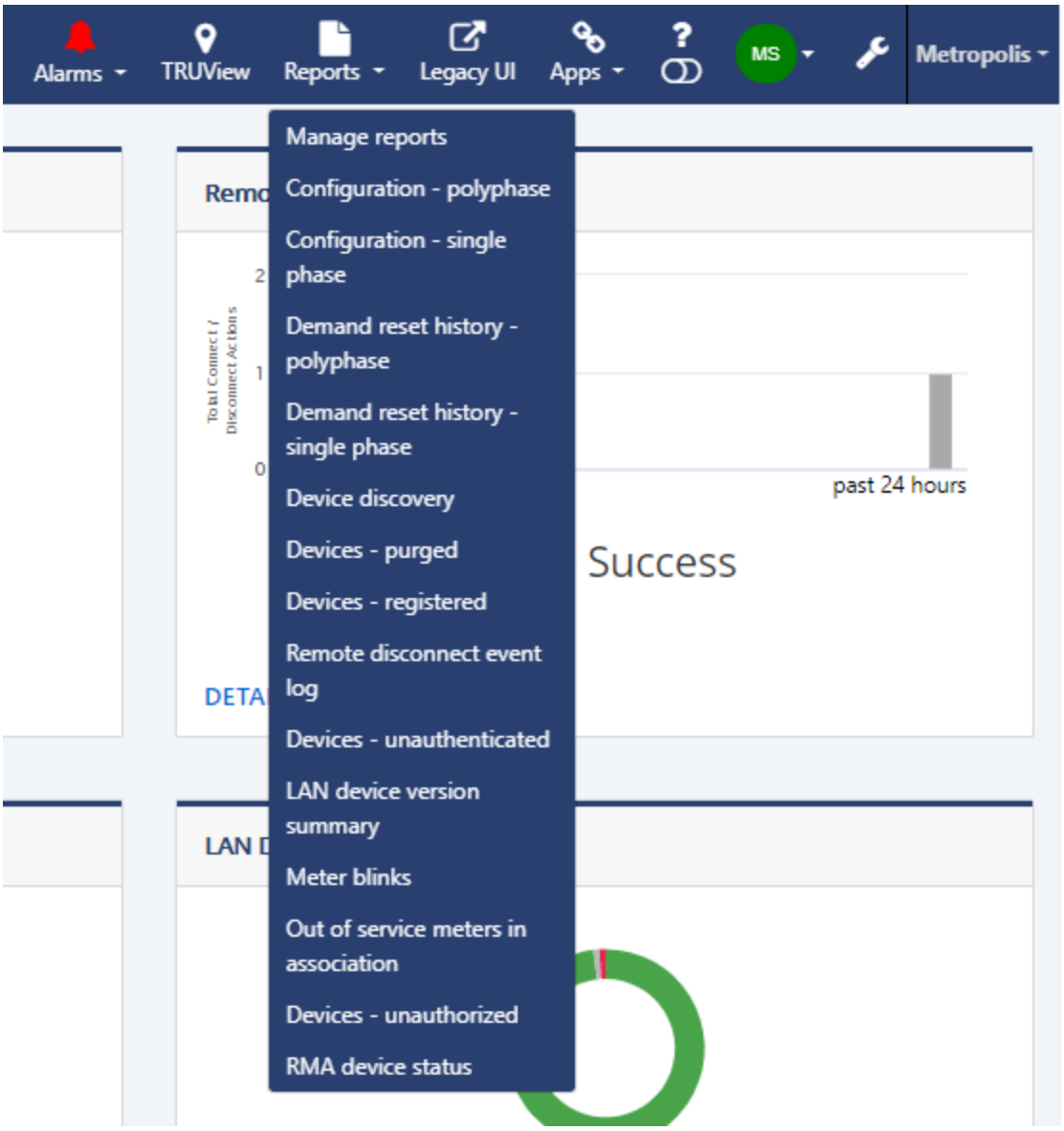
Pull Down Detail for Customer Service Representative



The above screen depicts the meters that are disconnected.

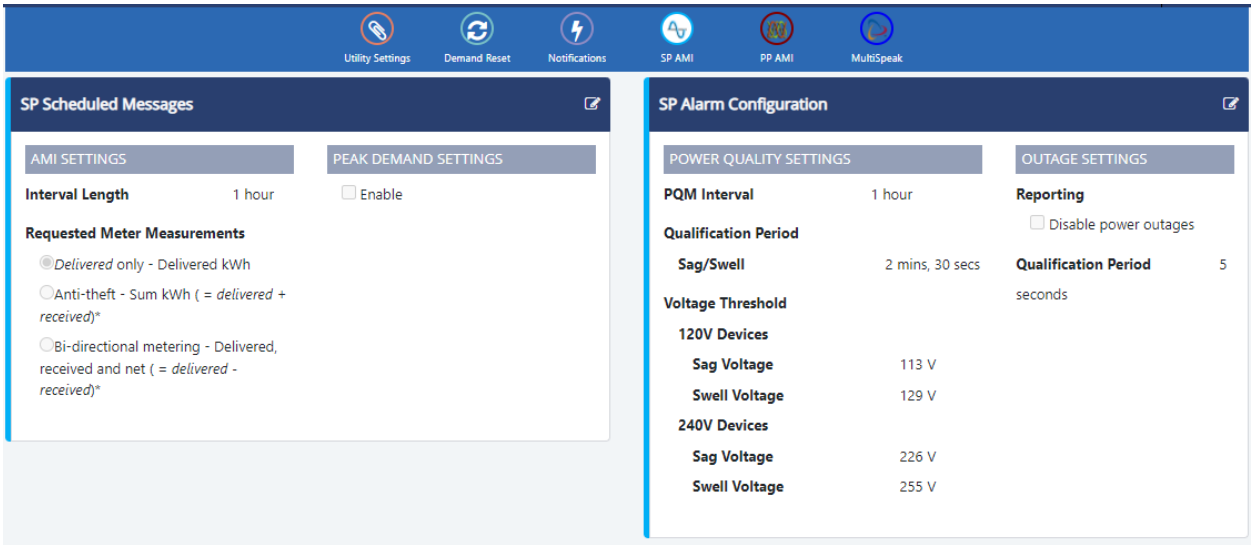


The above screen shows a detailed history of meters that violated consumption alarms for the past 60 days.



Sample of some pre-canned reports in Insight.

Utility Configuration Screen



The Utility Configuration screen provides the utility to set system defaults such as:

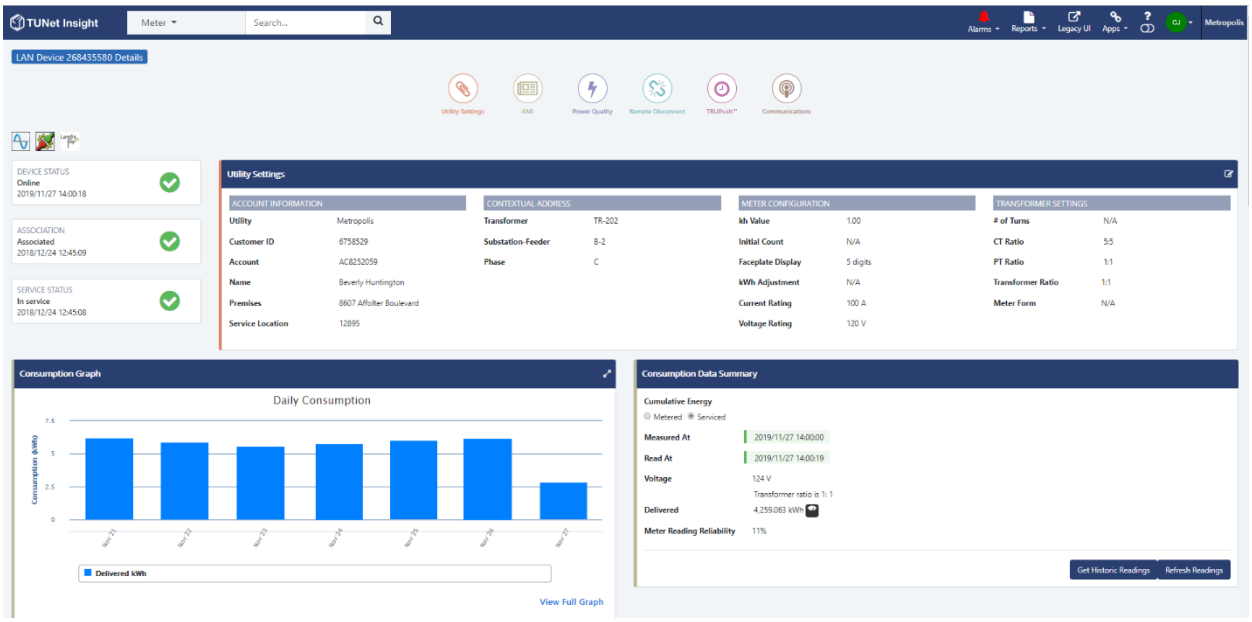
- Meter Read Interval
- Voltage Sag and Swell thresholds
- Define Contextual Address fields
- Outage and Restoration notification thresholds and alarms
- Demand Reset configuration

Meter Search Results

The meter search results page provides the ability to quickly search for information on specific meters based on certain criteria or groups based on contextual addressing (groupings). Access to detailed information is available from:

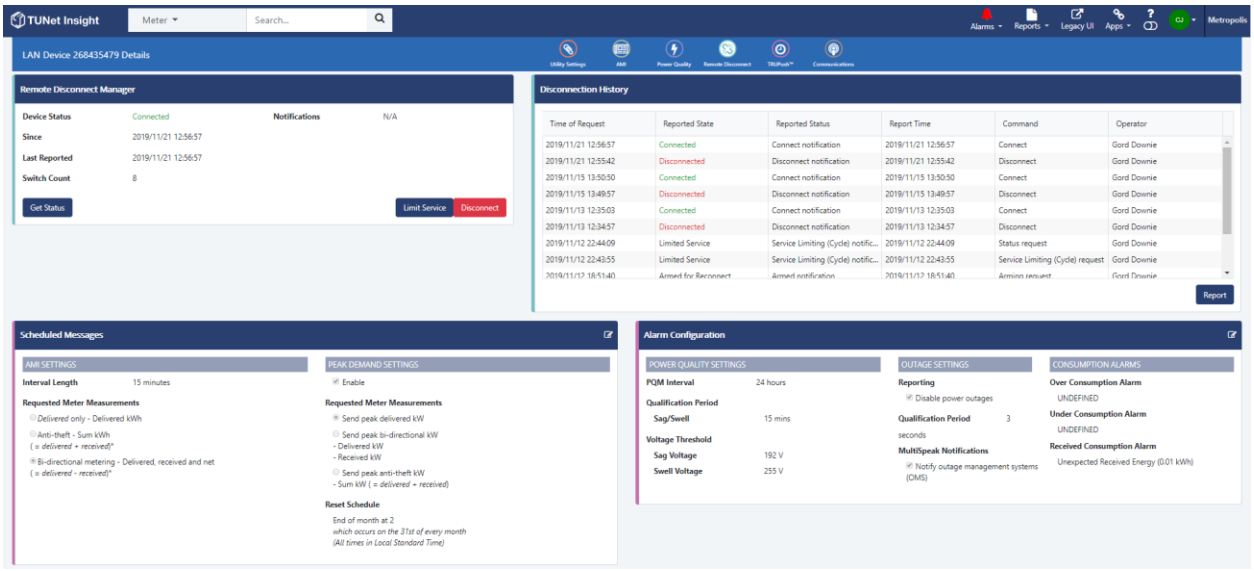
- Residential meter screen
- Commercial meter screen
- Net Meter screen
- PQM reports
- Interval consumption reports
- Meter group (multiple meters) data page
- Meter group (multiple meters) consumption report and PQM report

Residential Meter Data Screen



All device detail pages have the most important information at the top, and quick links to different sections allow users to see the information they are interested in quickly. The individual cards are shown or hidden depending on the User's privileges to give a constant UI experience for all users.

Remote Disconnect/ Reconnect



The Remote Disconnect is initiated from this screen and provides the ability to:

- Verify connectivity to the meter (ping)
- View switch status
- Disconnect and reconnect meters remotely
- Given appropriate credentials, this page enables the User to access an account for connect or disconnect functionality quickly. The screen provides a double-click process to allow the User to confirm the desired action and avoid accidental disconnect/reconnect. Upon execution of a disconnect or reconnect command, the system provides automatic verification of success. This tab also provides the ability to generate reports on individual or collective operations over time. The reconnect function queries the meter for load-side voltage before executing the command and notifies the User if voltage is present.

Residential Graphed Consumption Screen

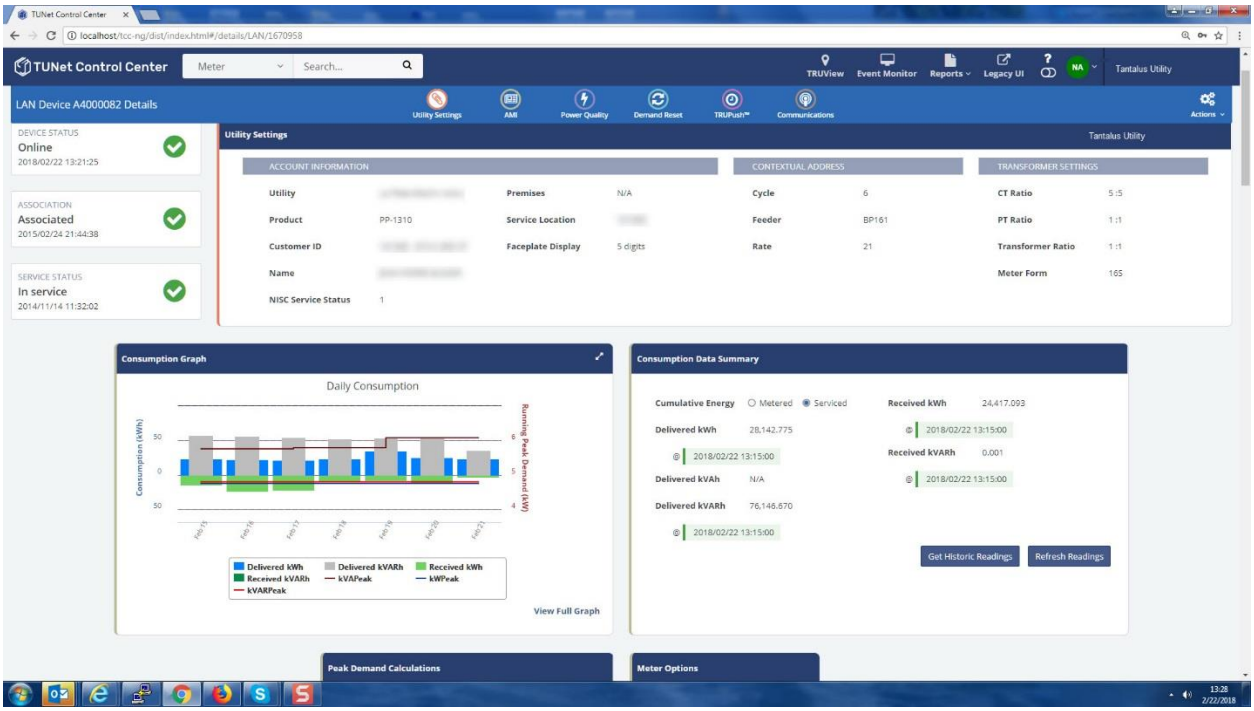
By hovering the cursor over any interval, more detailed data is provided. The detailed information associated with consumption at 7 PM is shown above. Additionally, the consumption graphs can display summary information of interval data. For example, 15-minute interval data can be displayed as a sum per hour, per day, per month. The combined interval consumption can be used to evaluate the consumption history associated with the account.

From the above pages, detailed reports and exports can be generated for:

- Power quality analysis
- Interval data reports
- Share image exports for customer distribution or interval review
- Account status and on-demand reading of measured values

TRUEdge meters support calculating TOU and Time Of Use in the meter. The TOU consumption can be displayed in a consumption graph in Insight or exported via a billing export.

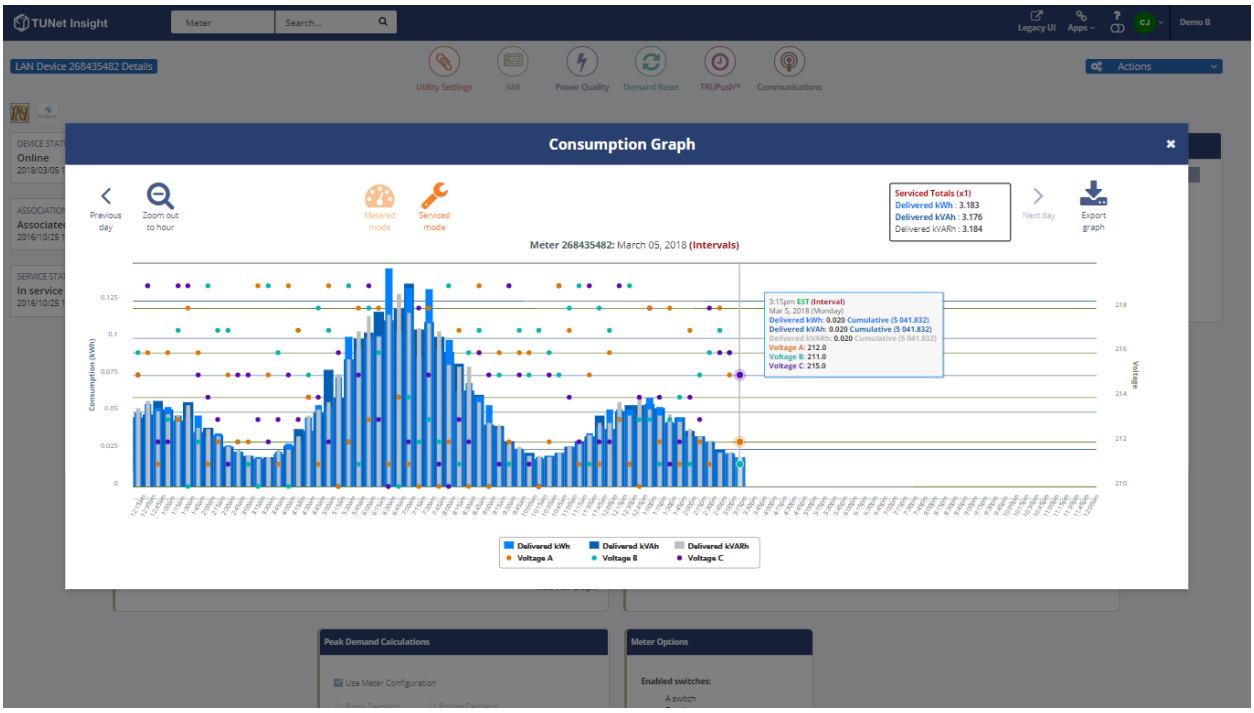
Commercial Meter Screen



The On-Request Reads are initiated and viewed from this screen.

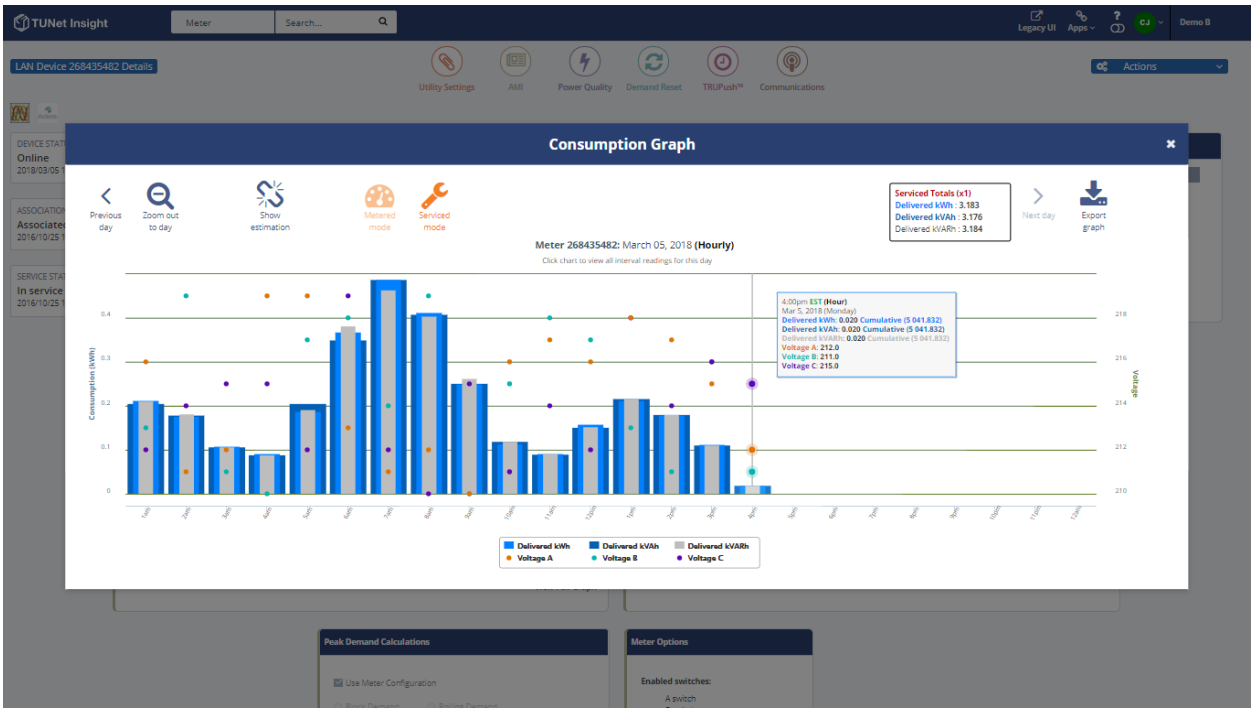
- For Users to perform On-request reads in support of move-in/move-out
- For Users to evaluate conditions in the field in real-time. Measurements include voltage, per-phase amps, KW, kVAh, kVARh, and PQM reports. (May require upgraded meters)

Commercial Meter Data Graph



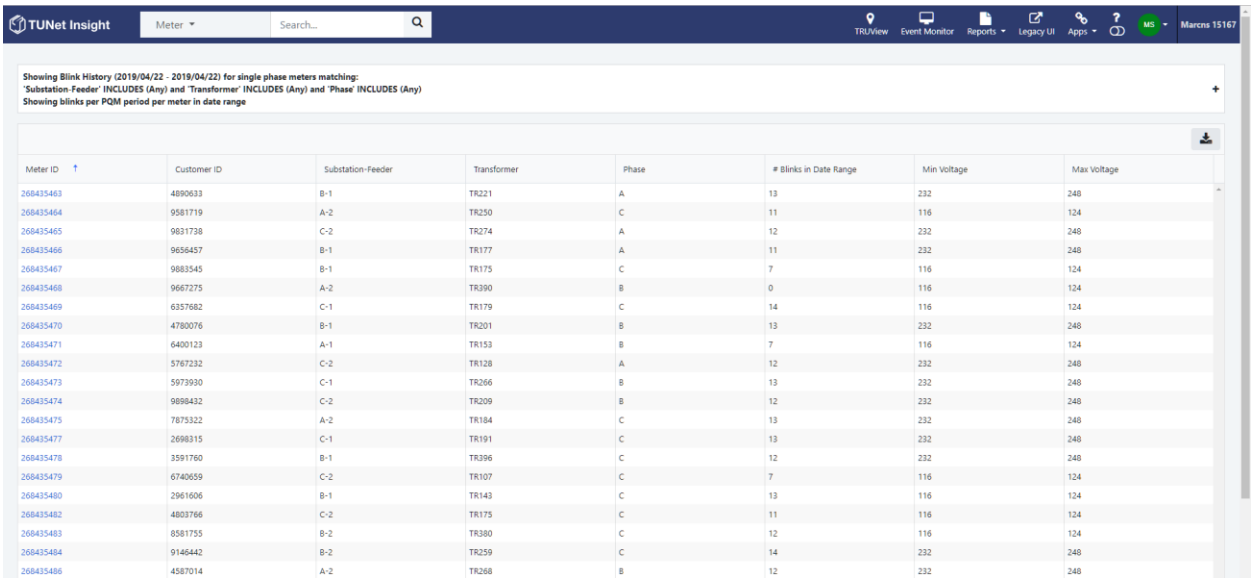
The above graph displays 5-minute interval data.

The graph below displays the same account and period with 5-minute interval data per hour.

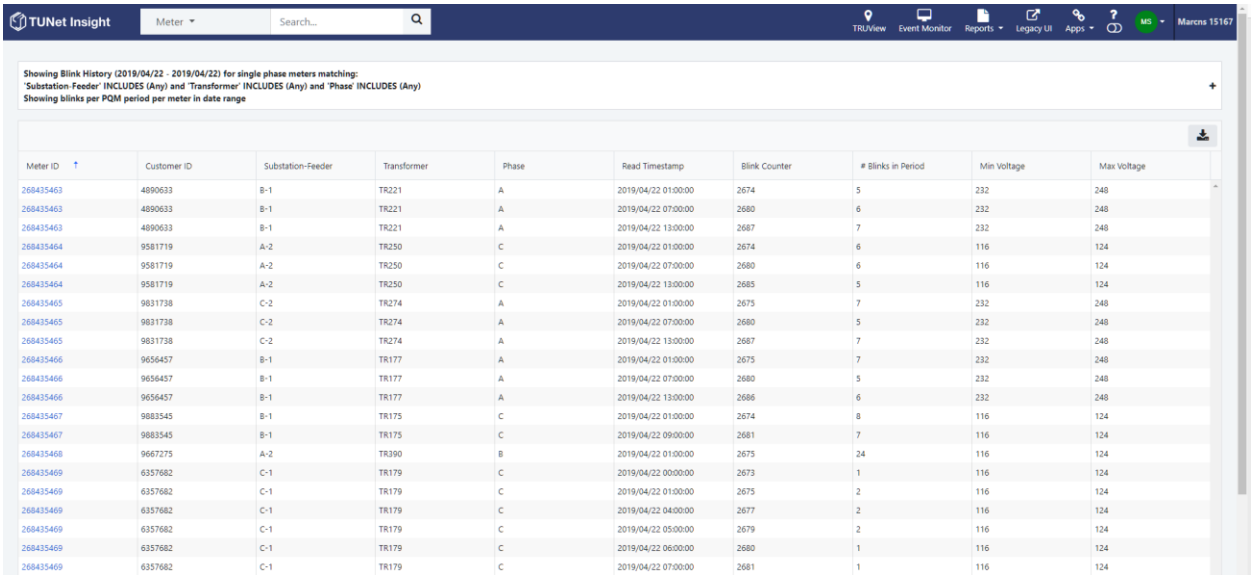


PQM Report Screen

The PQM Report can be exported in various formats to facilitate analysis.

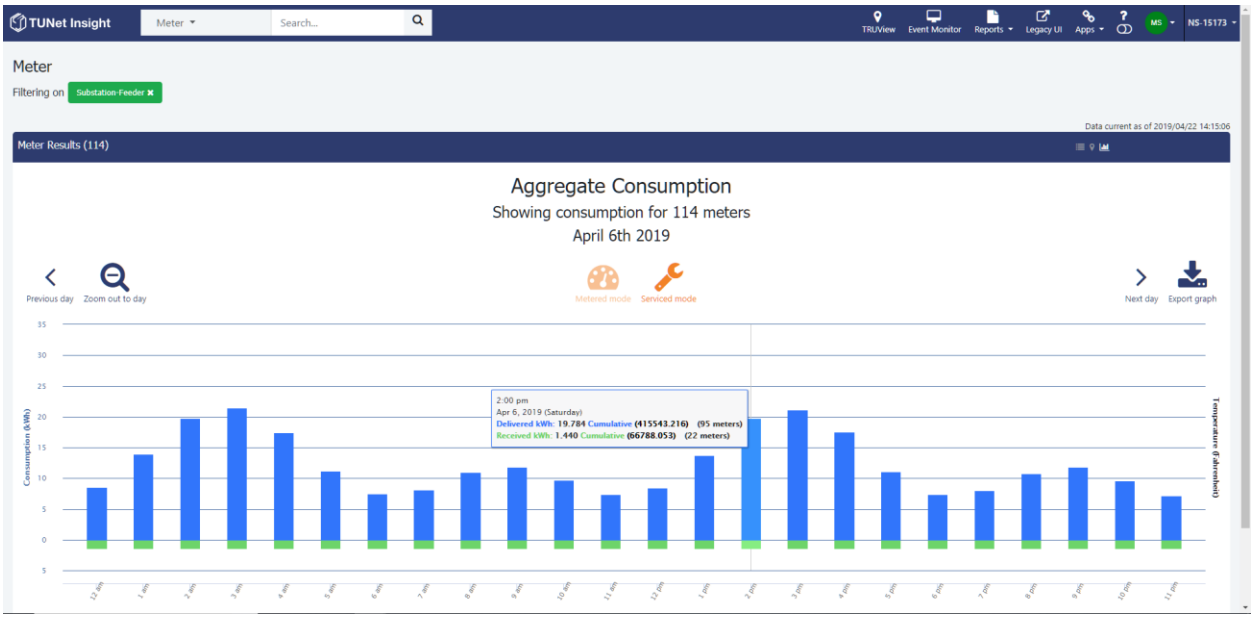


Meter ID	Customer ID	Substation-Feeder	Transformer	Phase	# Blinks in Date Range	Min Voltage	Max Voltage
268435463	4890633	B-1	TR221	A	13	232	248
268435464	9581719	A-2	TR250	C	11	116	124
268435465	9831738	C-2	TR274	A	12	232	248
268435466	9656457	B-1	TR177	A	11	232	248
268435467	9883545	B-1	TR175	C	7	116	124
268435468	9667275	A-2	TR390	B	0	116	124
268435469	6357682	C-1	TR179	C	14	116	124
268435470	4780076	B-1	TR201	B	13	232	248
268435471	6400123	A-1	TR153	B	7	116	124
268435472	5767232	C-2	TR128	A	12	232	248
268435473	5973930	C-1	TR266	B	13	232	248
268435474	9898432	C-2	TR209	B	12	232	248
268435475	7875322	A-2	TR184	C	13	232	248
268435477	2698315	C-1	TR191	C	13	232	248
268435478	3591760	B-1	TR396	C	12	232	248
268435479	6740659	C-2	TR107	C	7	116	124
268435480	2961606	B-1	TR143	C	13	116	124
268435482	4803766	C-2	TR175	C	11	116	124
268435483	8581755	B-2	TR380	C	12	116	124
268435484	9146442	B-2	TR259	C	14	232	248
268435486	4587014	A-2	TR268	B	12	232	248



Meter ID	Customer ID	Substation-Feeder	Transformer	Phase	Read Timestamp	Blink Counter	# Blinks in Period	Min Voltage	Max Voltage
268435463	4890633	B-1	TR221	A	2019/04/22 01:00:00	2674	5	232	248
268435463	4890633	B-1	TR221	A	2019/04/22 07:00:00	2680	6	232	248
268435463	4890633	B-1	TR221	A	2019/04/22 13:00:00	2687	7	232	248
268435464	9581719	A-2	TR250	C	2019/04/22 01:00:00	2674	6	116	124
268435464	9581719	A-2	TR250	C	2019/04/22 07:00:00	2680	6	116	124
268435464	9581719	A-2	TR250	C	2019/04/22 13:00:00	2685	5	116	124
268435465	9831738	C-2	TR274	A	2019/04/22 01:00:00	2675	7	232	248
268435465	9831738	C-2	TR274	A	2019/04/22 07:00:00	2680	5	232	248
268435465	9831738	C-2	TR274	A	2019/04/22 13:00:00	2687	7	232	248
268435466	9656457	B-1	TR177	A	2019/04/22 01:00:00	2675	7	232	248
268435466	9656457	B-1	TR177	A	2019/04/22 07:00:00	2680	5	232	248
268435466	9656457	B-1	TR177	A	2019/04/22 13:00:00	2686	6	232	248
268435467	9883545	B-1	TR175	C	2019/04/22 01:00:00	2674	8	116	124
268435467	9883545	B-1	TR175	C	2019/04/22 09:00:00	2681	7	116	124
268435468	9667275	A-2	TR390	B	2019/04/22 01:00:00	2675	24	116	124
268435469	6357682	C-1	TR179	C	2019/04/22 00:00:00	2673	1	116	124
268435469	6357682	C-1	TR179	C	2019/04/22 01:00:00	2675	2	116	124
268435469	6357682	C-1	TR179	C	2019/04/22 04:00:00	2677	2	116	124
268435469	6357682	C-1	TR179	C	2019/04/22 05:00:00	2679	2	116	124
268435469	6357682	C-1	TR179	C	2019/04/22 06:00:00	2680	1	116	124
268435469	6357682	C-1	TR179	C	2019/04/22 07:00:00	2681	1	116	124

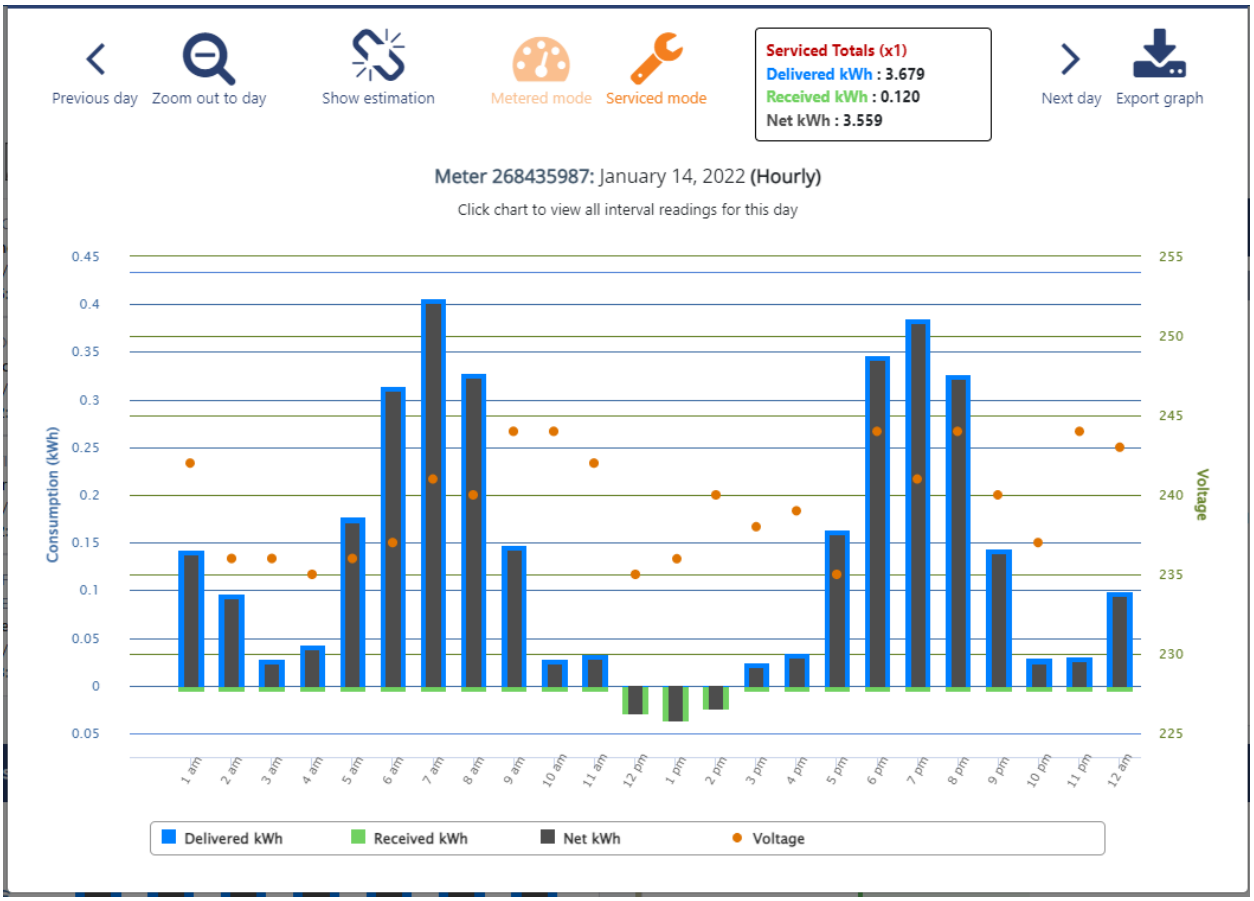
Consumption Readings Graph



The graph above shows the combined data for 114-meter accounts based on meter search results. This can be used to explore consumption anomalies by time and within a group of meters or to find the overage load of groups of meters.

This allows the utility to look at loading meter metrics by accounts on distribution assets such as Substations, feeders, control zones, transformers, governmental accounts (school boards), etc.

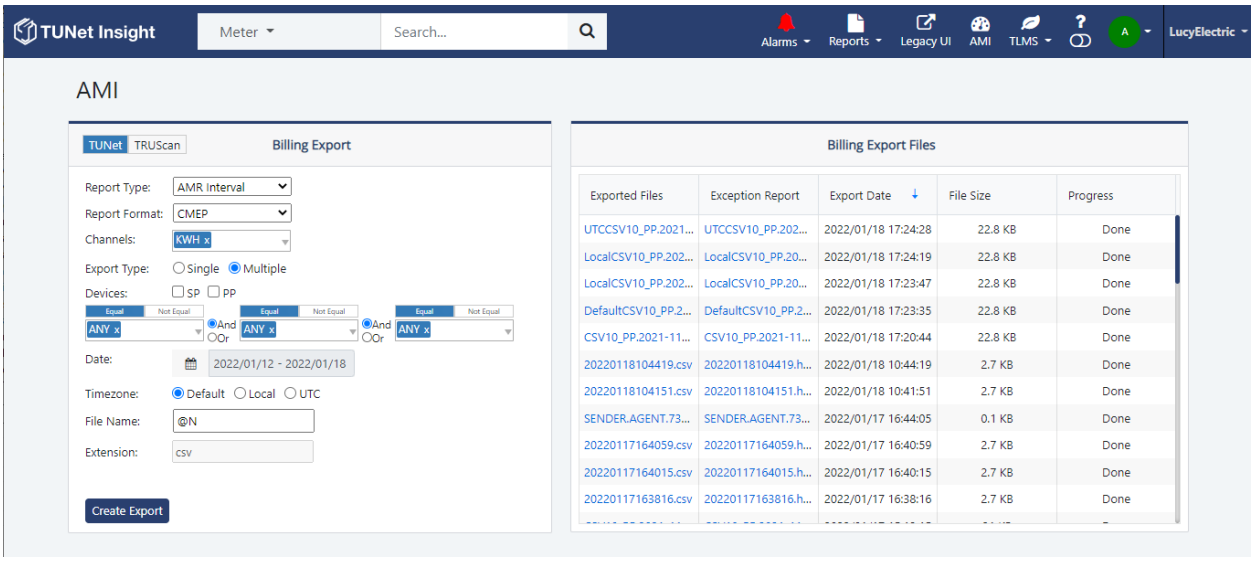
Net Metering



With the growing number of commercial and residential customers electing to generate energy via co-generation capabilities and renewables (wind and solar), the market requires that utilities support net-metering to facilitate managing and forecasting available supply from distributed generation assets as well as support net-metering tariffs.

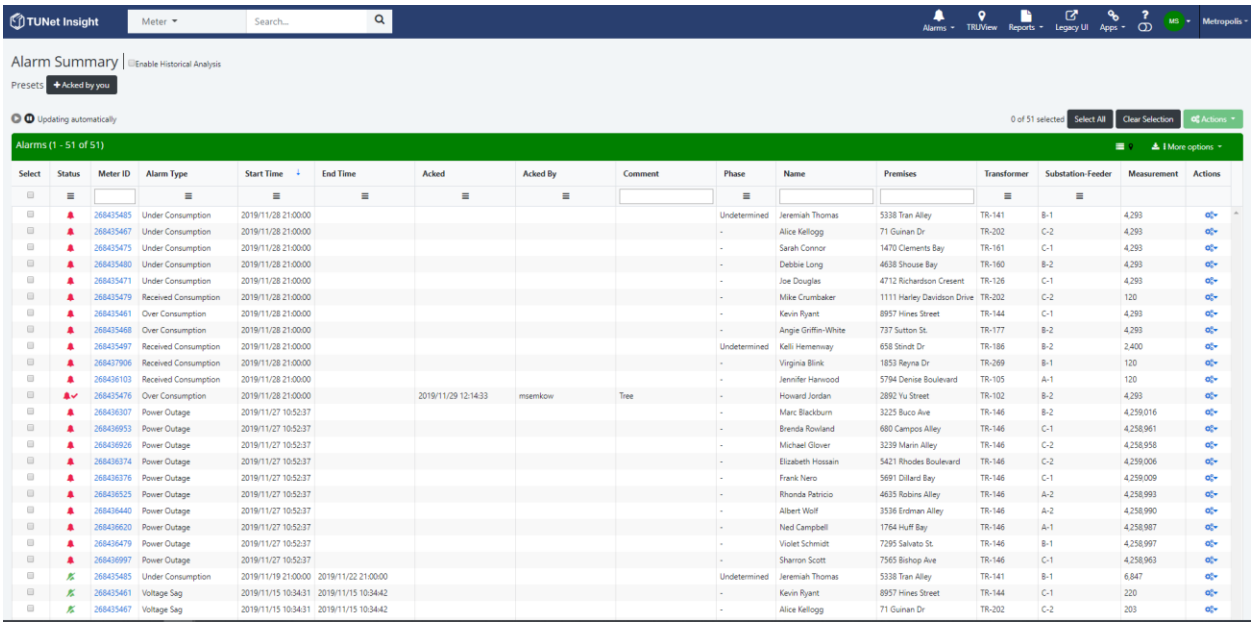
The figure above exemplifies how Insight captures delivered, received, and net-metering data and makes it available to third-party systems.

Billing Export



Most billing exports are set to automatically export daily, and the files are sent to the CIS or MDM system. Insight supports ad-hoc billing exports to verify billing or analyze a .csv file.

Alarms



Select	Status	Meter ID	Alarm Type	Start Time	End Time	Acked	Acked By	Comment	Phase	Name	Premises	Transformer	Substation-Feeder	Measurement	Actions
		268435485	Under Consumption	2019/11/28 21:00:00					Undetermined	Jeremiah Thomas	5338 Tran Alley	TR-141	B-1	4,293	
		268435467	Under Consumption	2019/11/28 21:00:00					-	Alice Kellogg	71 Guinan Dr	TR-202	C-2	4,293	
		268435475	Under Consumption	2019/11/28 21:00:00					-	Sarah Connor	1470 Clements Bay	TR-161	C-1	4,293	
		268435480	Under Consumption	2019/11/28 21:00:00					-	Debbie Long	4638 Shouse Bay	TR-160	B-2	4,293	
		268435471	Under Consumption	2019/11/28 21:00:00					-	Joe Douglas	4712 Richardson Cresent	TR-126	C-1	4,293	
		268435479	Received Consumption	2019/11/28 21:00:00					-	Mike Crumbaker	1111 Harley Davidson Drive	TR-202	C-2	120	
		268435461	Over Consumption	2019/11/28 21:00:00					-	Kevin Ryant	8957 Hines Street	TR-144	C-1	4,293	
		268435468	Over Consumption	2019/11/28 21:00:00					-	Angie Griffin-White	737 Sutton St.	TR-177	B-2	4,293	
		268435497	Received Consumption	2019/11/28 21:00:00					Undetermined	Kelli Hemenway	658 Stindt Dr	TR-186	B-2	2,400	
		268437906	Received Consumption	2019/11/28 21:00:00					-	Virginia Blink	1853 Reyna Dr	TR-269	B-1	120	
		268436103	Received Consumption	2019/11/28 21:00:00					-	Jennifer Harwood	5794 Denise Boulevard	TR-105	A-1	120	
		268435476	Over Consumption	2019/11/28 21:00:00		2019/11/29 12:14:33	msemkow	Tree	-	Howard Jordan	2892 Yu Street	TR-102	B-2	4,293	
		268436307	Power Outage	2019/11/27 10:52:37					-	Marc Blackburn	3225 Buco Ave	TR-146	B-2	4,259,016	
		268436953	Power Outage	2019/11/27 10:52:37					-	Brenda Rowland	680 Campos Alley	TR-146	C-1	4,258,961	
		268436926	Power Outage	2019/11/27 10:52:37					-	Michael Glover	3239 Marin Alley	TR-146	C-2	4,258,958	
		268436374	Power Outage	2019/11/27 10:52:37					-	Elizabeth Hossain	5421 Rhodes Boulevard	TR-146	C-2	4,259,006	
		268436376	Power Outage	2019/11/27 10:52:37					-	Frank Nero	5691 Dillard Bay	TR-146	C-1	4,259,009	
		268436525	Power Outage	2019/11/27 10:52:37					-	Rhonda Patricio	4635 Robins Alley	TR-146	A-2	4,258,993	
		268436440	Power Outage	2019/11/27 10:52:37					-	Albert Wolf	3536 Erdman Alley	TR-146	A-2	4,258,990	
		268436620	Power Outage	2019/11/27 10:52:37					-	Ned Campbell	1764 Huff Bay	TR-146	A-1	4,258,987	
		268436479	Power Outage	2019/11/27 10:52:37					-	Violet Schmidt	7295 Salvato St.	TR-146	B-1	4,258,997	
		268436997	Power Outage	2019/11/27 10:52:37					-	Sharron Scott	7565 Bishop Ave	TR-146	C-1	4,258,963	
		268435485	Under Consumption	2019/11/19 21:00:00	2019/11/22 21:00:00				Undetermined	Jeremiah Thomas	5338 Tran Alley	TR-141	B-1	6,847	
		268435461	Voltage Sag	2019/11/15 10:34:31	2019/11/15 10:34:42				-	Kevin Ryant	8957 Hines Street	TR-144	C-1	220	
		268435467	Voltage Sag	2019/11/15 10:34:31	2019/11/15 10:34:42				-	Alice Kellogg	71 Guinan Dr	TR-202	C-2	203	

An alarm summary display will show the alarms and their state. The alarm summary displays when the alarm started and ended and who acknowledged it. In addition, a comment can be included to add more information about the alarm.

All 14 months of history can be searched and downloaded for historical analysis.

Tantalus

Eldridge Municipal Utilities
Van Wert Tantalus Proposal - Overlay Deployment - Reuse Most Electric All Water

TRUConnect Equipment and Services	Full Deployment		
TRUConnect WAN/LAN Equipment	**Quantity**	**Unit Price**	**Ext. Price**
RT-4250 TRUSense Cellular Gateway	16	$ 668.00	$ 10,688.00
VC-931 Versa Collector - Pole Mounted (Water Only Area)	1	$ 2,307.72	$ 2,307.72
VC-820 Cellular Modem - Inside VC (Water Only Area)	1	$ 1,413.08	$ 1,413.08
TR-1901 Repeater - Pole Mounted (Water Only Area)	15	$ 349.04	$ 5,235.60
DT-116 Centron Reset Key	1	$ 39.68	$ 39.68
DT-410-BUN Programming Kit	1	$ 4,000.00	$ 4,000.00
TRUConnect Infrastructure Sub Total			**$ 23,684.08**
TRUEdge Endpoint			
TC-1216 Tantalus Single Phase Module - Itron	950	$ 84.54	$ 80,313.00
TC-1220RD Tantalus Single Phase Remote Disconnect Module - Itron	120	$ 90.58	$ 10,869.60
PP-1320 Tantalus Poly Phase Module - Itron CP3	0	$ 241.55	$ -
Endpoint and Meter Sub Total			**$ 91,182.60**
TRUConnect Server & Software			
SV-4001 TRUConnect AMI Hosting - **Year 1 Only**	1	$ 4,800.00	$ 4,800.00
TCC-2001 TRUConnect Insight Head End Software	1	$ 42,550.00	$ 42,550.00
SV-8002 TRUConnect Cellular Data Plan (200MB) - **Year 1 Only**	17	$ 108.00	$ 1,836.00
TXG-SW01 TRUSense Head End Software License - per Endpoint	16	$ 60.00	$ 960.00
NSE-201 TRUConnect Software License - per Endpoint	1,070	$ 3.90	$ 4,173.00
PPA-100 Polyphase Software - per Endpoint (100 endpoint license)	-	$ 1,300.00	$ -
NSE-400 TRUScan - Itron Electric ERT Reading - One Time	1,882	$ 2.00	$ 3,764.00
NSE-420 TRUScan - Itron Water ERT Reading - One Time	2,982	$ 2.00	$ 5,964.00
NSE-430 TRUScan - Neptune Water/Gas R900 Reading - One Time	-	$ 2.00	$ -
NSE-410 TRUScan - Itron Gas ERT Reading - One Time	-	$ 2.00	$ -
TAL-601-1 TRUConnect Application License - Consumption Alarms	1	$ 3,750.00	$ 3,750.00
TAL-600-1 TRUConnect Application License - Database Extraction Tool	-	$ -	$ -
TAL-530-X TRUConnect Application License - Residential Peak Demand	-	$ -	$ -
TAL-520-X TRUConnect Application License - Service Limiting	-	$ -	$ -
NSI-306 TRUConnect TRUView GIS Admin License - ESRI Integration	-	$ -	$ -
NSI-307 TRUConnect Application License - LDAP Active Directory	-	$ -	$ -
Server and Software Total			**$ 67,797.00**
TRUConnect System Services			
SV-1000 Deployment Services	1	$ 79,530.00	$ 79,530.00
-Project engineering, training, project mgt, system design, deployment prep			
-Datbase configuration, set up, and commissioning.			
-Billing integration.			
-Travel and Travel Expenses included.			
TRUConnect System Services Sub Total			**$ 79,530.00**
TRUConnect Equipment and Services - Grand Total			**$ 262,193.68**

Itron Electric Meters	Quantity	Unit Price	Ext. Price
Itron C2SXD 1S CL200 240V w/ Disconnect w/ Tantalus Installed	0	$0.00	$0.00
Itron C2SXD 2S CL200 240V w/ Disconnect w/ Tantalus Installed	120	$110.00	$13,200.00
Itron C2SXD 12S CL200 240V w/ Disconnect w/ Tantalus Installed	0	$0.00	$0.00
Itron C1SX 2S CL200 240V w/ Tantalus Installed	950	$50.00	$47,500.00
Itron C1SX 2S CL320 240V w/ Tantalus Installed	0	$0.00	$0.00
Itron C1SX 3S w/ Tantalus Installed	0	$0.00	$0.00
Itron C1SX 4S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 5S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 6S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 16S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 8/9S w/ Tantalus Installed	0	$0.00	$0.00
Itron Electric Meter - Grand Total			**$60,700.00**

Tantalus

Turnkey Project - Electric Meter Installation				
Turnkey Deployment Expenses - Software Set Up and Mobilization	0	$ -	$	-
Install - Electric Meters - Single Phase - 240V and Below	0	$ -	$	-
Install - Electric Meters - Poly Phase - Self Contained, Transformer Rated, & Single-Phase Transformer Rated	0	$ -	$	-
Turnkey Deployment Services - Electric Meters	0	$ -	$	-
OPTIONAL - Transformer Rated Meter Site Analysis with CT & Wiring Check (added to installation price)	0	$ -	$	-
Electric Meter Install - Grand Total			**$**	**-**

TRUConnect Project Grand Total	**$**	**322,893.68**

TRUConnect System Annual Fees - Starting Year 2 of Deployment				
SV-4001 TRUConnect Annual AMI Hosting	1	$ 4,800.00	$	4,800.00
SV-8002 TRUConnect Cellular Data Plan (200MB)	17	$ 108.00	$	1,836.00
TRUConnect Annual Maintenance	1	$ 13,023.60	$	13,023.60
SL-2001 TRUConnect Technical Support - Standard	1	$ 6,950.00	$	6,950.00
Additional products / features added to the system may increase support costs. Premium Level Support is available for an additional fee.				
GRAND TOTAL - TRUConnect System Annual Fees - Year 2 and Beyond			**$**	**26,609.60**

Tantalus

OPTIONS:

OPTION - Utility Hawk Customer Portal				
Customer Portal Set Up Fee - One Time	0	$ -	$	-
SV-1000 Tantalus Services - One Time	0	$ -	$	-
Customer Portal Annual Fee - **Add to Annual Fees Above**	0	$ -	$	-
MDM Set Up Fee - One Time	0	$ -	$	-
SV-1000 Tantalus Services - One Time	0	$ -	$	-
MDM Annual Fee - **Add to Annual Fees Above**	0	$ -	$	-
OPTION - Grand Total - Utility Hawk Customer Portal			**$**	**-**

OPTION - TRUFlex DER + Load Management				
LC-2325B-C1 Tantalus Load Control Switch - 1HP, 2LP Relay	0	$ -	$	-
LML-100 Load Champ License for Disconnect Meter as Load Mgt Device	0	$ -	$	-
LMS-SSS Load Management System Set Up Fee - **1 Time**	0	$ -	$	-
LMS-SSB-L TRUFlex Load Management Annual Hosting, Support & Maint - 1st 1000 Devices deployed.	0	$ -	$	-
OPTION GRAND TOTAL - DER + Load Management			**$**	**-**

OPTION - TRUGrid Analytics				
GRA-SSS TGRA SAAS Standard Set Up	0	$ 5,000.00	$	-
GRA-SSB TGRA SAAS Standard Annual Subscription - **Add to Annual Fees Above**	0	$ 9,000.00	$	-
Includes 1st 10,000 electric meters, 2 users, 14 months of history				
GRA-SSD TGRA SAAS Standard Annual Subscription / additional elec meter	0	$ 0.75	$	-
Add to Annual Fees Above				
OPTION GRAND TOTAL - TRUGrid Analytics			**$**	**-**

OPTION - TRUGrid Transformer				
Transformer Analytics - Set Up Fee	0	$ 5,000.00	$	-
GTA-SSB-X Transformer Analytics - **Annual Fee**	0	$ -	$	-
Includes Support, Maintenance, and Hosting				
Add to Annual Fees Above if Selected				
OPTION GRAND TOTAL - TRUGrid Transformer			**$**	**-**

Pricing Notes & Assumptions:

· The pricing provided is limited to the equipment, software and services as proposed in this offer. Changes to quantities, deal structure or third-party partners that are part of this proposal may change the prices contained in this offer.

· Prices quoted for Tantalus' Network Equipment and Services may contain allowances, discounts and/or promotional pricing which are available for a period of 90 days from the date of bid opening. Price does not include shipping. All products are shipped FOB Shipping Point.

· Final performance criteria and any associated guarantees will be included in the final contract and are contingent upon installation of equipment and deployment per the final AMI network design and in accordance with Tantalus' specifications. Regardless of the party performing the installation, it is the responsibility of the Utility to provide utility specific information that may have an impact on the final design and/or performance criteria

· The standard warranty terms and conditions set forth in Tantalus' Network Systems Agreement (NSA) apply unless otherwise expressly agreed to by Tantalus in the final contract.

· Acceptance terms shall be discussed, mutually agreed to and set forth in the final contract, including without limitation those terms associated with acceptance of delivery, transfer of title, invoicing, etc.

· Final commitments shall be exclusive of failures resulting from the acts, omissions or performance of systems, services or networks provided by third parties or not otherwise within the control of Tantalus; and contingent upon the Customer's taking commercially reasonable actions in connection with maintaining the system, including, without limitation, entering into and complying with the terms of End User License Agreement and Technical

· Meters are Third-Party Products. Unless otherwise specifically set forth in writing (and subject to applicable pass-through terms and conditions), Tantalus does not provide a guaranty or warranty of any type or manner with respect to Third-party Products (as defined in the NSA) and disclaims all responsibility and liability for these items. Associated price validity terms set forth herein have been provided by the third-party manufacturer, in

· Pricing includes all of work, if any component is split, Tantalus reserves the right to reprice. Additional or incremental functionalities are subject to additional fees.

· Tantalus service time will be billed at actual. If additional days are necessary, Customer wil be billed at Tantalus' then-current daily rate.

· A minimum lead time of [TBD] days is required on all Purchase Orders.

· Notwithstanding anything to the contrary in the Customer's RFP or Tantalus' response thereto, Tantalus' Response, including the pricing provided, is based upon its Network Systems Agreement (as attached) and the absence of a specific response or annotation by Tantalus to any of the specifications, the Customer's requirements or terms and conditions in the RFP does not otherwise limit Tantalus' ability and right to negotiate such

· Integration to existing vendor supported interfaces are included in the Deployment Services – Custom services, including custom integration(s) with third party applications that are not existing vendor supported interfaces, are subject to additional fees and agreement between Tantalus, Customer and any applicable third party.

· Annual System Support is available in both Premium and Standard levels. Premium level support is subject to an additional cost of $15,000.00 at the time of such election.

· Optional Equipment/Services may be subject to additional terms and conditions, including without limitation those related to use of the software.

· If Tantalus is a Prime Contractor, a markup has been applied to meters and installation services. The customer would realize cost savings by contracting directly with third party providers for installation and meter purchases.

· Tantalus does not guarantee pricing of Third-Party Products, which are quoted pursuant to and subject to the respective third-party manufacturer's terms and conditions (including warranty). Notwithstanding anything to the contrary and unless otherwise expressly and mutually agreed to in writing (including applicable pass-through terms and conditions) between the Customer, Tantalus and the third-party manufacturer, the third-party terms

· If applicable, water meters encoder registers, connectors, RF endpoint and thru the lid antenna pricing is estimated and not included in the total cost.

· Water meter pricing does not include expansion wheels. Pricing TBD if required.

· If elected, TRUGrid™ Reliability and TRUGrid™ Transformer and are subect to terms and conditions of Tantalus' Master Software Subscription Agreement.

Tantalus

Eldridge Municipal Utilities
Van Wert Tantalus Proposal - Full Deployment Electric - Reuse Water

TRUConnect Equipment and Services	Full Deployment		
TRUConnect WAN/LAN Equipment	**Quantity**	**Unit Price**	**Ext. Price**
RT-4250 TRUSense Cellular Gateway	26	$ 668.00	$ 17,368.00
VC-931 Versa Collector - Pole Mounted (Water Only Area)	1	$ 2,307.72	$ 2,307.72
VC-820 Cellular Modem - Inside VC (Water Only Area)	1	$ 1,413.08	$ 1,413.08
TR-1901 Repeater - Pole Mounted (Water Only Area)	15	$ 349.04	$ 5,235.60
DT-116 Centron Reset Key	1	$ 39.68	$ 39.68
DT-410-BUN Programming Kit	1	$ 4,000.00	$ 4,000.00
TRUConnect Infrastructure Sub Total			**$ 30,364.08**
TRUEdge Endpoint			
TC-1216 Tantalus Single Phase Module - Itron	2542	$ 84.54	$ 214,900.68
TC-1220RD Tantalus Single Phase Remote Disconnect Module - Itron	120	$ 90.58	$ 10,869.60
PP-1320 Tantalus Poly Phase Module - Itron CP3	290	$ 241.55	$ 70,049.50
Endpoint and Meter Sub Total			**$ 295,819.78**
TRUConnect Server & Software			
SV-4001 TRUConnect AMI Hosting - **Year 1 Only**	1	$ 4,800.00	$ 4,800.00
TCC-2001 TRUConnect Insight Head End Software	1	$ 42,550.00	$ 42,550.00
SV-8002 TRUConnect Cellular Data Plan (200MB) - **Year 1 Only**	27	$ 108.00	$ 2,916.00
TXG-SW01 TRUSense Head End Software License - per Endpoint	26	$ 60.00	$ 1,560.00
NSE-201 TRUConnect Software License - per Endpoint	2,952	$ 3.90	$ 11,512.80
PPA-100 Polyphase Software - per Endpoint (100 endpoint license)	3	$ 1,300.00	$ 3,900.00
NSE-400 TRUScan - Itron Electric ERT Reading - One Time	-	$ 2.00	$ -
NSE-420 TRUScan - Itron Water ERT Reading - One Time	2,982	$ 2.00	$ 5,964.00
NSE-430 TRUScan - Neptune Water/Gas R900 Reading - One Time	-	$ 2.00	$ -
NSE-410 TRUScan - Itron Gas ERT Reading - One Time	-	$ 2.00	$ -
TAL-601-1 TRUConnect Application License - Consumption Alarms	1	$ 3,750.00	$ 3,750.00
TAL-600-1 TRUConnect Application License - Database Extraction Tool	-	$ -	$ -
TAL-530-X TRUConnect Application License - Residential Peak Demand	-	$ -	$ -
TAL-520-X TRUConnect Application License - Service Limiting	-	$ -	$ -
NSI-306 TRUConnect TRUView GIS Admin License - ESRI Integration	-	$ -	$ -
NSI-307 TRUConnect Application License - LDAP Active Directory	-	$ -	$ -
Server and Software Total			**$ 76,952.80**
TRUConnect System Services			
SV-1000 Deployment Services -Project engineering, training, project mgt, system design, deployment prep -Datbase configuration, set up, and commissioning. -Billing integration. -Travel and Travel Expenses included.	1	$ 79,530.00	$ 79,530.00
TRUConnect System Services Sub Total			**$ 79,530.00**
TRUConnect Equipment and Services - Grand Total			**$ 482,666.66**

Itron Electric Meters	Quantity	Unit Price	Ext. Price
Itron C2SXD 1S CL200 240V w/ Disconnect w/ Tantalus Installed	0	$0.00	$0.00
Itron C2SXD 2S CL200 240V w/ Disconnect w/ Tantalus Installed	120	$110.00	$13,200.00
Itron C2SXD 12S CL200 240V w/ Disconnect w/ Tantalus Installed	0	$0.00	$0.00
Itron C1SX 2S CL200 240V w/ Tantalus Installed	2542	$50.00	$127,100.00
Itron C1SX 2S CL320 240V w/ Tantalus Installed	0	$0.00	$0.00
Itron C1SX 3S w/ Tantalus Installed	0	$0.00	$0.00
Itron C1SX 4S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 5S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 6S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 16S w/ Tantalus Installed	0	$0.00	$0.00
Itron Centron Poly 3 - 8/9S w/ Tantalus Installed	290	$300.00	$87,000.00
Itron Electric Meter - Grand Total			**$227,300.00**

Tantalus

Turnkey Project - Electric Meter Installation				
Turnkey Deployment Expenses - Software Set Up and Mobilization	0	$ -	$	-
Install - Electric Meters - Single Phase - 240V and Below	0	$ -	$	-
Install - Electric Meters - Poly Phase - Self Contained, Transformer Rated, & Single-Phase Transformer Rated	0	$ -	$	-
Turnkey Deployment Services - Electric Meters	0	$ -	$	-
OPTIONAL - Transformer Rated Meter Site Analysis with CT & Wiring Check (added to installation price)	0	$ -	$	-
Electric Meter Install - Grand Total			**$**	**-**

TRUConnect Project Grand Total	**$**	**709,966.66**

TRUConnect System Annual Fees - Starting Year 2 of Deployment				
SV-4001 TRUConnect Annual AMI Hosting	1	$ 4,800.00	$	4,800.00
SV-8002 TRUConnect Cellular Data Plan (200MB)	27	$ 108.00	$	2,916.00
TRUConnect Annual Maintenance	1	$ 11,673.50	$	11,673.50
SL-2001 TRUConnect Technical Support - Standard	1	$ 6,950.00	$	6,950.00
Additional products / features added to the system may increase support costs. Premium Level Support is available for an additional fee.				
GRAND TOTAL - TRUConnect System Annual Fees - Year 2 and Beyond			**$**	**26,339.50**

Tantalus

OPTIONS:

OPTION - Utility Hawk Customer Portal				
Customer Portal Set Up Fee - One Time	0	$ -	$	-
SV-1000 Tantalus Services - One Time	0	$ -	$	-
Customer Portal Annual Fee - **Add to Annual Fees Above**	0	$ -	$	-
MDM Set Up Fee - One Time	0	$ -	$	-
SV-1000 Tantalus Services - One Time	0	$ -	$	-
MDM Annual Fee - **Add to Annual Fees Above**	0	$ -	$	-
OPTION - Grand Total - Utility Hawk Customer Portal			**$**	**-**

OPTION - TRUFlex DER + Load Management				
LC-2325B-C1 Tantalus Load Control Switch - 1HP, 2LP Relay	0	$ -	$	-
LML-100 Load Champ License for Disconnect Meter as Load Mgt Device	0	$ -	$	-
LMS-SSS Load Management System Set Up Fee - **1 Time**	0	$ -	$	-
LMS-SSB-L TRUFlex Load Management Annual Hosting, Support & Maint - 1st 1000 Devices deployed.	0	$ -	$	-
OPTION GRAND TOTAL - DER + Load Management			**$**	**-**

OPTION - TRUGrid Analytics				
GRA-SSS TGRA SAAS Standard Set Up	0	$ 5,000.00	$	-
GRA-SSB TGRA SAAS Standard Annual Subscription - **Add to Annual Fees Above** **Includes 1st 10,000 electric meters, 2 users, 14 months of history**	0	$ 9,000.00	$	-
GRA-SSD TGRA SAAS Standard Annual Subscription / additional elec meter **Add to Annual Fees Above**	0	$ 0.75	$	-
OPTION GRAND TOTAL - TRUGrid Analytics			**$**	**-**

OPTION - TRUGrid Transformer				
Transformer Analytics - Set Up Fee	0	$ 5,000.00	$	-
GTA-SSB-X Transformer Analytics - **Annual Fee** **Includes Support, Maintenance, and Hosting** **Add to Annual Fees Above if Selected**	0	$ -	$	-
OPTION GRAND TOTAL - TRUGrid Transformer			**$**	**-**

Pricing Notes & Assumptions:

· The pricing provided is limited to the equipment, software and services as proposed in this offer. Changes to quantities, deal structure or third-party partners that are part of this proposal may change the prices contained in this offer.

· Prices quoted for Tantalus' Network Equipment and Services may contain allowances, discounts and/or promotional pricing which are available for a period of 90 days from the date of bid opening. Price does not include shipping. All products are shipped FOB Shipping Point.

· Final performance criteria and any associated guarantees will be included in the final contract and are contingent upon installation of equipment and deployment per the final AMI network design and in accordance with Tantalus' specifications. Regardless of the party performing the installation, it is the responsibility of the Utility to provide utility specific information that may have an impact on the final design and/or performance criteria

· The standard warranty terms and conditions set forth in Tantalus' Network Systems Agreement (NSA) apply unless otherwise expressly agreed to by Tantalus in the final contract.

· Acceptance terms shall be discussed, mutually agreed to and set forth in the final contract, including without limitation those terms associated with acceptance of delivery, transfer of title, invoicing, etc.

· Final commitments shall be exclusive of failures resulting from the acts, omissions or performance of systems, services or networks provided by third parties or not otherwise within the control of Tantalus; and contingent upon the Customer's taking commercially reasonable actions in connection with maintaining the system, including, without limitation, entering into and complying with the terms of End User License Agreement and Technical

· Meters are Third-Party Products. Unless otherwise specifically set forth in writing (and subject to applicable pass-through terms and conditions), Tantalus does not provide a guaranty or warranty of any type or manner with respect to Third-party Products (as defined in the NSA) and disclaims all responsibility and liability for these items. Associated price validity terms set forth herein have been provided by the third-party manufacturer, in

· Pricing includes all of work, if any component is split, Tantalus reserves the right to reprice. Additional or incremental functionalities are subject to additional fees.

· Tantalus service time will be billed at actual. If additional days are necessary, Customer wil be billed at Tantalus' then-current daily rate.

· A minimum lead time of [TBD] days is required on all Purchase Orders.

· Notwithstanding anything to the contrary in the Customer's RFP or Tantalus' response thereto, Tantalus' Response, including the pricing provided, is based upon its Network Systems Agreement (as attached) and the absence of a specific response or annotation by Tantalus to any of the specifications, the Customer's requirements or terms and conditions in the RFP does not otherwise limit Tantalus' ability and right to negotiate such

· Integration to existing vendor supported interfaces are included in the Deployment Services – Custom services, including custom integration(s) with third party applications that are not existing vendor supported interfaces, are subject to additional fees and agreement between Tantalus, Customer and any applicable third party.

· Annual System Support is available in both Premium and Standard levels. Premium level support is subject to an additional cost of $15,000.00 at the time of such election.

· Optional Equipment/Services may be subject to additional terms and conditions, including without limitation those related to use of the software.

· If Tantalus is a Prime Contractor, a markup has been applied to meters and installation services. The customer would realize cost savings by contracting directly with third party providers for installation and meter purchases.

· Tantalus does not guarantee pricing of Third-Party Products, which are quoted pursuant to and subject to the respective third-party manufacturer's terms and conditions (including warranty). Notwithstanding anything to the contrary and unless otherwise expressly and mutually agreed to in writing (including applicable pass-through terms and conditions) between the Customer, Tantalus and the third-party manufacturer, the third-party terms

· If applicable, water meters encoder registers, connectors, RF endpoint and thru the lid antenna pricing is estimated and not included in the total cost.

· Water meter pricing does not include expansion wheels. Pricing TBD if required.

· If elected, TRUGrid™ Reliability and TRUGrid™ Transformer and are subect to terms and conditions of Tantalus' Master Software Subscription Agreement.

TRUConnect™ AMI

TRUConnect AMI is a multi-commodity, purpose-built industrial IoT network comprised of advanced smart meters and a wide range of intelligent connected devices to improve a utility's resiliency, reliability and efficiency in a secure and affordable manner.

Description

TRUConnect AMI delivers the necessary visibility and corresponding command and control of assets managed by utilities across the distribution grid – from the substation to distributed energy resources (DERs) located behind the meter – by harnessing the power of data.

By deploying TRUConnect AMI, utilities are empowered to coordinate their operations, control costs and enhance customer satisfaction while preparing for the adoption and integration of DERs.

TRUConnect AMI Solution components include:

TRUConnect Edge, an intelligent device integrated into meters manufactured by Itron, Landis+Gyr and Aclara with a powerful system-on-chip to support edge applications.

TRUConnect Network, a network of communications infrastructure devices that delivers unmatched reliability through a combination of "right-sized" field devices that includes:

The TRUSense Gateway™, a next-generation meter socket-based computing device

The VersaComms Gateway™ (VC), pole-mounted gateways that support multiple communications technologies (fiber, cellular, RF)

Insight, a common user interface designed by utilities to manage all aspects of an AMI deployment and Tantalus' suite of software applications and data analytics.

TRUConnect AMI offers a differentiated approach:

- Multi-commodity support through our TRUScan™ technology that is capable of reading and integrating data from a wide range of existing ERTs and MIUs to transform legacy one-way AMR systems into next-generation, robust AMI systems.
- Extending the life of existing assets by delivering reverse-compatibility through our system-on-chip to ensure utilities avoid the expense of stranded assets while future-proofing their investments.
- Flexibility in our networking capabilities that provides utilities the unique ability to migrate between communication technologies as advancements in those technologies are delivered and adopted.
- Unparalleled Data Management, through our TRUSync™ Grid Data Management system that offers utilities a truly interoperable solution that is capable of integrating data captured by any device, any system and any vendor into other mission-critical systems.

Benefits

- Supports the safety, prosperity and autonomy of the local communities served by IOUs, public power and electric cooperative utilities
- Helps these communities thrive by helping our utility customers power their economic prosperity, environmental sustainability and social progress
- Ensures these communities are empowered to shape the future of their smart grids as the adoption of Distributed Energy Resources such as solar panels, distributed storage and electric vehicles transform distribution grids
- Provides our customers with the flexibility and expandability they need to serve their communities today and well into the future

AGENDA

TRUConnect™ Edge

Intelligent endpoint and AMI communication module for the Itron CENTRON® C1S Meter

Description

TRUConnect Edge provides Itron CENTRON C1S meters with two-way wireless communications through the TRUConnect Network - the Tantalus utility network that connects the entire distribution system so a utility can gather better information and achieve a new level of operational, business and customer service control and efficiency.

TRUConnect Edge equipped meters provide utilities with accurate billing data as well as grid edge analytics such as peak demand tracking and voltage analytics.

For utilities looking to upgrade their Itron, Neptune or Badger AMR system to a fixed network, TRUConnect Edge equipped meters will actively collect and relay Itron ERT™ electricity, water and gas data; and Neptune R900® and Badger ORION® CE water and gas readings back to the head office, prolonging the useful life of those assets.

Features/ Benefits

- All consumption and voltage data is pushed to the head end every interval; this is vital for grid edge optimization
- TRUPush™ technology for instant, field-initiated event notifications such as outage alerts and load shed confirmations
- Two-way, 24/7 wireless communications to Itron C1S meters
- Highly granular interval data for flexible rate designs
- On-request reads allow customer service to respond to inquiries and to closely monitor endpoints remotely
- Over-the-air meter configuration and firmware updates for future enhancements
- Peak Demand
- Net Metering
- TRUScan reading capability for Itron ERT, Neptune R900 and Badger ORION CE MIUs

TRUConnect™ Edge

Product Specifications

Data Reported	
	• kWh • Net Metering (delivered, received, sum, net) • Voltage on configurable intervals (Min, Max, Instantaneous, 85 - 130V, 170 - 260V, ± 1%) • Optional 15/5 Rolling kW Demand • User defined interval data: 5, 10, 15, 30, 60 minutes • Blink Counts, Sag & Swells Alerts
Meter Forms Supported	
C1S (120V)	• 1S (Class 100) • 3S (Class 20) • 12S / 25S (Class 200)
C1S (240V)	• 1S (Class 200) • 2S (Class 200, 320) • 3S (Class 20) • 4S (Class 20)

Environmental	
	• Operating temperature range: -40° to +158° F (-40° to +70° C) • Humidity: 5% to 95% non-condensing
Approvals/ Standards	
	• ANSI C12.1 & C12.20 • FCC for CFR Title 47 Part 15b
Radio	
	• Frequency range: 902 - 928 MHz Unlicensed • TRUConnect Network TRUPush Technology • Vectored Channels: 64,000 • Transmit power: 1.0 watt
Ordering Information	
TC-1116	• TRUConnect Edge for Itron C1S 120V Meter
TC-1216	• TRUConnect Edge for Itron C1S 240V Meter

tantalus.com

Tantalus
HARNESS THE POWER OF DATA

Harness The Power of Data and Modernize Your Distribution Grid

Tantalus is a technology company dedicated to helping utilities modernize their distribution grids. We help our customers harness the power of data across all their devices and systems deployed throughout the entire distribution grid – from the substation to the EV charger. We offer smart grid solutions across multiple levels: intelligent connected devices, communications networks, data management, enterprise applications and analytics.

AGENDA

TRUConnect™ Edge

Intelligent endpoint and AMI communication module for the Itron CENTRON® C2S Meter

Description

TRUConnect Edge provides Itron CENTRON C2S meters with two-way wireless communications through the TRUConnect Network - the Tantalus utility network that connects the entire distribution system so a utility can gather better information and achieve a new level of operational, business and customer service control and efficiency.

TRUConnect Edge equipped meters provide utilities with accurate billing data, innovative disconnect, prepay, load management and load limiting features as well as grid edge analytics such as peak demand tracking and voltage analytics. The unique service limiting feature can cycle electricity service off and on every 30 minutes, providing an alternative to full disconnection when a disconnect moratorium is in effect.

For utilities looking to upgrade their Itron, Neptune or Badger AMR system to a fixed network, TRUConnect Edge equipped meters will actively collect and relay Itron ERT™ electricity, water and gas data; and Neptune R900® and Badger ORION® CE water and gas readings back to the head end, prolonging the useful life of those assets.

Features/ Benefits

- All consumption, voltage data is pushed to the head end every interval; this is vital for grid edge optimization
- TRUPush™ technology for instant, field-initiated event notifications such as outage alerts and load shed confirmations
- Two-way, 24/7 wireless communications to Itron C2S meters
- Highly granular interval data for flexible rate designs
- On-request reads allow customer service to respond to inquiries and to closely monitor endpoints remotely
- Over-the-air meter configuration and firmware updates for future enhancements
- Optional remote disconnect with arming button for safe reconnection
- Peak Demand
- Net Metering
- Service Limiting
- Theft detection, tampers
- TRUScan reading capability for Itron ERT, Neptune R900/R900i and Badger ORION CE MIUs

TRUConnect™ Edge

Product Specifications

Data Reported	
	• kWh, Instantaneous kW • Net Metering (delivered, received, sum, net) • Voltage on configurable intervals (Min, Max, Instantaneous, 85 - 130V, 170 - 260V, ± 1%) • Optional 15/5 Rolling kW Demand • User defined interval data: 5, 10, 15, 30, 60 minutes • Blink Counts, Sag & Swell Alerts
Meter Forms Supported	
C2S	• 1S (Class 200) • 2S (Class 200, 320) • 12S/25S (Class 200)
C2S-RD with Remote Disconnect	• 1S (Class 200) • 2S (Class 200) • 12S/25S (Class 200)
Environmental	
	• Operating temperature range: -40° to +158° F (-40° to +70° C) • Humidity: 5% to 95% non-condensing

Approvals/ Standards	
	• ANSI C12.1 & C12.20 • FCC for CFR Title 47 Part 15b
Radio	
	• Frequency range: 902 - 928 MHz Unlicensed • TRUConnect Network TRUPush Technology • Vectored Channels: 64,000 • Transmit power: 1.0 watt
Ordering Information	
TC-1120	• TRUConnect Edge for Itron C2S 120V Meter
TC-1220	• TRUConnect Edge for Itron C2S 240V Meter
TC-1120-RD	• TRUConnect Edge for Itron C2S-RD 120V Meter with Disconnect
TC-1220-RD	• TRUConnect Edge for Itron C2S-RD 240V Meter with Disconnect

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AGENDA

TRUConnect™ Edge

Intelligent endpoint and AMI communication module for the Itron CENTRON® Polyphase III Advanced OEM-Ready Meter

Description

TRUConnect Edge provides Itron CENTRON Polyphase III Advanced OEM-Ready meters with two-way wireless communications through the TRUConnect Network - the Tantalus utility network that connects the entire distribution system so a utility can gather better information and achieve a new level of operational, business and customer service control and efficiency.

TRUConnect Edge factory integrated meters provide utilities with data from high consumption C&I meters, for accurate billing, power quality monitoring, forecasting, load profiling and flexible rates such as TOU, CPP and dynamic pricing, as well as grid edge analytics such as peak demand tracking and voltage analytics.

Features/ Benefits

- All consumption, voltage and current data is pushed to the head end every interval; this is vital for grid edge optimization
- TRUPush™ technology for instant, field-initiated event notifications such as outage alerts and load shed confirmations
- Two-way, 24/7 wireless communications with Itron CENTRON Polyphase III Advanced OEM-Ready meters
- Highly granular interval data for flexible rate designs
- On-request reads allow customer service to respond to inquiries and to closely monitor endpoints remotely
- Over-the-air configuration and TRUConnect Edge firmware updates for future enhancements
- Peak Demand
- Net Metering
- Theft detection, tampers
- TRUScan reading capability for Itron ERT™, Neptune R900®/R900i® and Badger ORION® CE MIUs

TRUConnect™ Edge

Product Specifications

Data Reported	
	• kWh, kVAh and kVARh • Peak kW and coincident kVAR • Peak kVA and coincident kW • Peak kVAR and coincident kW • Voltage, Current: Phases A, B & C • User defined interval data: 5, 10, 15, 30, 60 minutes • Power factor, frequency • Sags, Swells (PPA license required) • Net Metering (delivered and received)
Power	
	• 120-480VAC, 50/60Hz
Meter Forms Supported	
Self-contained	• 1S (CL100) • 2S (CL200, CL320) • 12S (CL200, CL320), • 16S (CL200,CL320)
Transformer-rated	• 3S • 4S • 9S • 9/36S • 45S (CL20)

Environmental	
	• Operating temperature range: -40° to +158° F (-40° to +70° C) • Humidity: 5% to 95% non-condensing
Standards	
	• ANSI C12.1 & C12.20, Class 0.2 accuracy • FCC for CFR Title 47 P art 15b • Measurement Canada AE-2576
Radio	
	• Frequency range: 902 - 928 MHz Unlicensed • TRUConnect Network TRUPush Technology • Vectored Channels: 64,000 • Transmit power: 1.0 watt
Ordering Information	
PP-1320	• TRUConnect Edge for Itron CENTRON Polyphase III Advanced OEM-Ready Meter
PP-1320C	• Measurement Canada approved TRUConnect Edge for Itron CENTRON Polyphase III Advanced OEM-Ready Meter

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Solution Sheet

TRUSense Gateway™

To modernize and digitize the grid, you have to harness the power of data not only from the substation to the meter, but also access devices located behind the meter. TRUSense Gateway™ is a multi-purpose device that creates a secure utility communication path into the premise to extend the edge of the grid to include behind-the-meter DERs.

Description

The TRUSense Gateway is one of the most valuable solutions in the Tantalus Grid Modernization Platform (TGMP™). The edge of the grid has moved to behind the meter, and without the TRUSense Gateway, utilities are flying blind without mission-critical data.

The TRUSense Gateway accelerates grid modernization for utilities of all kinds by delivering broadband data connectivity all the way to edge of the grid, including behind-the-meter. It's installed in a standard meter socket, between the socket and the meter, and delivers:

- Streaming substation-quality grid-edge power measurements
- Power quality issue detection, waveform capture, diagnosis and mitigation
- Vendor-agnostic approach to DER integration
- AMI infrastructure for electric, water and gas metering
- Connectivity available via Fiber, Ethernet or Cellular

More and more utilities are turning to TRUSense Gateway to achieve a cost-effective way to harness the power of data and enhance the reliability and resilience of their distribution grids.

Applications

The TRUSense Gateway represents a first-to-market offering that supports the convergence of four major initiatives across the utility industry:

Delivering next-generation AMI by accessing the benefits of AMI 2.0 without having to replace existing metering infrastructure

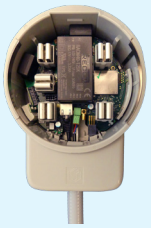
Providing grid optimization by capturing and analyzing granular power quality data to improve the distribution grid and prioritize infrastructure that needs to be upgraded

Integrating DERs located behind-the-meter, such as electric vehicle chargers, solar and storage inverters and smart appliances

Enhancing broadband initiatives by leveraging fiber investments to connect meters for communications and powering optical network terminals delivering broadband services to the home

In short, the Tantalus TRUSense Gateway makes it easier for utilities to become more reliable, resilient, and innovative.

TRUSense Fiber Gateway:
Connects directly to fiber by use of a Small Form-factor Pluggable (SFP) Optical Network Terminal (ONT)

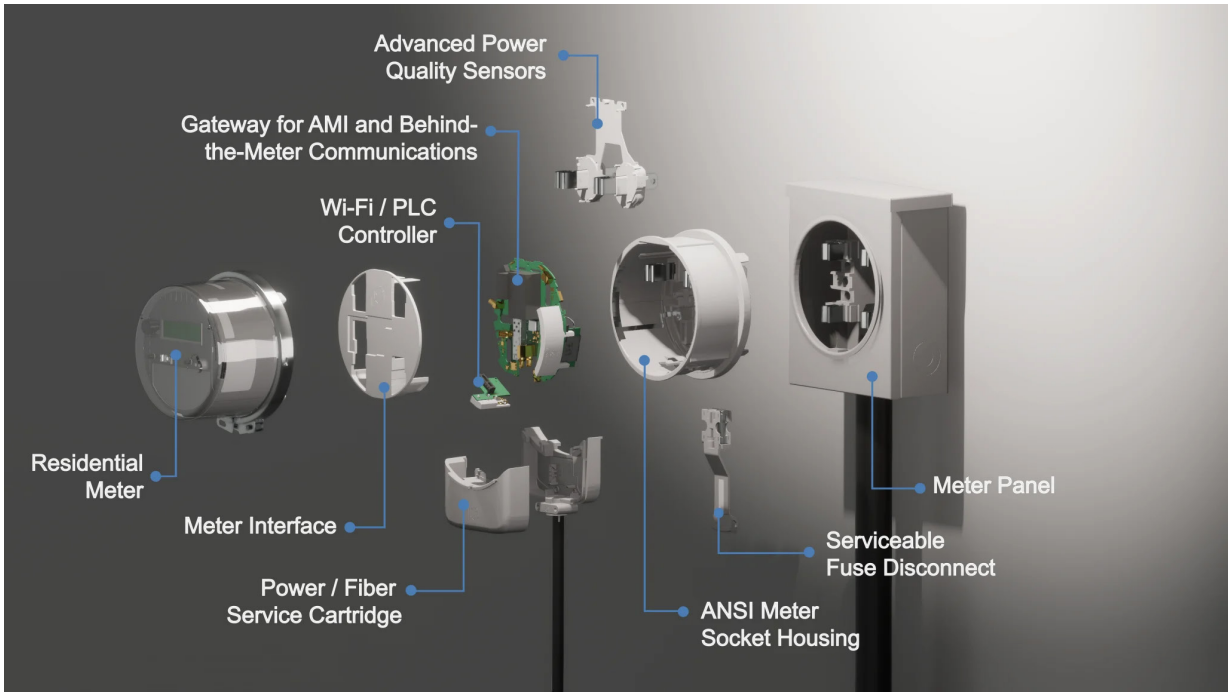


TRUSense Ethernet Gateway:
Supports an outdoor ONT deployment (providing power to the ONT and connecting via an ethernet cable)

TRUSense Cellular Gateway:
Leverages an embedded LTE modem for those utilities not deploying fiber to the home (FTTH) to leverage public or private LTE for AMI and/or DER integration

Solution Sheet

TRUSense Gateway™



Benefits

- Deploy a next-generation AMI system without needlessly ripping and replacing existing meters. Specifically, we help utilities extend and augment existing AMI and AMR investments—including electric, water and gas—to provide a foundation for future innovation and insights at lower costs.
- Create a secure utility communications path into the premises using the same standards-based technologies that control consumer-centric DERs and appliances to build demand-side programs to offset peak demand.
- Monitor power quality at the socket, providing substation-level power quality sensing and measurement to track transient power events and local conditions such as sags, swells, outages and even phase information.
- Provide real-time communications over fiber and cellular networks, allowing utilities to avoid truck-rolls while gaining a granular view of the distribution network.

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VersaComms Gateway™

VC-93x Broadband IP Gateway

Description

The VC-93x VersaComms Gateway ensures fast and flexible data communications via Ethernet. It is designed as a flexible, high capacity network communications device for utilities to support network coverage where required.

The VersaComms Gateway product line serves as a backbone for the Tantalus Grid Modernization Platform™ including TRUConnect™ AMI, TRUFlex™ Load+DER Management, TRUGrid™ Automation and TRUSync™ Grid Data Management. Its mix-and-match modular design allows utilities to customize each device with the optimal mix of WAN/FAN/LAN communications.

The VersaComms Gateway's rapid, reliable communications with TRUConnect-enabled endpoints enables TRUPush™, the push-based delivery of metering data to the utility headend in near real-time. This improves operational response time and customer satisfaction through features such as 5-minute interval data, on-request reads, outage and restoration alerts/notifications and remote disconnect/reconnect. The VersaComms Gateway also relays Itron ERT®, Neptune® and Badger Orion® metering data, collected by TRUConnect endpoints, and delivers it to the utility's headend.

The VersaComms Gateway product series is the most versatile gateway available in the TRUConnect portfolio. It provides lightning-fast connectivity and virtually limitless Smart Grid scalability. The VersaComms Gateway includes a low voltage power delivery system used for power provisioning and backup for externally-mounted telecommunications equipment such as ONTs (Optical Network Terminals), Ethernet routers, WiMAX, cable routers, and UPS modules.

Features/ Benefits

- Provides high-capacity communications in challenging rural and urban environments
- Supports advanced TRUConnect applications such as Demand Response, DA-Grid Optimization, and Streetlight Control
- Compact, rugged weather-proof construction; secure, lockable enclosure
- Supports multiple protocols TRUConnect, Itron ERT®, Neptune® and Badger Orion®
- Can be used for power provisioning to externally-mounted telecommunications equipment such as ONTs, Ethernet and cable routers, and UPS modules
- TRUConnect WAN options (wireless RF, Fiber, LTE/cellular, Ethernet, WiFi, WiMAX, satellite) can be combined to meet economic, coverage and redundancy needs

VersaComms Gateway™

Product Specifications

LAN Radio	
	• Frequency range: 902 - 928 MHz; unlicensed • Transmitter power: 1 .0 watts (EIRP +33 dBm) • Antenna: Up to 4 chassis-mounted, 1 internal
Power Input	
	• Supply: 90 to 305 VAC at 50/60 Hz • Quiescent consumption: 6 - 18 watts steady state • Battery backed up for receiving extended outage reports
Physical	
	• Dimensions: 18”H x 12”W x 8”D • (46cm H x 31cm W x 20cm D) • NEMA 4X construction
Auxiliary Load Supported	
	• 20 - 30 W at 11 - 15 VDC

Environmental	
	• Operating temperature range: -40° to +149° F (-40° to +65° C) when installed with optional extended temp range battery • Humidity: 5% to 95%
Alarms/Indicator Options	
	• Power Outage • Discreet External Power Indicator • Low Battery (future) • Tamper/Cover Open (future)
Battery Uptime without Auxiliary Load	
	• 6 - 16 hours
Battery Uptime at Max Auxiliary Load	
	• 3 hours

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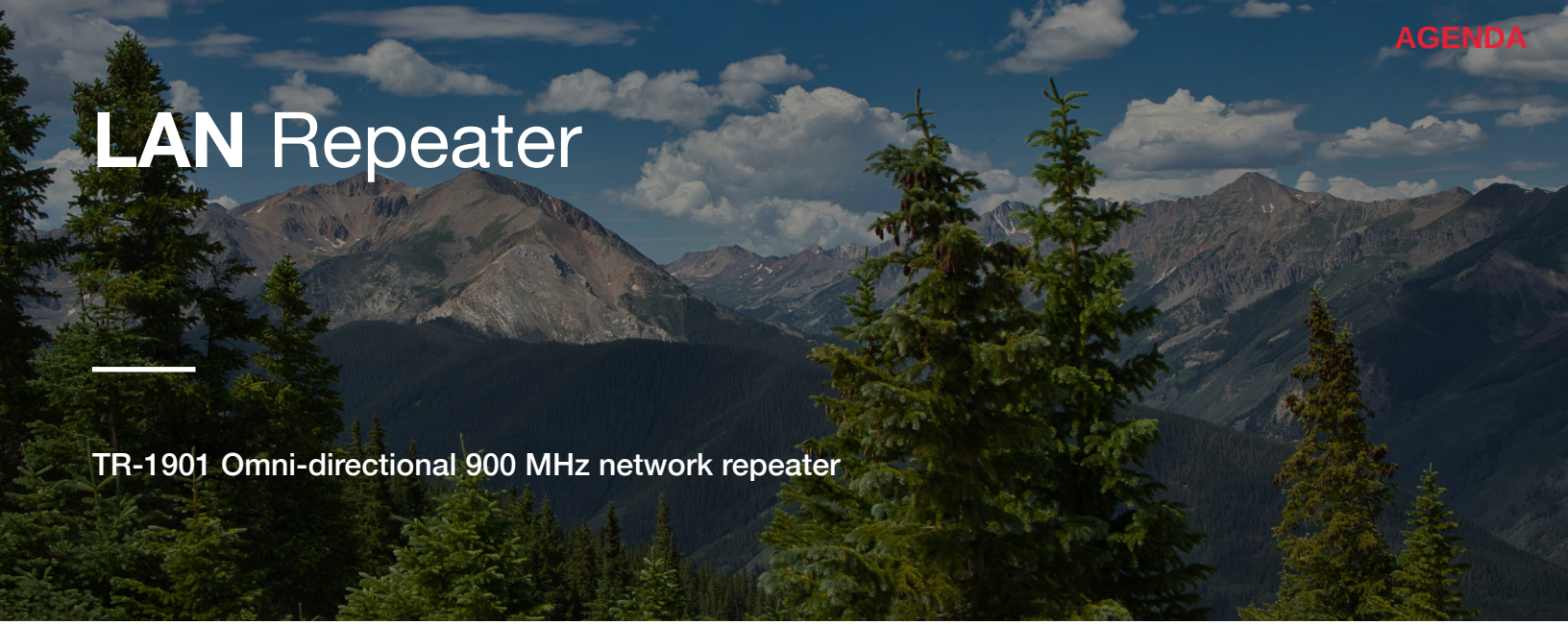

LAN Repeater

TR-1901 Omni-directional 900 MHz network repeater

Description

The TR-1901 LAN Repeater extends the reach of the TRUConnect™ LAN communications into hard-to-reach locations and over challenging terrain. It provides superior omni-directional radio coverage enabling connectivity to larger clusters of LAN endpoint devices at greater distances. This enables a utility to add range and functionality without re-engineering the network.

The LAN Repeater improves radio broadcast range and penetration to ensure that distant sites or those located in challenging urban and rural environments receive reliable communications. It facilitates two-way, near real-time communications between the utility and TRUConnect-enabled endpoints as well as with Itron ERT®, Neptune® and Badger Orion® modules.

With its sensitive receiver capabilities and easy to mount design, the TRUConnect LAN Router is a valuable component in an AMI system.

Features/ Benefits

- Provides long-range communications coverage in both challenging rural and urban environments
- Enables a utility to surgically deploy endpoints anywhere without substation constraints
- Multiple installation options
- Small size, rugged weather-proof construction; secure, lockable enclosure
- Features Tantalus TRUPush™ technology for instant, field initiated event notifications such as outage alerts or load shed success; no device polling required
- Communicates directly with Itron ERT® and Badger Orion® modules

LAN Repeater

Product Specifications

LAN Radio	
	• Frequency range: 902 – 928 MHz; unlicensed • Transmitter power: 0.9 watts (+29.5 dBm) • Antenna: 5 dBi external omni-directi
Power Input	
	• Supply: 100 to 240 V at 50/60 Hz • Quiescent consumption: 4 watts
Physical	
	• Dimensions: 11”W x 13.25”H x 5”D • (28cm W x 33cm H x 12.5cm D)(excludes external antenna) • Weight: 4.1 lbs (1.9 kg)

Environmental	
	• Operating temperature range: -40° to +149° F (-40° to +65° C) • Humidity: 5% to 95%
Approvals/Standards	
	• FCC for CFR Title 47 Part 15b • NEMA 3R enclosure

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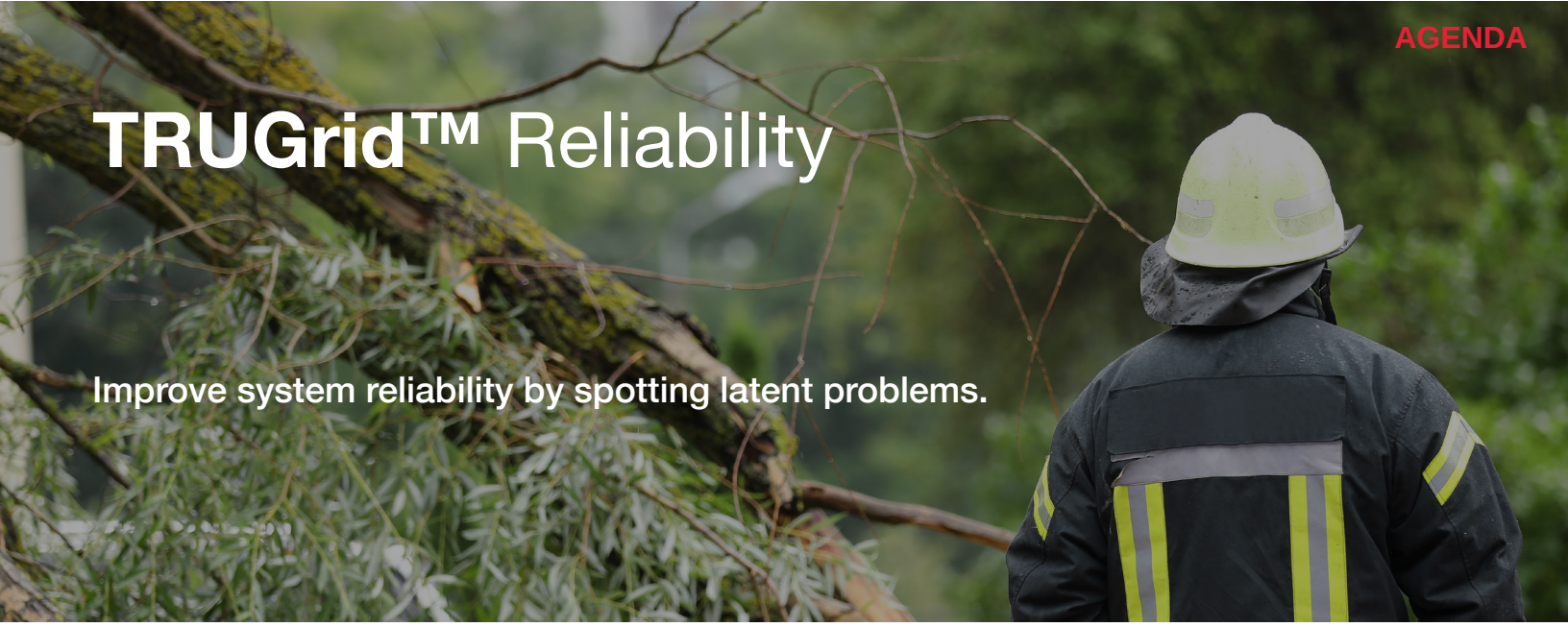
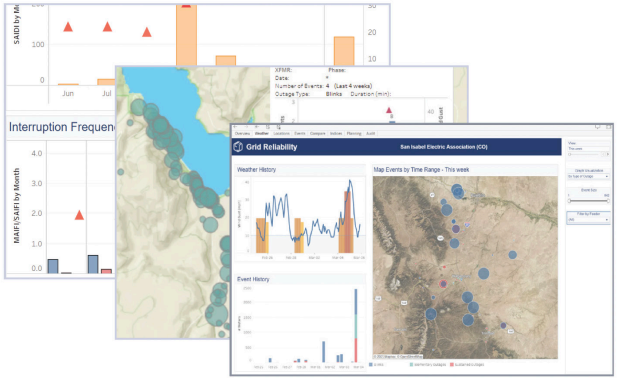


TRUGrid™ Reliability

Improve system reliability by spotting latent problems.

Description

TRUConnect™ Network is a highly efficient Smart Grid platform that enables you to monitor, control and respond to events anywhere and at any time across your distribution network. It serves as the communications backbone that makes Smart Metering, Power Quality Monitoring, Outage Reporting, Load Control, and Distribution Automation practical and cost-effective. The result is more efficient operations, more accurate billing, and the ability to deliver a high level of customer service.



TRUGrid Reliability leverages the interval data from TRUConnect to perform deep analytics and identify issues on the distribution system that may have been overlooked. By continually analyzing power-quality data behind the scenes it alerts you to failing transformers, corroded meter sockets and splices, cracked insulators, and other latent equipment problems.

With wildfire risks at an all-time high, many utilities are searching for proactive solutions. TRUGrid Reliability lets you know whenever vegetation comes into contact with power lines. With built in weather statistics, the tool can prioritize tree and limb removal in preparation for fire season.

TRUGrid Reliability enables proactive planning and decision-making. It provides a new perspective of your distribution network that is inherently forward-looking. Historical-data visualizations demonstrate the before-and-after effects of capital projects.

Features/ Benefits

- Increase customer satisfaction
- Save on equipment and operating costs
- Gain true operational awareness
- Reduce regulatory and hazard risks
- Fortify the distribution system against extreme weather events
- Reduce overtime by fixing emerging problems during business hours
- Prioritize work by tracking MAIFI and CEMI scores for individual feeders
- Set it and forget it with automated alerts for emerging blinks and flickers
- Perform quick investigations through seamless integration with Insight
- Collaborate efficiently by assigning reports for investigation or resolution
- Quickly find problems in the field with geospatial mobile support
- Avoid “phantom” truck rolls by easily validating meter groupings

Simplifying the acquisition, transport and integration of data over energy networks, Tantalus gives utilities and renewable energy producers the technology they need to manage and control power distribution at every point on the grid. Our suite of advanced software applications acquires, transports and presents complex energy data for analysis, action, and automated control – so you can keep energy flowing to customers effectively, efficiently, and safely.

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TRUGrid™ Transformer

Addressing transformer issues before they happen.

Description

With increasingly extreme weather events, accelerating growth in EVs, aging infrastructure and supply chain issues, transformers everywhere are at risk. And when transformers go down, utilities face catastrophic outages, safety issues, costs and supply chain delays. It's a question of when, not if, these costly disruptions hit.

A single power interruption caused by transformer issues can cost a community hundreds of thousands of dollars in lost economic revenue. In order for utilities to enable their customers' success amidst these challenges, the time to invest in real-time insights is now.

With Tantalus' TRUGrid Transformer solution, for the first time ever utilities can monitor, anticipate and prioritize transformer issues in near-real time, before they happen. This means they can avoid the costs, disruptions in service and safety issues that transformer failures bring. What's more, they can proactively plan ahead on how best to manage and upgrade their assets to stay one step ahead of trouble.

Real-Time Transformer Data Across the Grid

- Track how many hours a transformer has been under- or over-loaded
- See when it is time to replace or repair a transformer and prevent the next catastrophic outage
- Map visualization lets utilities select and view individual transformers, identifying the most at-risk units that are likely to cause a problem
- The solution's deep diagnostic tools allow utilities to see exactly how hard they're pushing their transformers, and when they absolutely have to swap out for a new one

Benefits

- Reduce expenses from damaged or broken units
- Prevent outages that could cost your community revenue or lives
- Plan ahead for sags or swells in demand
- Allows for quicker decision making
- Decide where best to position your transformers to ensure uninterrupted, reliable service to your customers
- Gain revenue awareness to capture lost revenue from large customers
- Eliminate guesswork

AGENDA

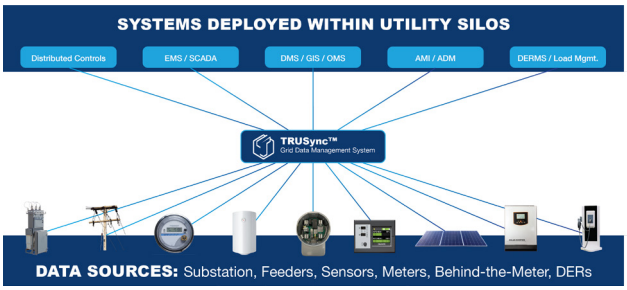
TRUSync™ Grid Data Management

Automate the integration of data across any device, any system or any vendor with TRUSync

Description

Grid data management is mission critical for grid modernization. That is why Tantalus is offering TRUSync Grid Data Management (TRUSync), a revolutionary grid data management system that automates the integration of *all* utility data across any device, any system or even any vendor. TRUSync provides visibility, command and control across all devices and systems, including devices located behind-the-meter such as electric vehicle chargers and solar inverters.

TRUSync acts as a middleware by interconnecting systems to connected devices and managing the flow of data across the entire utility. TRUSync was purpose-built to harness the power of data and help utilities accelerate grid modernization. Today, TRUSync is included as part of all solutions offered by Tantalus and can also be purchased as a standalone solution.



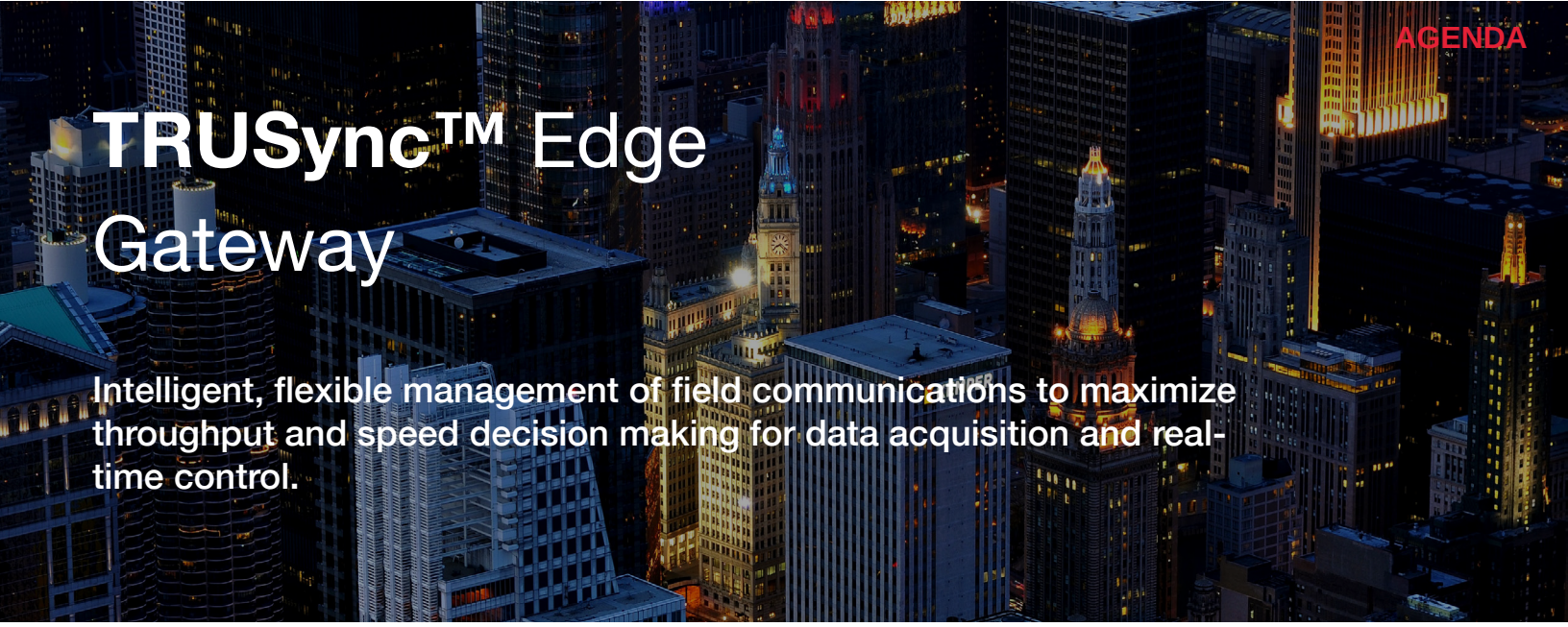
Connectivity types include one-to-one, one-to-many, many-to-one and many-to-many. Across devices and applications, TRUSync enables communications from:

- Device to Application
- Application to Application
- Application to Device (control/parameters)

TRUSync provides an advanced grid data fabric that holds all the utility's grid data, whether acquired from devices or produced by applications. TRUSync is implemented as a data federation. A data federation is a software process that allows multiple, distributed databases to function as one. The TRUSync database is distributed across a series of data nodes. There is a central node that contains the present value and state of all data points known to the system. In addition, there are outlying nodes at data collection and data serving locations that contain partial copies of the data needed and cached at each location. This virtual database takes data from a range of sources and converts it to a common model. This provides a single source of data for utility applications. TRUSync uses high performance memory-resident database technology for performance. This eliminates the latency introduced by writing to and reading from a disk-based database. The distributed memory-resident databases, plus an event-driven architecture results in high-speed operation with no wasted CPU cycles.

Benefits

- Automating the integration of all grid data for visibility, command, and control across the entire grid, including devices located behind-the-meter
- Eliminating costly and complex integration projects
- Avoiding needless rip-and-replace costs and mitigating the impact of stranded assets through unparalleled reverse-compatibility across generations of edge-devices
- Providing total flexibility through true data interoperability across any device, protocol and data model
- Generating a single version of the truth that bridges the gap between Operational Technologies (OT) and Information Technologies (IT)
- Delivering unparalleled scalability in terms of memory, processing power, and servers



AGENDA

TRUSync™ Edge Gateway

Intelligent, flexible management of field communications to maximize throughput and speed decision making for data acquisition and real-time control.

Description

TRUSync Edge Gateway can be configured via a drag-and-drop graphic editor or plug-and-play, to communicate via any standard protocol, while providing protocol and data model translation that allow applications direct access to the data they need. Whether integrating DERs, distribution equipment, or anything else, the TRUSync Edge Gateway is designed for seamless integration.

Our Edge Gateway's advanced protocol support and data handling, combined with robust communications management tools provide you unparalleled ability to connect with all your field devices over any network – even your AMI system.

TRUSync Edge Gateway uses multi-acquisition data polling methods and optimized TCP/IP parameters to stream line the flow of operational data through your field area and AMI networks. In addition, TRUSync Edge Gateway supports channel grouping for advanced throughput management on any IP network.

Combine all your data from many devices into one gateway-enabled node, reducing integration costs. TRUSync Edge Gateway supports advanced interfaces for integration into other systems, increasing the business value of your data.

Data Acquisition & Communications Management

- Supports simultaneous, multi-channel polling
- Support for standard protocols (e.g. DNP3, Modbus, MultiSpeak, ICCP etc.) and advanced protocols (e.g. IEEE 2030.5, IEC-61850, Tesla Energy API)
- Multi-Protocol Support on a single communications channel
- Multi-acquisition method support over a single channel (i.e. static polling and report by exception)
- Manage throughput of multiple IP enabled end devices through a single access point (for mesh or point to multi-point RF systems)

Cyber Security & Reliability

- Support for SSL and TLS (levels 1.0-1.3)
- Supports NERC CIP compliant data acquisition and transport
- Full redundancy for disaster recovery; high availability options available

Data Concentration, Transposition and Service

- Supports time tagging down to millisecond resolution, add time tags when necessary
- Perform full protocol and data model translation
- Pub/sub architecture for efficient data serving
- Supports the capability combine many devices into a single slave device or multiple slave devices for master systems

Interface Standards & System Management

- REST / Web Services
- California Independent System Operator (CAISO) – ADS and AGC
- Full Remote Management
- Fully integrated RF system monitoring and protocol analyzer

Simplifying the acquisition, transport and integration of data over energy networks, Tantalus gives utilities and renewable energy producers the technology they need to manage and control power distribution at every point on the grid. Our suite of advanced software applications acquires, transports and presents complex energy data for analysis, action, and automated control – so you can keep energy flowing to customers effectively, efficiently, and safely.

TECHNICAL SUPPORT PLAN SUMMARY

This document is Addendum B-1 to Exhibit B - Technical Support of Tantalus' Network Systems & Services Agreement (the "**Agreement**"). Unless otherwise defined in this Addendum or elsewhere in Exhibit B, defined terms will have the respective meaning set out in the Agreement.

The Technical Support Plans available are as follows:

STANDARD[1]	PREMIUM [2]
Standard Support Includes: Technical Support 7:00 AM – 7:00 PM, 5 days per week excluding U.S.A. and Canadian holidays (as applicable) Response to queries within 4 hours of initial contact.	Premium Support Includes: Technical Support 7:00 AM – 9:00 PM, 7 days per week excluding U.S.A. and Canadian holidays (as applicable) Response to queries within 4 hours of initial contact. 7 x 24 Extended Customer Support based on exception-based monitoring* *Exception Based Monitoring is defined as alarms related to head end server and/or NC issues
Consolidated Invoices (TSA/Annual Support) - Licensed Software Annual Maintenance - Endpoint Annual Maintenance	Consolidated Invoices (TSA/Annual Support) - Licensed Software Annual Maintenance - Endpoint Annual Maintenance
Quarterly Training Sessions - Remote [non-certification]	Quarterly Training Sessions - Remote [non-certification]
Customer Community access	Customer Community access
	Annual Users Conference - Admission for 2
	Priority email premiumsupport@tantalus.com - Response in 4 hours
	Priority Support Line
	Online Technical Support Chat
	Annual Certification Training - Tantalus University - Admission for 2
	Custom Billing Exports - Includes annual support
	48-hour Part Replacement - M-F (excluding U.S.A. and Canadian holidays), cutoff by 3:00 PM
	Advance RMA replacements - Shipment within 48 hours after reported issue
	Remote System Health Check - Annual investigation with reported customer action plan - WAN Assessment - LAN Assessment - Dashboard Health Check
	Assigned Project Manager (PM)

[1] Standard level technical support is required for all Customers.
[2] Premium level technical support is available for an additional fee.

Individual features of each plan are as described below:

CUSTOMER SUPPORT

Standard Level – Technical Support 7:00 AM – 7:00 PM, 5 days per week excluding U.S.A. and Canadian holidays (as applicable).

Premium Level - Technical Support 7:00 AM – 9:00 PM, 7 days per week excluding U.S.A. and Canadian holidays (as applicable).

- Response to queries within 4 hours of initial contact.
- 7 x 24 Extended Customer Support based on exception-based monitoring*
- *Exception Based Monitoring is defined as alarms related to the head end server and/or base station issues.

CONSOLIDATED INVOICES

Consolidated invoices for Licensed Software Maintenance and Technical Support, and hosting fees (as applicable).

QUARTERLY TRAINING SESSIONS

Remote Training

The training sessions are flexible and can be broken up into multiple sessions, depending on the required participants. Training sessions are designed as 60 - 90-minute web-based discussion groups, held once per quarter based upon the subject matter generated at Tantalus' Annual Users Conference. Recorded non-certification training sessions and webinars are made available in Customer Community.

COMMUNITY ACCESS

Community Access includes the following:

- Tools to track the status of current and previous equipment orders and enter and track Return Material Authorization ("**RMA**") orders for Tantalus equipment.
- A library provides technical product documentation and installation guides.
- A project information section including tracking of project related meetings and action items.
- A knowledge-based forum for open discussion of current issues in the deployment and concerns of the project team.
- An issue creator allows the Customer to create feature requests and other issues for the Tantalus project team in the event that the issue is not already covered in the standard system documentation. Once created, issues are evaluated, resourced, and reported based on resource availability.

Time sensitive and urgent issues should be raised by Customer via Tantalus' Technical Support Line at +1- 877-886-3848.

Routine Documentation Updates

Routine updates to operational material will be provided to all Customers. Examples of these documents include network server operations manuals, endpoint product manuals, Insight operations manuals and other manuals, as applicable. Updated versions of all Customer documentation will be available in Customer Community.

STANDARD TECHNICAL SUPPORT CONTACT INFORMATION

If you have an URGENT issue, call: +1-877-886-3848

For non-urgent issues, please email:

Standard Support Email Address - tantalustechsupport@tantalus.com

NOTE: THE REMAINING TECHNICAL SUPPORT FEATURES BELOW ARE ONLY AVAILABLE WITH THE PURCHASE OF PREMIUM SUPPORT PACKAGE.

ANNUAL TANTALUS USERS CONFERENCE

With the purchase of a Premium package, the Customer receives admission for two (2) representatives to the Annual Tantalus Users Conference ("**TUC**").

The annual TUC provides an excellent opportunity for the Tantalus community to gather for education, sharing, networking, and social events. The TUC is a knowledge-driven event with heavy focus on the customer experience, technical training, and collaboration with Tantalus, utility peers, and our extensive network of partners.

*Admission includes the cost of registration for two (2) representatives only. Travel and living expenses are not included and are the responsibility of Customer. Customers with Standard packages will be responsible for costs associated with attendance, separate and apart from this Agreement.

DESIGNATED PRIORITY SUPPORT EMAIL

With purchase of a Premium package, Customer will receive a priority email address which directs email messages to the Field Operations team during non-core business hours, thereby allowing the issue being reported to receive attention prior to the start of the next business day.

Priority Support Email Address: premiumsupport@tantalus.com

PRIORITY SUPPORT LINE

With purchase of a Premium package, once available, Customer will have direct access to Tantalus' Field Operations team for placing high priority calls during non-core business hours. Upon receipt of such calls, Tantalus staff will take action, either by solving the problem directly, or by contacting other expert individuals to assist depending on the nature of the call.

Tantalus will apply commercially reasonable efforts to promptly deliver the described services in a professional and workman-like manner and in accordance with generally recognized commercial practices and standards. The promptness and utility of our response may vary from time-to-time, depending upon the accuracy and completeness of the information provided, our ability to reproduce the problem, the scope of work required to address an issue, and the volume of support service traffic at the time.

ONLINE TECHNICAL SUPPORT CHAT

Premium Support Customers will be able to access Tantalus' Online Technical Support Chat ("**Live Chat**") to have a personalized one-on-one, real time, text-based interactive conversation with a Tantalus Field Service representative.

- Live Chat is available through Customer Community and will be queued on a on a first come- first-serve basis.
- Hours of operation - 8:00 am to 5:00 pm, Monday – Friday, excluding U.S.A. and Canadian holidays.

ANNUAL CERTIFICATION TRAINING

With purchase of a Premium package, Customer receives admission for two (2) Tantalus Users to attend Tantalus University™. This comprehensive training and certification series is designed to provide a full range of advanced training opportunities to Tantalus Users across all departments and roles.

Please see https://tantalus.com/training/ for more detail.

*Admission includes the cost of registration for two (2) representatives only. Travel and living expenses are not included and are the responsibility of Customer. Customers with Standard packages will be responsible for costs associated with attendance, separate and apart from this Agreement.

CUSTOM BILLING EXPORTS

With purchase of a Premium package, Customer has access to a billing function that summarizes meter data and presents it directly to Customer's billing or CIS system from Insight.

Insight can be used to bill utility customers based on end of day readings, interval readings, for both single-phase and polyphase meters.

Includes customized extraction scripts of Customer data from the Insight database and maintenance.

48 HOUR PART REPLACEMENT

Applicable to non-warranty parts, excluding base station / head end servers, during the times listed below.

Only includes the cost associated with outgoing expedited shipping of component. Does not include the cost of material or shipping charges incurred by Customer.

Monday – Friday (excluding U.S.A. and Canadian holidays), cutoff by 3:00 pm. Shipment within 48 hours after reported issue.

ADVANCE RMA REPLACEMENTS

Most endpoint devices have a unique Network ID (NID) in a bar code on each unit. You can use the Customer Community to request an RMA for any of these devices (TCs, RTs, LMs, XRs, etc.). The Customer Community will help you through the process of submitting your request.

Inquiries about equipment that does not have a NID should be directed to your Project Manager.

With the purchase of a Premium package and subject to a written Customer request, equipment repairs conducted under the applicable equipment warranty may include advance replacement of the failed components, if such components are available in Tantalus inventory, to afford greater responsiveness to the Customer. Otherwise, Tantalus will require the failed component be received prior to shipping a replacement under warranty. Where advance replacement is provided for failed components under warranty, Customer must return the failed component, within 30 days of shipment of advance replacement, freight prepaid by Customer to Tantalus at its designated depot, together with Tantalus' return material authorization number ("**RMA**") and completed on-line problem sheet. Where advance replaced failed components are not returned by Customer within 30 days, Tantalus will invoice Customer for the price of the advance replaced component supplied and Customer hereby agrees to make payment to Tantalus within 30 days of the invoice date.

REMOTE SYSTEM HEALTH CHECK

With purchase of a Premium package, Customer receives:

- Annual investigation with reported customer action plan
- WAN Assessment
- LAN Assessment
- Dashboard Health Check

A remote system health check provides a summarized report identifying Customer actions that need to be performed in order to improve system performance.

ASSIGNED PROJECT MANAGER

With purchase of a Premium package, Tantalus will assign a specific Project Manager to the Customer's project.

TANTALUS TECHNICAL SUPPORT CONTACT INFORMATION

If you have an URGENT issue, call: +1-877-886-3848

For non-urgent issues, please email:

Standard TSA - tantalustechsupport@tantalus.com

Premium TSA - premiumsupport@tantalus.com

CONFIDENTIALITY STATEMENT

This proposal, including all copies, exhibits, attachments, related materials and subsequent amendments (collectively, the "**Materials**"), contains information that is confidential and proprietary to Tantalus Systems Inc. ("**Tantalus**"). The Materials are provided in confidence for use solely by the recipient to whom it is addressed and only for the purpose for which the Materials are supplied.

The unauthorized use, access or disclosure of the Materials would cause injury to Tantalus and the loss of competitive advantage and is strictly prohibited. The recipient shall safeguard the Materials from unauthorized use, access or disclosure using at least the degree of care it uses to protect its most sensitive information and no less than a reasonable degree of care.

To the extent allowed by law, the recipient, by its receipt of this document, acknowledges that it is the Materials are confidential information and contain proprietary information belonging to Tantalus.

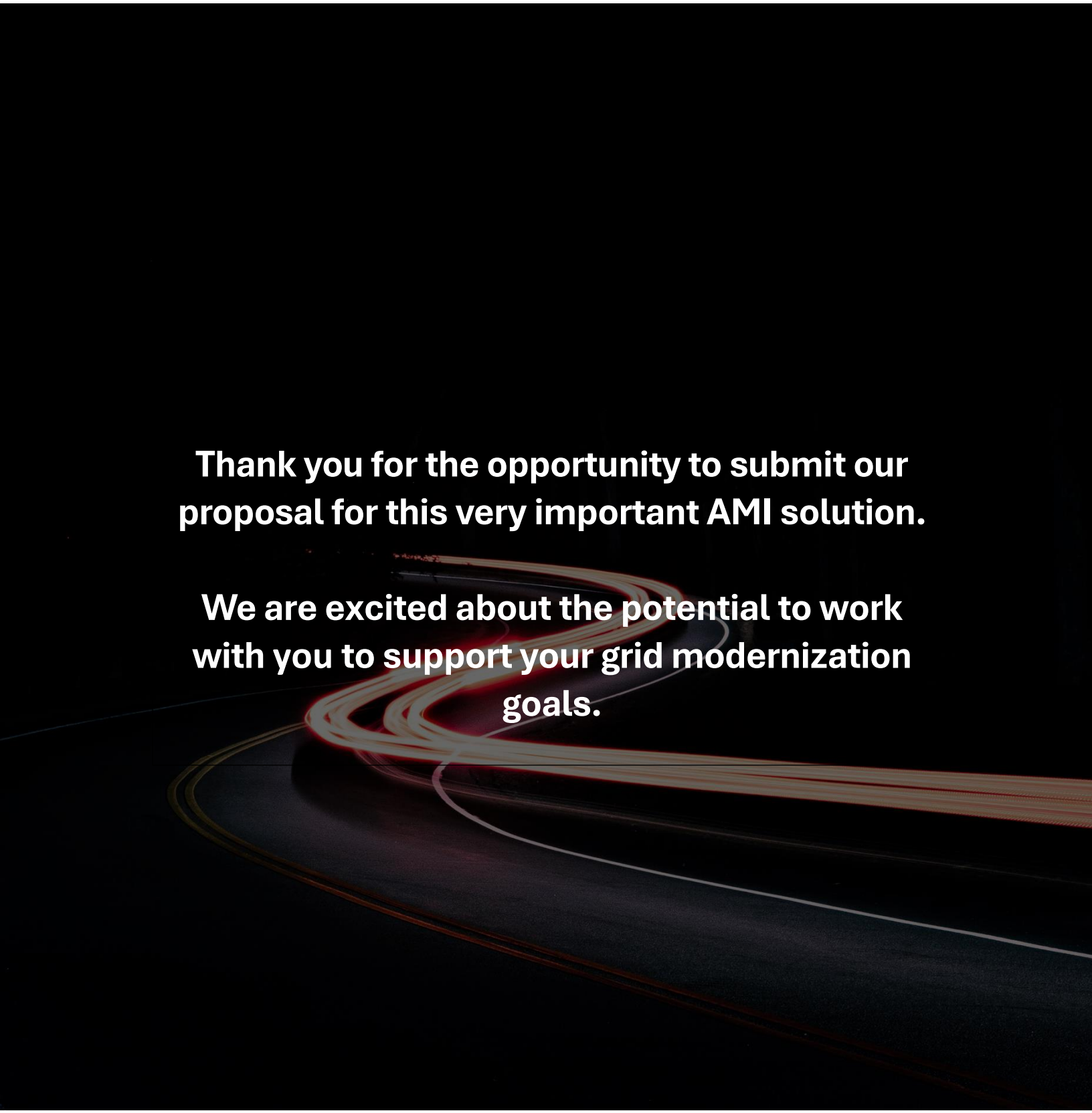
In accordance with applicable rules and regulations, Tantalus shall be entitled to notification from the recipient of any request for disclosure of all or any portion of the Materials and reserves the right to take any and all action necessary and appropriate to protect the information from release and maintain its confidentiality.

The recipient shall immediately provide Tantalus with written notification of any request for release of information contained in the Materials immediately upon receipt of the request via electronic mail and USPS at the following physical and electronic mail addresses:

Tantalus Systems Inc.
Attn: Erin T. Gould, Manager, Contracts
1130 Situs Court, Suite 230
Raleigh, NC 27606
Email to: egould@tantalus.com

The Materials may include forward looking statements that reflect Tantalus' current roadmap; however, it is subject to change based on market conditions and customer feedback. Except as expressly set forth in the Materials, Tantalus provides the Materials without any representation or warranty, express or implied, as to the accuracy or completeness thereof and Tantalus shall have no liability to recipient or any other person relating to recipient's use of the Materials or any errors therein or omissions therefrom.

While Tantalus' proposal will address customer-provided requirements in the RFP, customer requirements often change between release of an RFP and final contract negotiations. For this reason, the RFP and this proposal response are not intended for incorporation into contract documents in their entirety, but instead should be used as a basis for guiding negotiations in order to establish and finalize contract commitments and obligations.


Thank you for the opportunity to submit our proposal for this very important AMI solution.
We are excited about the potential to work with you to support your grid modernization goals.

TANTALUS SYSTEMS INC.
TERMS AND CONDITIONS OF SALE
(04012025)

Purpose/Goal. These Terms and Conditions of Sale ("**Terms**") set forth the terms and conditions under which Customer agrees to purchase from Tantalus, and Tantalus agrees to sell to Customer, Network Equipment, Initial Deployment Services and Maintenance and Support Services, as the case may be. Notwithstanding any other provision to the contrary, these Terms become a binding agreement between Tantalus Systems Inc. ("**Tantalus**") and the Customer when (a) Customer delivers a signed copy of this quotation to Tantalus, which shall be deemed a duly authorized Purchase Order ("**PO**") for the Network Equipment, Initial Deployment Services and Maintenance and Support Services quoted therein; (b) Customer delivers a signed Purchase Order for all or any portion of the Network Equipment, Initial Deployment Services or Maintenance and Support Services or (c) Tantalus ships or provides all or any portion of the Network Equipment, Initial Deployment Services or Maintenance and Support Services covered by this quotation. Except as provided above, any provision in any acceptance or acknowledgment hereof, inconsistent with or in addition to these Terms, are expressly rejected and shall have no force or effect, unless otherwise agreed in writing between the parties. Notwithstanding the foregoing, acceptance of these Terms indicates Customer's agreement to execute such additional documents, as required, including, without limitation, the terms, conditions and responsibilities of each party relating to the license and use of the Licensed Software prior to shipment of any Network Equipment to Customer, the provision of Technical Support, and deployment of Network Equipment. Notwithstanding anything to the contrary herein, Tantalus shall not be responsible for nor have any liability to Customer for any delay or failure to perform its obligations under these Terms to the extent such delay or failure is caused by or results from an Excusing Event. These Terms, including and together with any related quotations, exhibits, schedules, attachments, and appendices, together with the Purchase Orders, constitute the sole and entire agreement of the parties with respect to the subject matter contained herein and therein, and supersedes all prior and contemporaneous understandings, agreements, representations, and warranties, both written and oral, regarding such subject matter.

Purchase Orders. Customer may purchase Network Equipment and Initial Deployment Services by issuing properly authorized Purchase Orders to Tantalus. Each type of Network Equipment may have an economic order quantity or minimum order quantity, meaning that no Purchase Order may be placed for a quantity of those units of Network Equipment which is less than the minimum number of units specified on the then current Tantalus price list and designated as the "economic order quantity" or "minimum order quantity". Each Purchase Order issued by Customer shall have a lead-time of at least 90 days. Lead-time means the time extending from the date the Purchase Order is received by Tantalus to the specified delivery date. Each Purchase Order shall reference these Terms and shall state product description, quantity of Network Equipment and Initial Deployment Services ordered, part number, desired delivery date and Destination, method of shipment, unit price for each unit ordered and total purchase price. In the event of any inconsistency or conflict between any terms of a Purchase Order, order confirmation, invoice or any other commercial form used by the parties and these Terms, these Terms shall govern. No oral, electronic, or written additional or different provisions proposed by either party in any acceptance, confirmation, or acknowledgment shall apply. Purchase Orders, once accepted, may not be cancelled, except as outlined below.

Acceptance, Rejection or Changes to Purchase Orders. Tantalus will notify Customer of its acceptance or rejection of each Purchase Order as soon as practicable and notice of acceptance shall include confirmation of requested quantities and prices consistent with these Terms. Once a Purchase Order is accepted by Tantalus, the quantities and prices within that acceptance, unless otherwise noted on such acceptance, are committed to and cannot be changed without the consent of both Tantalus and Customer. If the parties agree to changes to a Purchase Order, those changes will be incorporated in a replacement Purchase Order, which will follow the same process outlined above referencing the Purchase Order to be replaced.

Pricing. The prices provided to Customer under the quotation attached to these Terms may contain promotional or one-time pricing. Future prices shall be as set forth on Tantalus' then-current price list and do not include taxes. In addition, Tantalus shall bear the costs and charges to ensure that all Network Equipment purchased by Customer is cleared for importation into the United States, if applicable, and delivered to the Shipping Point. Customer will be responsible for and pay all applicable federal, state, municipal or other governmental sales use, excise, value-added taxes, occupational or other taxes, tariffs, duties and surcharges (including those imposed on Tantalus) now in force or enacted in the future which are associated with the provision of Network Equipment and Initial Deployment Services by Tantalus, excluding taxes on Tantalus' income generally.

Price Changes. Tantalus reserves the right, in its sole discretion, to revise the prices on thirty (30) days prior written notice to Customer by whichever of the following is greater: (i) the immediately preceding year's percentage increase in the Consumer Price Index For All Urban Customers, All Cities Average, All Items ("**CPI-U**"), as published by the Bureau of Labor Statistics, U.S. Department of Labor in the "Summary Data from the Consumer Price Index New Release" for the 12-month period ending at December 31st of the calendar year immediately preceding the adjustment date; or (ii) or 3.5% per year. Notwithstanding the foregoing, the original price of any Network Equipment and Initial Deployment Services covered by Purchase Orders issued by the Customer, and which Purchase Orders are confirmed and accepted by Tantalus prior to the Effective Date of such price revision, will not be changed for such Purchase Orders issued and accepted as of the Effective Date.

Payment Terms. Tantalus shall invoice Customer for Network Equipment purchased upon delivery of such Network Equipment to Customer at the Shipping Point. At its discretion, Tantalus may require Customer to pay an advance payment as a deposit upon terms determined by Tantalus and any such deposit amounts paid will be reflected as a credit to the total purchase price due and owing upon delivery completion of the total Purchase Order. Payment terms are net thirty (30) days from date of Tantalus' invoice. All payments shall be in U.S. dollars, unless otherwise agreed to between Tantalus and Customer. In addition to any other remedies Tantalus may have for late payments, Customer will be charged interest at 1½% per month (equivalent to an annual rate of interest of 18%), payable monthly on all overdue amounts. Customer shall also be responsible for collection costs associated with the late payment, if any, including reasonable attorney's fees. Payments will be applied first to interest payable and then principal owing. Tantalus may modify the preceding payment terms if, in its reasonable opinion, the payment record or financial condition of Customer so justifies. Tantalus shall issue periodic invoices to Customer for all Maintenance and Support Services and Third-Party Products, as applicable, in accordance with the terms set forth in the Maintenance and Support Agreement as fees for such goods and services are incurred.

Delivery and Risk of Loss. Tantalus shall deliver the Network Equipment to Customer at the Shipping Point (cleared for export, if applicable) and title (other than title to Licensed Software which shall remain with Tantalus) and risk of loss of Network Equipment shall pass from Tantalus to Customer at the Shipping Point. If any loss of or damage to the Network Equipment occurs prior to delivery to Customer, regardless of passage of title prior to such delivery, Tantalus shall without cost to the Customer, promptly make all repairs or replacements necessary to place the Network Equipment in the condition required by these Terms. Customer will notify Tantalus within five (5) days of delivery of any damage to Network Equipment and/or within 10 days of shipping should an order not be received. If the Shipping Point and Destination are not the same, Customer shall be responsible for and shall pay all transportation and insurance costs for Network Equipment from the Shipping Point to the Destination, provided however that upon request by Customer, Tantalus shall make the arrangements for such transportation and insurance and will invoice Customer for reimbursement at cost. The payment terms described herein shall apply to such invoices, *mutatis mutandis*. Delivery dates are approximate only. Tantalus shall notify Customer in writing, if Tantalus has knowledge of any event that is reasonably likely to materially delay any specified delivery date or change any specified delivery date.

Third-Party Products. Unless otherwise specifically set forth in writing (and subject to applicable pass-through terms and conditions) upon mutual agreement of all involved Parties, Tantalus does not warrant Third-Party Products and disclaims all responsibility and liability for these items, their access to the Network Equipment, including their modification, deletion, disclosure or collection of Customer information.

Insurance. During all times in which Customer has possession of Network Equipment for which Tantalus has not received payment in full, Customer shall ensure that comprehensive general liability insurance with limits at least equal to the total value of all such Network Equipment is obtained and, upon request, provide Tantalus with a certificate evidencing such coverage.

Changes to Network Equipment. Tantalus reserves the right from time to time in its sole discretion to modify, change, discontinue or to limit its production of any Network Equipment at any time to allocate, terminate or limit deliveries of any Network Equipment in time of shortage and to alter the design or construction of any Network Equipment.

No Resell. Customer acknowledges and agrees that it has no rights to market and resell the Network Equipment. The purchase and sale of Network Equipment hereunder is solely for Customer and its Affiliates' requirements.

Confidentiality. The parties have entered into a Mutual Non-Disclosure and Confidentiality Agreement prior to or simultaneously with execution of these Terms ("**MNDA**"). The parties agree that the MNDA governs the obligations of each party with respect to Confidential Information of the other party, which obligations shall survive termination of these Terms.

Warranty. With respect to new Network Equipment, for a period of one (1) year from the date of shipment of each unit of Network Equipment to Customer from Shipping Point, Tantalus warrants that: (i) each unit of Network Equipment will be free from defects in material, workmanship and manufacture under normal use and service, (ii) title to each unit of Network Equipment shall be free and clear of all liens, financial encumbrances and security interests, (iii) all materials, parts, components and other items initially incorporated in the Network Equipment will be new; and (iv) each unit of Network Equipment shall be compliant with, and perform in accordance with its Specifications. The warranty for replaced or repaired Network Equipment originally warranted under this paragraph shall be thirty (30) days from date of return to Customer or the balance of the original warranty period, whichever is greater. With respect to refurbished Network Equipment, for a period of 30 days from the date of shipment of refurbished Network Equipment to Customer from Shipping Point, Tantalus warrants that: (i) each unit of refurbished Network Equipment will be free from defects in material, workmanship and manufacture under normal use and service, (ii) title to each unit of refurbished Network Equipment shall be free and clear of all liens, financial encumbrances and security interests; and (iii) each unit of refurbished Network Equipment shall be compliant with, and perform in accordance with its Specifications. The aforementioned warranties apply only when all three of the following conditions prevail: (i) the unit of Network Equipment is owned by the original Customer and not by an assignee; (ii) the Customer is not the subject of bankruptcy or comparable proceedings; and (iii) while there is not an Excusing Event in effect or Tantalus has not invoked a subsisting remedy in respect of Force Majeure. The aforementioned warranties will not apply to Licensed Software which is sold "as is" with no warranty, in accordance with the applicable EULA, will not cover any Third-Party Products provided by Tantalus or Third-Party Products or services provided to Customer by third-party suppliers. Any

warranty for such products will be between Customer and the third-party manufacturer or supplier. To the fullest extent allowed, Tantalus will assign all third-party warranties to Customer.

Warranty Returns. For any breach of warranty, Tantalus' sole obligation shall be to, at its sole option and expense, repair or replace defective Network Equipment or refund the purchase price thereof, within 60 days of receipt of such defective Network Equipment at its designated depot, provided that the Customer has returned the defective Network Equipment to Tantalus no later than four weeks after the expiry of the applicable warranty period set forth herein. Customer will be responsible for removing defective Network Equipment from the installation point and returning the defective Network Equipment, transportation charges prepaid by Customer, to Tantalus at its designated depot, together with Tantalus' return material authorization ("**RMA**") number and completed problem sheet. Tantalus will be responsible for paying all shipping and other costs incidental to the return of repaired or replacement Network Equipment to Customer. Customer will be responsible for re-installing such repaired or replacement Network Equipment. To the extent Tantalus determines that the Network Equipment returned under warranty is not defective (that is, no fault found), Customer will pay for the return of the Network Equipment and will pay Tantalus the fee of US$150 per no fault found Network Equipment. Tantalus will make available out-of- warranty repairs in accordance with its programs in effect at the relevant time. Services for out-of-warranty repairs will be provided at Tantalus' then current time and materials fees and rates.

No Warranty. The warranties described herein shall not apply to any units of Network Equipment which have been mistreated including without limitation the following: (i) units whose original bar code, copyright notices and proprietary legends, if any, have been altered; (ii) units that were not installed in accordance with the Specifications and Standards or serviced by Tantalus or a person authorized by Tantalus to do so; (iii) units that were the subject of repair, modification or alteration without Tantalus' approval; (iv) units damaged or defective because of reasonable wear and tear; (v) units that were not maintained and operated in accordance with the Specifications and Standards, including, without limitation, units damaged or defective because of problems with electrical power; (vii) units that in Tantalus' reasonable opinion have been misused, altered, abused or subject to abnormal conditions of operation or handling; or (ix) units damaged or defective due to an Excusing Event.

DISCLAIMER. TANTALUS DISCLAIMS ALL OTHER REPRESENTATIONS, WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON- INFRINGEMENT OF OTHER'S INTELLECTUAL PROPERTY RIGHTS AND DURABILITY.

Relief for patent and copyright matters. Tantalus, at its expense, shall defend any court suit brought against Customer by a third party alleging that units of Network Equipment purchased by Customer infringe US or Canadian patent or copyright. Tantalus' obligation to defend is effective only if Customer is not in breach of any of these Terms and of any other agreement between the parties, and if Tantalus is notified promptly and given complete information, assistance and authority by Customer to conduct the defense. If any unit of Network Equipment: is adjudicated by a court of competent jurisdiction after appeals therefrom are exhausted, as infringing any US or Canadian patent or copyright or has its use enjoined by such court, Tantalus will, at its election: (i) procure for the Customer the right to continue using said unit; (ii) replace it with non-infringing and functional equivalent; (iii) modify it to become non-infringing; or (iv) if none of the aforementioned options are reasonably available, refund to Customer all amounts paid for the infringing Network Equipment, depreciated on a straight line basis over a ten (10) year period. Tantalus' obligation to defend includes the sole right to settle. Tantalus' obligation to defend does not apply to the following: (A) Network Equipment based on a design, specifications or instructions supplied or requested by Customer; (B) use of Network Equipment in combination with any other hardware or software not provided by Tantalus, if infringement would not have occurred but for such combination; (C) use of any release of Licensed Software or any firmware other than the most current release made available to Customer; (D) use of Network Equipment other than as permitted under these Terms , or as intended by Tantalus, if the infringement would not have occurred but for such use; or (E) modifications made to Network Equipment not made by Tantalus or approved by Tantalus. The foregoing states Tantalus' entire liability with respect to intellectual property infringement by any unit of Network Equipment. For the avoidance of doubt, Tantalus shall not have any liability hereunder relating to or arising from Third-Party Products.

General Indemnity. Tantalus shall defend, indemnify and hold Customer harmless from all loss, expense or damages (including without limitation, reasonable attorney's fees) which may be incurred by Customer as a result of any claims or actions resulting from: (a) damage to tangible personal property owned by Customer and caused by the gross negligence of Tantalus; and (b) death of or bodily injury to a Customer employee or third party to the extent caused by Tantalus' gross negligence. Customer will provide Tantalus with prompt, written notice of any claim covered by this indemnification. Unless Tantalus fails to defend Customer, Customer shall not undertake the defense of any such claim. Tantalus, at its sole expense, shall defend all such claims and actions against Customer, whether brought informally or through court or administrative procedures. For the avoidance of doubt, Tantalus shall not have any liability hereunder relating to or arising from Third-Party Products.

Customer Indemnity. The relationship of Tantalus and Customer established by these Terms are that of independent contractors and neither party is an employee, agent or joint venture of the other. All financial obligations associated with Customer's business are the sole responsibility of Customer. Except for warranty claims under these Terms, Customer shall indemnify, defend and hold harmless Tantalus from and against any and all claims, liabilities, damages, debts, settlements, costs, attorneys' fees, expenses and liabilities of any type whatsoever that may arise on account of Customer's activities, or those of its employees or agents, including, without limitation, (i) all sales and use taxes and similar charges arising in connection with the purchase of Network Equipment and Initial Deployment Services hereunder and all other federal, state and municipal taxes, interest, fines and penalties arising in connection with Customer's business activities and (ii) those relating to Customer's use of the Network Equipment or Customer's breach of any term, representation or warranty of these Terms.

Limitations. NOTWITHSTANDING ANY OTHER PROVISION TO THE CONTRARY, OTHER THAN FOR GROSS NEGLIGENCE, WILLFUL MISCONDUCT OR FRAUD, NEITHER PARTY WILL BE LIABLE TO THE OTHER FOR ANY (I) SPECIAL, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OR LOSSES INCLUDING, WITHOUT LIMITATION, LOSS OR CORRUPTION OF DATA, LOSS OF REVENUE, SAVINGS OR PROFITS, CLAIMS BY USERS AND THIRD PARTIES, LOSS OF GOODWILL, BUSINESS INTERRUPTION OR OTHER PECUNIARY LOSS WHETHER ARISING FROM BREACH OF WARRANTY OR CONDITION, BASED ON CONTRACT, TORT, RELIANCE, FUNDAMENTAL BREACH, STATUTE, OR ANY OTHER THEORY, AND EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES; OR (II) COST OF PROCUREMENT OF SUBSTITUTE GOODS, TECHNOLOGY OR SERVICES. NOTWITHSTANDING ANYTHING ELSE IN THESE TERMS AND WITHOUT LIMITING THE FOREGOING, TANTALUS WILL NOT BE LIABLE WITH RESPECT TO ANY SUBJECT MATTER OF THESE TERMS UNDER ANY CONTRACT, NEGLIGENCE, CIVIL LIABILITY, TORT, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR: (A) ANY AMOUNTS IN EXCESS OF THE AGGREGATE AMOUNTS PAID TO TANTALUS FOR NETWORK EQUIPMENT AND INITIAL DEPLOYMENT SERVICES GIVING RISE TO SUCH LIABILITY IN THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE CLAIM; (B) ANY FAILURE OR DELAY DUE TO AN EXCUSING EVENT; OR (C) ANY ALLOCATION OF NETWORK EQUIPMENT AND INITIAL DEPLOYMENT SERVICES AMONG ITS CUSTOMERS IN THE EVENT OF A SHORTAGE. LIMITATIONS OF LIABILITY WILL NOT BE ASSERTED TO THE EXTENT PROHIBITED BY RELEVANT LAWS AND POLICIES. TANTALUS' PRICING REFLECTS THIS ALLOCATION OF RISKS AND THE LIMITATION OF LIABILITY.

Ownership of Intellectual Property. Except for licenses otherwise expressly granted under these Terms, the sale of Network Equipment hereunder does not convey to Customer any Proprietary Rights in the Network Equipment and Customer acknowledges Tantalus' exclusive rights thereto. Neither the sale of Network Equipment nor any provision of these Terms will be construed to grant to Customer, either expressly, by implication or by way of estoppel, any license under any other Proprietary Rights of Tantalus covering or relating to any other product or invention of Tantalus, or any combination of the Network Equipment with any other product of Tantalus.

Term. Unless terminated earlier as provided herein, these Terms shall have an initial term of one (1) year commencing on the execution date of these Terms ("Initial Term") and shall automatically renew for successive one (1) year periods thereafter, until terminated in accordance with these Terms (each, together with the Initial Term, the "**Term**").

Termination. Either party may terminate these Terms effective upon the delivery of written notice of such termination to the other party, if the other party: (i) becomes insolvent, is generally not paying its debts as such debts become due, makes an assignment for the benefit of creditors, is the subject of any voluntary or involuntary case commenced under the federal bankruptcy laws, as now constituted or hereafter amended (which, in the case of involuntary bankruptcy, is not dismissed within 30 days), or of any other proceeding under other applicable laws of any jurisdiction regarding bankruptcy, insolvency, reorganization, adjustment of debt or other forms of relief for debtors, has a receiver, trustee, liquidator, assignee, custodian or similar official appointed for it or for any substantial part of its property, or is the subject of any dissolution or liquidation proceeding; (ii) breaches its obligations related to confidentiality; or (iii) is in default in any material respect in the performance of any its obligations under of these Terms, provided that the party not at fault has given the other party forty five (45) days prior written notice of such default and such other party has not remedied the default during such 45-day cure period, provided however if the defaulting party is Customer and such default is attributable to or includes Customer's failure to pay any amount when due, then the aforementioned 45-day cure period will be reduced to five (5) days. Either party may terminate these Terms, at any time and for any reason, on ninety (90) days' prior written notice to the other party, provided however that if terminated by Customer, Tantalus shall take commercially reasonable efforts to cancel any deliveries to Customer which are scheduled to be made after the termination date. Customer shall be responsible for all amounts due to Tantalus arising prior to the termination date, including the cost of Network Equipment received by Customer, or that has been shipped within 45 days, following the date of the notice. Prior to the effective termination of these Terms, all of the terms and conditions of, and the respective rights and obligations of the parties to, these Terms will remain completely valid and enforceable; provided however that, in the event Tantalus terminates these Terms for cause, then any deliveries of Network Equipment and Initial Deployment Services to Customer which are scheduled to be made subsequent to the effective date of termination shall be cancelled and any product warranties or guarantees hereunder shall be terminated and of no further force and effect. Termination is not the sole remedy available under these Terms and, whether or not termination is effected; all other legal remedies will remain available. Notwithstanding anything to the contrary in these Terms, no expiration or termination of these Terms by either party shall affect (A) any rights or obligations of either party which are vested pursuant to these as of the effective date of such expiration or termination, and (B) any other provisions intended by the parties to survive such expiration or termination including, but not limited to, Purchase Orders accepted pursuant to these Terms.

Dispute Resolution. Except for Disputes related to nonpayment or as otherwise provided in this Section, neither Party shall resort to formal litigation proceedings until the Parties have attempted to resolve the Dispute through non-binding mediation. The Party raising a Dispute shall submit to the other Party a written notice and supporting material describing all issues and circumstances related to the Dispute (a "**Dispute Notice**"). A designated senior management representative of each Party shall attempt to resolve the Dispute. If the Parties' Representatives fail to resolve the Dispute within thirty (30) days from receipt

of a Dispute Notice, the Dispute shall be referred to a mediator in the jurisdiction provided for in these Terms as mutually agreed between the Parties. The Parties covenant that they will use commercially reasonable efforts in participating in the mediation. The Parties agree that the mediator's fees and expenses and the costs incidental to the mediation will be shared equally between the parties. The Parties further agree that all offers, promises, conduct, and statements, whether oral or written, made in the course of the mediation by any of the Parties, their agents, employees, experts, and attorneys, and by the mediator and any employees of the mediation service, are confidential, privileged, and inadmissible for any purpose, including impeachment, in any litigation, arbitration or other proceeding involving the parties, provided that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non- discoverable as a result of its use in the mediation. If the Parties cannot resolve any Dispute for any reason, including, but not limited to, the failure of either party to agree to enter into mediation or agree to any settlement proposed by the mediator, within thirty (30) days after the later of the referral to a mediator or the mediation proceeding, either Party may file suit in a court of competent jurisdiction in accordance with these Terms. These Terms shall not be construed to prevent a Party from instituting litigation proceedings earlier than as indicated in these Terms to: (a) avoid the expiration of any applicable limitations period, (b) preserve a superior creditor position or (c) seek injunctive relief to prevent irreparable harm, including without limitation, harm caused by a breach of confidentiality obligations.

Notices. All notices under these Terms must be made in writing and shall be deemed properly delivered when: (i) delivered personally, (ii) sent by e-mail to the address below, delivery confirmation required, or (iii) mailed by certified mail, postage prepaid or overnight delivery service to the address of the other Party set forth below or sent by facsimile (provided confirmation of delivery is obtained at the time of transmission). Communications must be addressed to Tantalus as follows: Peter A. Londa, President & CEO Tantalus Systems Inc., 1130 Situs Court, Suite 230, Raleigh, NC 27606; Facsimile: (919) 900-8978; E-mail: legal_dept@tantalus.com and to Customer at the address noted below. Unless expressly set out to the contrary herein, consent or approval that is explicitly required herein of a Party hereto will not be unreasonably delayed, withheld or withdrawn by it. Either Party may change the address for service by giving 15 days' advance written notice to the other Party.

Severability. If any term or other provision of these Terms is invalid, illegal or incapable of being enforced by any rule or Law, all other conditions and provisions of these Terms shall nevertheless remain in full force and effect so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any Party. Upon such determination that any term or other provision is invalid, illegal or incapable of being enforced, the Parties hereto shall negotiate in good faith to modify these Terms so as to effect the original intent of the Parties as closely as possible in an acceptable manner to the end that transactions contemplated hereby are fulfilled to the extent possible.

Amendment and Waiver. No amendment or waiver of any provision of these Terms shall be effective unless it is in writing and signed by the party against which it is sought to be enforced. No waiver by any party or any breach or series of breaches in performance by the other party, and no failure, refusal or neglect to exercise any right, power or option given to either party to insist upon strict compliance with or performance of the obligations hereunder, will constitute a waiver of the provisions hereof with respect to any subsequent breach thereof or a waiver by such party of its right at any time thereafter to require strict compliance with the provisions hereof.

Governing Law. These Terms shall be governed and construed in accordance with the laws of the State of Delaware (without giving effect to its conflict of law's provisions which would lead to the application of the laws of another jurisdiction). If either Party employs attorneys to enforce any rights arising out of or relating to these Terms, the prevailing Party shall be entitled to recover actual, reasonable attorneys' fees. Except to the extent necessary to obtain jurisdiction over a third party, any legal action, suit or proceeding arising out of these Terms shall be brought solely and exclusively in Wake County, North Carolina, and each Party irrevocably accepts and submits to the sole and exclusive jurisdiction of tribunals in Wake County, North Carolina. Tantalus and Customer waive a trial by jury in any such suit, action or proceeding.

Force Majeure. No default, delay or failure to perform on the part of either Party shall be considered a breach of these Terms where such default, delay or failure is due to a Force Majeure. Lack of funds or credit will not constitute a Force Majeure. In the event of a Force Majeure, the Impacted Party shall promptly give notice of the Force Majeure Event to the other party, stating the period of time the occurrence is expected to continue. The Impacted Party shall use diligent efforts to end the failure or delay and ensure the effects of such Force Majeure Event are minimized. The Impacted Party shall resume the performance of its obligations as soon as reasonably practicable after the removal of the cause.

Compliance with Laws. Each Party shall, at its own cost and expense, comply with all applicable Laws relating to the subject matter of these Terms.

Successors and Assigns. These Terms bind, and inures to the benefit of, the parties and their respective successors. These Terms shall not be assigned by either party without the prior written consent of the other party, except that Customer agrees that Tantalus may assign, without notice to Customer, any account receivable arising under these Terms in connection with a factoring arrangement.

Further Assurance. Each Party undertakes with the other Party that it will execute such documents (including, without limitation, any applicable attachments to these Terms) and do such acts and things as that other Party may reasonably require for the purpose of giving to that other Party the full benefit of the provisions of these Terms.

Relationship of the Parties. The relationship of Tantalus and Customer established by these Terms is that of independent contractors and neither party is an employee, agent or joint venture of the other. No rights or obligations other than those expressly recited herein are to be implied from these Terms. Specifically, nothing in these Terms shall create a fiduciary relationship between the disclosing party and the receiving party. No license or other right is hereby granted directly or indirectly to use in any way, any patent, copyright or other proprietary right now held by, or which may be obtained by, or which is or may be licensed by, either Party.

Definitions and Interpretation. "**Acceptance**" or "**System Acceptance**" means that the system acceptance tests set forth in the System Acceptance Test Plan as set forth in the attachments hereto have been completed and all requirements of Acceptance as set forth in attachments hereto were met. **"Affiliate"** means, with respect to any Party, any legal entity that such Party owns, is owned by, or is under common control with such Party. For purposes of the foregoing definition of "Affiliate", the terms "control" and "own" mean possessing a 50% or greater interest in an entity or the right to direct the management of the entity. **"Business Day"** means any day that is not a Saturday, Sunday or a Tantalus authorized "holiday". "**Confidential Information**" has the meaning set forth in the MNDCA. **"Destination"** means Customer's designated destination point for the delivery of Network Equipment. **"Dispute"** means any dispute, controversy, difference or claim, arising under or in connection with these Terms, including its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims. **"Excusing Event"** means any (i) Force Majeure; (ii) failure, act or omission of Customer or its agents, employees, suppliers, subcontractors or consultants, including without limitation improper performance of Customer's responsibilities under these Terms, or unreasonable delay or failure of Customer to approve changes that are relevant to an applicable failure; (iv) failure, act or omission of any third party (including any third-party supplier) or its agents, employees, suppliers, subcontractors or consultants; or (v) failure of any components (hardware, software, network, maintenance) provided and/or maintained by Customer. "**EULA**" means Tantalus' then current end-user software license agreement setting forth the terms and conditions of Customer's permitted use of the Licensed Software. **"Force Majeure"** means any failure or delay in fulfilling or performing any of these Terms (except for any obligations to make payments to the other party hereunder), when and to the extent such failure or delay is caused by or results from the following force majeure events (**"Force Majeure Event(s)"**): (a) acts of God; (b) flood, fire, earthquake, epidemics, pandemics or explosion; (c) war, invasion, hostilities (whether war is declared or not), sabotage, terrorist threats or acts, riot or other civil unrest; (d) government order or law; (e) actions, embargoes or blockades in effect on or after the date of these Terms; (f) judicial restraint or other action by any governmental authority (including, without limitation, an inability to procure permits, licenses or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses or services required to be provided by either Customer or Tantalus under these Terms); (g) national or regional emergency; (h) strikes, labor stoppages or slowdowns or other industrial disturbances; (i) shortage of adequate power or transportation facilities; and (j) other similar events beyond the reasonable control of the party impacted by the Force Majeure Event (the "**Impacted Party**"). "**Initial Deployment Services**" means (i) Tantalus' standard services for initial deployment, installation and configuration of Tantalus products purchased by Customer under these Terms as described in a Statement of Work, as mutually agreed between the Parties; (ii) Tantalus' standard initial training services for the Customer; and (iii) related project management for such initial deployment and training. For clarity, and notwithstanding anything to the contrary, the Initial Deployment Services do not include integration or installation of field equipment (i.e. meters, collectors, repeaters, etc.), Third-Party Products, or Maintenance and Support Services. Integration to existing vendor supported interfaces are included in the Initial Deployment Services. For the avoidance of doubt, custom services, including custom integration(s) between the Network Equipment and Third-Party Products that are not existing vendor supported interfaces, are not included in the Initial Deployment Services and are subject to additional fees and written agreement between Tantalus, Customer and any applicable third-party in the form of a written Change Order. "**Law**" means any statute, law, ordinance, regulation, rule, code, constitution, treaty, common law, governmental order, or other requirement or rule of law of any governmental authority. "**Licensed Software**" means all Tantalus software and firmware residing on, or provided in connection with, each unit of Network Equipment purchased under these Terms, together with all software documentation related thereto and any and all updates thereto. The terms and conditions of the EULA will apply to the Licensed Software provided to Customer. "**Licensed Software Maintenance Services**" shall have the meaning ascribed to them in Addendum A-1 of the EULA. "**Maintenance and Support Services**" means the recurring Licensed Software Maintenance Services and Technical Support provided by Tantalus to Customer pursuant to the Maintenance and Support Agreement entered by and between Tantalus and Customer. "**Network Equipment**" means the equipment manufactured by or for Tantalus for use as part of the Tantalus Grid Modernization Platform™ ("**TGMP**") and its associated Licensed Software that are or will be purchased from Tantalus hereunder as set forth on a Purchase Order (from time to time). For clarity, Network Equipment does not include the system backhaul, network operations center, meters or any Third-Party Products. "**Proprietary Rights**" means all patent rights, copyrights, trademarks, tradenames, know-how, trade secrets and other intellectual property and proprietary rights, including all rights, interests, and protections that are associated with, equivalent or similar to, or required for the exercise of, any of the foregoing, however arising, in each case whether registered or unregistered and including all registrations and applications for, and renewals or extensions of, these rights or forms of protection under the Laws of any jurisdiction throughout in any part of the world. "**Purchase Orders**" means purchase orders issued, from time to time, by Customer to Tantalus pursuant to which Customer will purchase Network Equipment and Initial Deployment Services in accordance with these Terms. Each Purchase Order will be deemed to include these Terms, even if not specifically stated on the Purchase Order. "**Representative**" means such Party's directors, officers, employees, agents, consultants, legal counsel, accountants and financial advisors of a Party to these Terms. "**Shipping Point**" means the designated depot or depots in North America selected by Tantalus as its shipping point for Network Equipment. "**Specifications**" means the design, performance and regulatory requirements for each Network Equipment, as such may be amended from time to time by Tantalus, which

Specifications will assume and require the installation, maintenance and operation of such Network Equipment in accordance with the Standards. **"Standards"** means the applicable industry standards necessary for the proper installation, maintenance and operation of Network Equipment, as may be amended from time to time by Tantalus, including, without limitation, the maintenance of a distribution system meeting industry standards with respect to grounding and power quality and the use of water pits for the installation of Network Equipment that properly drain and are not otherwise defective. "**Statement of Work (SOW)**" means a document that defines the scope of work to be completed, the timelines for the overall project, provides visibility into the interdependencies required, and will assist all parties in understanding and executing their respective roles, responsibilities and tasks to successfully deploy the Network Equipment. Upon commencement of the Initial Deployment Services, Tantalus and Customer will work cooperatively to develop and finalize a Statement of Work. "**Technical Support**" means the technical support services described in the Maintenance and Support Agreement. "**Third-Party Product**" means any products, software, materials, information or services that are manufactured, provided and/or licensed by, or otherwise proprietary to, a person or entity other than Tantalus. **Interpretation Not Affected by Headings, etc.** The division of these Terms into sections and other portions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation hereof. **Number, etc.** Unless the context otherwise requires, words importing the singular shall include the plural and vice versa and words importing any gender shall include all genders. **Date for Any Action.** In the event that any date on which any action is required to be taken hereunder by any of the parties hereto is not a Business Day, such action shall be required to be taken on the next succeeding day which is a Business Day. **Construction.** In these Terms, unless otherwise indicated:(a) the terms "these Terms", "hereof", "herein", "hereunder" and "hereby" and similar expressions refer to these Terms (including the schedules hereto), as amended or supplemented from time to time pursuant to the applicable provisions hereof, and not to any particular section or other portion hereof; (b) the words "include", "including" or "in particular", when following any general term or statement, shall not be construed as limiting the general term or statement to the specific items or matters set forth or to similar items or matters, but rather as permitting the general term or statement to refer to all other items or matters that could reasonably fall within the broadest possible scope of the general term or statement; (c) time is of the essence; and (d) references to a "party" or "parties" are references to a Party or Parties to these Terms. **Authorship**. Authorship of these Terms will have no bearing on the construction of any terms hereof or ambiguities thereof.

Execution. These Terms may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Parties. These Terms may be executed and delivered electronically or by facsimile and the Parties agree that such facsimile or electronic execution and delivery shall have the same force and effect as delivery of an original document with original signatures, and that each party may use such facsimile or electronic signatures as evidence of the execution and delivery of these Terms by all Parties to the same extent that an original signature could be used.

Quotation as Purchase Order. Signature below shall constitute submission by the Customer and acceptance by Tantalus of the foregoing quotation as an authorized Purchase Order for the equipment and services listed thereon, subject to the foregoing Terms. The Purchase Order may not be modified, added to or rescinded except through mutual agreement and acceptance in writing by both Parties.

AGREED AND ACCEPTED:

TANTALUS SYSTEMS INC.

BY: _____
Name: _____
Title: _____
Date: _____

Eldridge Municipal Utilities IA

BY: _____
Name: _____
Title: _____
Date: _____

Customer Address for Notices:

_____
Eldridge Municipal Utilities IA
_____
_____
Facsimile: _____
E-mail: _____

The following attachments, as applicable, are incorporated into and form an integral part of these Terms and shall be executed, as applicable, concurrently with or prior to the execution of these Terms by the Parties:

Maintenance and Support Agreement
End User License Agreement
MNDA

AGENDA

Resolution 2026-06 E&W

A RESOLUTION SETTING THE SALARIES FOR EMPLOYEES OF THE ELDRIDGE ELECTRIC AND WATER UTILITIES, ELDRIDGE, IOWA, FOR THE YEAR JULY 1ST, 2026, TO JUNE 30TH, 2027.

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE ELDRIDGE ELECTRIC AND WATER UTILITY:

Section 1. The following persons and positions named shall be paid the salaries or wages indicated and the City Clerk is authorized to issue warrants, less legally required or authorized deductions from the amounts set out below on a bi-weekly basis, and make any contributions to I.P.E.R.S., Social Security, or other purposes as required by law or authorized by the Utility Board, all subject to audit and review by the Utility Board.

Position	Name	Hourly Rate	Hours Per Week	Annual
Electric Superintendent	Collin Wilson	$56.95	40	$118,450
Water Plant Superintendent	Cegan Long	$47.66	40	$99,140
Journeyman Lineman	Gabriel Stricker	$46.94	40	$97,635
Utility Administrative Manager	Sadie Wagner	$44.59	40	$92,746
Lineman/Apprentice	Dalton Eagle	$43.65	40	$90,792
Lineman/Apprentice	Devin Gheer	$40.83	40	$84,926
Water Plant Operator GRD2	Tanner Loussaert	$37.85	40	$78,728
Water Plant Operator GRD1	Bryson Stymiest	$34.07	40	$70,865
Billing Clerk	Gage Lane	$25.91	40	$53,892
Billing Clerk	Amber Lindle	$25.91	40	$53,892

PASSED AND APPROVED THIS 16th DAY OF JUNE, 2026.

ATTEST:

/s/ Michael Bristley, Chairman

/s/ Jeff Hedrington, Secretary

IAMU Mutual Aid Program Agreement

Article I. Purpose

The Iowa Association of Municipal Utilities (IAMU) Mutual Aid Program is intended as the primary mutual aid program for participating utilities.

Article II. No obligation to respond

Acceptance of this agreement does not obligate a participating utility to respond to a mutual aid request.

Article III. Coordination of mutual aid efforts

IAMU Mutual Aid Program identifies Mutual Aid Coordinators for the different types of utilities and/or geographic regions. Mutual Aid Coordinators coordinate mutual aid efforts between participating utilities needing assistance and those offering assistance; and between regions when required.

Article IV. Standard charges

1. Labor charges:

The participating utility giving assistance will bill labor charges at actual cost, including payroll-related overhead not to exceed 35%. Meals and lodging for workers, if required, will be provided by the utility requesting assistance.

2. Equipment and materials:

Charges for use of utility equipment shall not exceed the rates published by IAMU . Fuel and oil used by equipment in the recovery process will be supplied by the assisted utility. A fuel tank "fill-up" will also be provided by the assisted utility for trucks returning home after providing assistance.

For equipment that is driven, time charged includes travel time. For equipment that is hauled, time charged is based on hours of actual use in the assisted community.

All other materials supplied by the city providing assistance will be billed at replacement cost for a comparable item without additional markup for overhead.

In the event of an accident, insurance deductibles are paid, up to a maximum of $1,000, by the assisted utility.

Article V. Liability

Officers or employees of a participating utility rendering aid in another participating utility jurisdiction pursuant to the IAMU Mutual Aid Agreement shall be considered agents of the assisted utility for tort liability and immunity purposes and a participating utility or its officers or employees rendering aid in another jurisdiction pursuant to this Agreement shall not be liable on account of any act or omission in good faith on the part of the forces while so engaged or on account of the maintenance or use of any equipment or supplies in connection with the aid. Good faith in this article shall not include willful misconduct, gross negligence, or recklessness.

Article VI. Workers' compensation

Each participating utility shall provide for the payment of workers' compensation and death benefits to injured members of the emergency forces of that participating utility and representatives of deceased members of the emergency forces in case the members sustain injuries or are killed while rendering aid pursuant to this Agreement, in the same manner and on the same terms as if the injury or death were sustained within their own jurisdiction.

Article VII. Disputes

Disputes between two or more participating utilities arising from participation in this Agreement, which cannot be settled through negotiation shall be submitted to arbitration before a panel of three persons chosen from the members of this Mutual Aid Agreement who are participating utilities, excluding those members that are parties to the dispute. Each party to the dispute shall choose one panel member and those panel members shall agree on one additional panel member. The panel shall adopt rules of procedure and evidence, shall determine all issues in dispute by majority vote and shall assess damages. Parties participating in this Agreement shall agree to use arbitration as a forum to resolve their disputes, and hereby agree to comply with the decisions of the arbitration panel.

Article VIII. Right to withdraw

A Participating Utility shall have the right to withdraw from this agreement upon notification in writing to Iowa Association of Municipal Utilities. Withdrawal shall not affect obligations for mutual aid provided or received prior to the notice.

NOW, THEREFORE, in consideration of the covenants and obligations contained herein, the participating utility listed herein, as a Participating Utility, duly executes this IAMU Mutual Aid Agreement this _____ day of _____, 2____.

Name of Utility:_____

By: _____

Name & Title:_____Date:_____

Footnote for IAMU members who have signed the Statewide Mutual Aid Compact (SMAC) created in Iowa Code section 29C.22: This agreement shall be deemed to be a supplementary agreement, as described in the SMAC documents.

MARKET SERVICES AGREEMENT

This Market Services Agreement ("Services Agreement") is made and entered into this __ day of _____, 20__, by and between MidAmerican Energy Company ("MidAmerican"), an Iowa corporation, and _____ ("Customer"), referred to herein individually as a "Party" and collectively as "Parties."

RECITALS

WHEREAS, Customer is a purchaser of wholesale electric power and energy, which power and energy may be acquired from the wholesale markets or generated by Customer's electric generating facilities; and

WHEREAS, Customer may from time to time use the MidAmerican electric transmission system to transmit electric power; and

WHEREAS, MidAmerican is a participant in the Midcontinent Independent System Operator ("MISO") markets; and

WHEREAS, MidAmerican's participation in the MISO markets will require Customer to alter the procedures Customer uses to arrange for wholesale power transactions and/or dispatch its generation; and

WHEREAS, MidAmerican wishes to offer to Customer and Customer wishes to purchase from MidAmerican certain Market Services ("Services") that are intended to facilitate participation in the MISO markets, as described and identified in Confirmation Letters and Market Services Schedules attached hereto and incorporated herein.

NOW THEREFORE, in consideration of the foregoing and of the mutual covenants and agreements herein contained and other good and valuable consideration, the Parties agree as follows:

1. Definitions. All terms beginning with a capital letter shall have the meaning defined herein.

2. Services Agreement Documents. Exhibit A of this Agreement, "Market Services Schedules," consists of Schedules A through H and details the Services which Customer may elect. Exhibit B of this Agreement, "JOU Confirmation Letter," and Exhibit C, "Agent Services Confirmation Letter" detail the specific Services selected by Customer from the Market Services Schedules which MidAmerican shall provide to Customer pursuant to this Services Agreement. Exhibits A, B, and C attached hereto are hereby made part of this Services Agreement. No preprinted terms appearing on any purchase order, acknowledgment, work authorization, change order, proposal, or other document issued in connection with this Services Agreement, or exchanged in connection therewith, shall apply, it being the intention and agreement of the Parties that the terms of this Services Agreement shall apply to all such transactions unless both Parties expressly agree in writing to modify or add to such terms.

3. Scope of Services. This offer of Services to Customer by MidAmerican shall be limited to the Services identified in Schedules A through H. All other market interactions will be the responsibility of the Customer recognized as a market participant or transmission customer by the MISO through the MISO's market registration process or MISO's Open Access Transmission and Energy Markets

Tariff. Such other interactions include, but are not limited to the provision of transmission services, Auction Revenue Rights registration and nominations, Financial Transmission Rights auctions, and Module E capacity reporting.

4. Obligations of Customer. Customer shall make all necessary arrangements with the MISO or other entities necessary to enable MidAmerican to provide the Services requested by Customer. Such arrangements may include market registration, the acquisition of digital certificates and other registration matters to enable MidAmerican to access software systems on Customer's behalf. Such systems may include, but are not limited to, the MISO's market systems and the North American Electric Reliability Corporation ETag system.

4.1 Accuracy of Information; Reliance. Customer shall be solely responsible for the accuracy, completeness, and timeliness of all data, forecasts, registrations, parameters, authorizations, and instructions provided to MidAmerican in connection with the Services ("Customer Inputs"). MidAmerican may rely conclusively on Customer Inputs without independent verification and shall have no duty to investigate, confirm, or otherwise validate any Customer Inputs.

4.2 Compliance with Market Rules. Customer shall comply, and shall cause its personnel and agents to comply, with all applicable MISO tariffs, market rules, manuals, procedures, and protocols, and all applicable Reliability Organization requirements, to the extent related to Customer's facilities, registrations, metering, tagging, scheduling, offers, bids, and settlement data, and to enable MidAmerican's performance of the Services.

4.3 Cooperation and Access. Customer shall provide reasonable cooperation, information, and access (including timely access credentials and permissions) necessary for MidAmerican to perform the Services in accordance with applicable deadlines. If Customer fails to provide such cooperation, information, or access, MidAmerican shall be excused from performance to the extent affected and may suspend the impacted Services until cured.

5. Mitigation of Market/Compliance Risk. If MidAmerican reasonably determines that any Customer Input or instruction could result in a violation of applicable market rules or Reliability Organization requirements, MidAmerican may (a) request clarification or revised instructions, and/or (b) decline to implement such Customer Input or instruction without liability, until the matter is resolved.

6. Compensation. The applicable fees for the Services shall be set forth in the Confirmation Letter between Customer and MidAmerican. In addition to fees paid by Customer to MidAmerican, certain Services may result in the pass through of a pro rata share of revenues or expenses or other similar amounts from MidAmerican to Customer.

6.1 Payment and Set off. Each Party shall be entitled to the compensation as calculated in accordance with the applicable Confirmation Letter. MidAmerican shall send Customer an invoice each month for the Services performed during the preceding calendar month. Except for any joint owned unit amounts of MISO settlement revenues and expenses described further in Schedule A of the Market Services Schedules and invoiced by MidAmerican to Customer, invoiced amounts shall be due and payable within thirty (30) days of the date of the invoice to

Customer. Interest on any unpaid amount from the date due until the date upon which payment is made shall accrue at the lesser of (i) the prime lending rate published in the *Wall Street Journal* on the first Business Day of the month plus three percent (3%) per annum, and (ii) the maximum rate permitted by applicable law. If Customer fails to pay any undisputed amount when due, MidAmerican may, in addition to any other remedies, suspend performance of any or all Services upon written notice until all past-due amounts (including accrued interest) are paid in full. Customer shall not withhold payment of undisputed amounts due to any dispute; any disputed amounts shall be identified in writing with reasonable detail within ten (10) days of invoice receipt, and the Parties shall cooperate in good faith to resolve such dispute promptly

6.2 Without limiting any other right of MidAmerican, at all times during the term of this Services Agreement, MidAmerican shall have the right to set off any amounts due and owing by MidAmerican to Customer against any amounts due and owing by Customer to MidAmerican pursuant to this Services Agreement or otherwise, and MidAmerican shall be deemed to have exercised this right of set off at the time of such election. MidAmerican shall give Customer notice of any such election, but failure to provide such notice shall not affect MidAmerican's right of set off.

6.3 Adequate Assurance Events. MidAmerican may request adequate assurance of performance, in a form and amount reasonably acceptable to MidAmerican ("Credit Support"), if: (i) Customer fails to pay any amount when due; (ii) Customer experiences a material adverse change in creditworthiness; (iii) Customer fails to maintain required market registrations or credit arrangements with the MISO that are

necessary for the Services; or (iv) MidAmerican reasonably determines that Customer's credit condition creates an increased risk of nonpayment.

6.4 Forms of Credit Support. Credit Support may include, without limitation, cash deposit, prepayment, parent guaranty, or an irrevocable standby letter of credit issued by a U.S. commercial bank or other financial institution acceptable to MidAmerican.

6.5 Timing; Suspension. Customer shall provide Credit Support within five (5) Business Days after MidAmerican's written request. If Customer fails to provide Credit Support within such period, MidAmerican may suspend performance of any or all Services upon written notice until Credit Support is provided, without liability for such suspension

7. Sales and Similar Taxes. MidAmerican's prices do not include sales, use, excise, value-added, or similar taxes applicable to the Services (hereinafter collectively referred to as "Tax" or "Taxes"). Consequently, in addition to the price specified, the amount of any present or future Taxes shall be the responsibility of and shall be paid by Customer unless Customer shall provide MidAmerican with a valid tax-exemption certificate acceptable to MidAmerican and the applicable taxing authorities. Customer shall indemnify and hold harmless MidAmerican from claims or liability for any such Tax or Taxes.

8. Independent Contractor. MidAmerican shall undertake the Services specified in the Confirmation Letter as an independent contractor, and shall employ all persons performing the Services, such persons to be either (i) MidAmerican's sole employees and subject to MidAmerican's direction and control, or (ii) outside contractors

retained by MidAmerican and under MidAmerican's direction and control, and not employees of Customer or subject to Customer's direction and control.

9. Standard of Performance.

9.1. MidAmerican warrants to Customer that it shall perform its obligations under this Services Agreement in accordance with Good Utility Practice. Good Utility Practice shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

9.2. The foregoing warranty is in lieu of all other warranties, whether written, oral, express, implied or statutory.

10. Indemnification.

10.1 Each Party ("Indemnifying Party") agrees to defend, indemnify, and hold harmless the other Party ("Indemnified Party") from and against any and all claims, demands, actions, losses, liabilities, damages, penalties, fines, charges, assessments, costs, and expenses (including reasonable attorneys' fees) to the extent arising out of, relating to, or resulting from (a) an error, omission, negligent act, or willful misconduct of the Indemnifying Party, its Agents, Representatives, or Employees; or

(b) a breach by the Indemnifying Party of this Services Agreement. In the event such liability is caused by the joint or concurrent negligence of the Parties, the loss shall be borne by the Parties proportionately to their respective degrees of negligence.

10.2. If any claim, legal action or suit arising from the Services is instituted by any person or entity against the Indemnified Party, its agents, representatives or employees, as a result of personal injury, death, property damage, or loss of any nature, the Indemnifying Party will assume the defense of that claim, legal action or suit, to the extent the Indemnifying Party is indemnifying the Indemnified Party hereunder, upon being notified to do so by the Indemnified Party and will pay any judgment or settlement rendered in such action or suit. If the Indemnified Party, its agents, representatives or employees are named a defendant in any claim, legal action or suit and the Indemnifying Party fails or neglects to assume the defense thereof after having been notified to do so, the Indemnified Party may compromise and settle or defend the claim, legal action or suit and the Indemnifying Party is bound to reimburse the Indemnified Party for the amount expended by the Indemnified Party in paying any judgment or settlement, together with all reasonable attorneys' fees and court costs, incurred by the Indemnified Party by reason of its defense or settlement of such claim, legal action or suit. Any judgment or amount expended by the Indemnified Party in compromising or settling such legal action or suit shall be conclusive as determining the amount for which the Indemnifying Party is liable to reimburse the Indemnified Party.

10.3. The indemnification obligations contained in this Section are in addition to, and are not intended to supersede or modify in any respect, the existing

indemnification obligations of the Parties pursuant to the terms of any other agreement between them, including, as applicable, Interconnection and Facilities Agreements or joint owned unit agreements.

10.4 The indemnification obligations in this Section 10 shall survive expiration or termination of this Services Agreement and any Confirmation Letter.

11. Limitations of Liability.

11.1. In no event shall one Party be liable to the other Party, whether based on contract, indemnity, warranty, tort (including negligence), strict liability or otherwise, for special, incidental, exemplary or consequential damages, including but not limited to, loss of profits or revenues, loss of use of equipment or property, cost of capital, cost of substitute equipment, facilities or services, downtime costs, fines or penalties imposed by governmental authorities or applicable MISO or other Reliability Organizations or Regional Transmission Organizations, as defined in 18 CFR 39.1 or claims of customers of a Party.

11.2 Nothing in this Section 11 shall limit or exclude (a) Customer's obligations to pay amounts due under this Services Agreement or any Confirmation Letter, including interest; (b) either Party's indemnification obligations under Section 10; or (c) losses arising from a Party's gross negligence or willful misconduct, to the extent such limitation or exclusion is not enforceable under applicable law.

12. Term. Subject to required regulatory authorizations, including, without limitation, any required acceptance for filing by the Federal Energy Regulatory Commission ("FERC") under Section 205 of the Federal Power Act, the Effective Date of this Services Agreement shall be the date first written above or such other effective date

established by FERC. MidAmerican shall provide the Services in accordance with the term specified in a Confirmation Letter. Notwithstanding the foregoing, either Party may provide notice in accordance with and pursuant to Section 13, Termination for Cause, in the event of the occurrence of an Event of Default as set forth in Section 14 of this Services Agreement. Termination shall not affect or excuse the performance of either Party under any provision of this Services Agreement that by its terms survives any such termination, including payment of any invoices for Services provided prior to termination, and, provided further, that this Services Agreement and Confirmation Letters shall remain in effect until both Parties have fulfilled all of their obligations with respect to such Confirmation Letters. This Services Agreement may be terminated by either Party by ninety (90) days prior notice from one to the other after both Parties have fulfilled all of their obligations with respect to any Confirmation Letters.

13. Termination for Cause.

13.1 MidAmerican may terminate this Services Agreement and/or any Confirmation Letter at any time with twenty (20) days advance written notice to Customer if Customer no longer satisfies the obligations set forth in Section 4, fails to provide Credit Support under Section 6.3, or if MidAmerican reasonably determines that continuation of the Services would (a) violate applicable law, MISO rules, or Reliability Organization requirements, or (b) pose a material cybersecurity, operational, or compliance risk to MidAmerican.

13.2 MidAmerican may suspend performance of any or all Services immediately upon written notice if necessary to address an imminent compliance, operational, or

cybersecurity risk, or if Customer fails to timely provide required authorizations, access, or Customer Inputs. MidAmerican shall use commercially reasonable efforts to restore Services once the basis for suspension is resolved.

13.3 Customer may terminate Services provided under a Confirmation Letter in the event that MidAmerican commits a material breach of this Services Agreement. In such event, Customer shall give twenty (20) day advance notice to MidAmerican of its intent to terminate a Confirmation Letter for cause, which termination shall take effect only if MidAmerican fails to initiate efforts to cure the deficiency within such twenty (20) day period.

14. Events of Default; Remedies. If a Party (the "defaulting party") (i) fails to pay any amount, when due, with respect to this Services Agreement if such failure is not remedied within three (3) days after written notice; (ii) is subject to a bankruptcy event; (iii) makes any representation or warranty that is false or misleading in any material respect; (iv) fails to perform any other material obligation imposed upon it by this Services Agreement (other than those set forth in Section 4, a breach of which shall be handled under Section 13); then the non-defaulting party has the right, without notice, to suspend performance and may terminate this Agreement at any time during the continuance of such event of default, upon which it will calculate in a commercially reasonable manner a settlement amount equal to its total Losses and Costs, if any, resulting from termination of this Services Agreement. "Costs" shall mean brokerage fees, reservation fees, reasonable attorneys' fees, commissions and other similar third-party transaction expenses incurred by a Party in terminating, liquidating or entering into new arrangements which replace any obligations assumed

by such Party due to the termination of this Services Agreement. "Losses" shall mean an amount equal to the present value of the economic loss to such Party, exclusive of Costs, resulting from termination of this Services Agreement. The settlement amount will be due within five (5) Business Days after the non-defaulting party has notified the defaulting party of the settlement amount. The non-defaulting party is obligated to respond and act in a commercially reasonable manner and mitigate its damages, liabilities, Losses and Costs. Upon termination under this Section 14, all accrued and unpaid amounts, the settlement amount, and any other amounts owing under this Services Agreement or any Confirmation Letter shall become immediately due and payable and may be subject to setoff under Section 6.2.

15. Force Majeure. Neither Party shall be liable to the other for any failure or delay of performance hereunder due to causes beyond such Party's control (a "Force Majeure"), including acts of God, act of the public enemy, terrorism, fire, explosion, vandalism, storm or other catastrophes, weather impediments, national emergency, insurrections, riots, wars, labor disputes or like causes beyond its control, or any law, order, regulation, direction, action or request of any government or authority or instrumentality thereof, and which by the exercise of due diligence such Party is unable, in whole or in part, to prevent or overcome. Notwithstanding the foregoing, a Force Majeure event does not include an act of negligence or intentional wrongdoing by a Party claiming a Force Majeure. Neither Party shall be considered in default as to any obligation under this Services Agreement if prevented from fulfilling the obligation due to an event of Force Majeure, except for the obligation to pay any amount when due, provided that the affected Party:

15.1. Gives Notice to the other Party of the event or circumstance giving rise to the event of Force Majeure;

15.2. Affords the other Party reasonable access for obtaining information about the event or circumstances alleged to constitute a Force Majeure;

15.3. Takes all commercially reasonable steps required to restore its ability to perform its obligations hereunder as soon as reasonably practicable provided that the affected Party shall not be obligated to take any steps that are not otherwise in accordance with Good Utility Practice; and

15.4. Makes commercially reasonable efforts to perform its obligations hereunder.

16. Confidential Information. Any information disclosed by one Party ("Disclosing Party") to the other ("Receiving Party") in connection with this Services Agreement or the Services shall be regarded as proprietary or confidential ("Confidential Information") unless such information (a) is available from public sources through no breach by the Receiving Party; (b) was lawfully known to the Receiving Party without restriction prior to disclosure; or (c) is independently developed by the Receiving Party without use of the Disclosing Party's Confidential Information.

16.1 Protection and Use. The Receiving Party shall use reasonable care (commensurate with the care it uses to protect its own similar information) to protect Confidential Information and shall use Confidential Information solely in connection with performance or receipt of the Services.

16.2 Permitted Disclosures. The Receiving Party may disclose Confidential Information to the extent reasonably necessary to (a) its Affiliates; (b) its and its Affiliates' directors, officers, employees, contractors, consultants, auditors, and legal

and financial advisors who have a need to know and are bound by confidentiality obligations; (c) the MISO, NERC, any Reliability Organization, any Regional Transmission Organization, and transmission providers, as reasonably necessary to perform the Services or comply with applicable requirements; and (d) any governmental authority or regulatory body (including FERC and state commissions) in connection with audits, examinations, data requests, investigations, proceedings, or compliance obligations. Where lawful and practicable, the Receiving Party shall provide the Disclosing Party reasonable notice of such disclosure and shall cooperate in seeking confidential treatment or protective orders.

16.3 Open Records. It is understood by the Parties that Confidential Information may be subject to Iowa Code provisions governing Open Meetings and Open Records including Iowa Code sections 21.5(1)(a) and 388.9(1) and exemptions such as Sections 22.7(3), 22.7(6), and 388.9(2). The Receiving Party shall use commercially reasonable efforts, consistent with applicable law, to preserve confidential treatment of Confidential Information.

17. Compliance with Laws. Each Party shall comply with all applicable Federal, state and local laws, rules and regulations in the performance of its respective obligations under this Services Agreement

18. Notices. All "Notices" required or desired to be given pursuant to this Services Agreement shall be in writing and delivered exclusively by electronic mail (email) to the other Party at the email address set forth below (or such other email address as a Party may designate by Notice). Notices shall be deemed and delivered exclusively by electronic mail (email) to the other Party at the email address set forth below (or

such other email address as a Party may designate by Notice). Notices shall be deemed given on the date sent, provided that the sending Party does not receive an automated or other notice of delivery failure. Either Party may modify its email address for Notices by providing Notice to the other Party in accordance with this Section.

Notices to MidAmerican:

All Notices:
Attn: Contract Administration
Email: Sherian.krause@midamerican.com

Invoicing
Attn: Energy Management Accounting
Email: emasettlements@midamerican.com

Notices to Customer:

_____

_____

_____

_____

19. Miscellaneous.

19.1. Each of the provisions of this Services Agreement shall be enforceable independent of any other provision of this Services Agreement and independent of any other claim or cause of action.

19.2. Any waiver at any time by either Party of its rights with respect to a default under this Services Agreement, or with respect to any other matter arising in connection with this Services Agreement, shall not be deemed a waiver with respect to any other subsequent default or matter.

19.3. This Services Agreement shall be governed by and construed in accordance with the laws of the state of Iowa, except to the extent that is subject to the jurisdiction of the FERC.

19.4 Waiver of Jury Trial. EACH PARTY HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING, OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS SERVICES AGREEMENT, ANY CONFIRMATION LETTER, OR THE SERVICES PROVIDED HEREUNDER. EACH PARTY ACKNOWLEDGES THAT IT HAS BEEN REPRESENTED BY COUNSEL OR HAS HAD THE OPPORTUNITY TO CONSULT COUNSEL REGARDING THIS WAIVER.

19.4. Neither this Services Agreement nor any interest therein nor any claim arising therefrom shall be assigned by either Party to any person, firm or corporation without the written consent of the other Party, which shall not be unreasonably withheld, conditioned or delayed. Notwithstanding any other terms or provisions to the contrary, no provision of this Services Agreement shall be construed to limit MidAmerican's authority or right to assign all of its authority, rights or obligations under this Services Agreement to any corporation or any other business entity which is the result of or the survivor of a merger, consolidation or other business

combination to which MidAmerican is a part. Nothing herein shall be construed to give any rights or benefits hereunder to anyone other than MidAmerican and Customer.

19.5 Cybersecurity; System Access. To the extent the Services involve access to or use of any electronic systems, portals, digital certificates, credentials, or data exchanges, (a) Customer is responsible for maintaining the security and confidentiality of its credentials and access methods provided or enabled for MidAmerican; (b) Customer shall promptly notify MidAmerican of any suspected compromise; and (c) MidAmerican may suspend access and/or performance as reasonably necessary to address a cybersecurity risk. Customer shall be responsible for, and shall indemnify MidAmerican for, losses arising from Customer's failure to maintain the security of Customer credentials or systems, except to the extent finally determined to have been caused by MidAmerican's gross negligence or willful misconduct.

19.6 Electronic Communications. Customer agrees that instructions, approvals, and other operational communications delivered via email (or other electronic means agreed by the Parties) from Customer's designated authorized representatives shall be binding on Customer for purposes of the Services. Each Party shall maintain and provide to the other Party a current list of its authorized representatives and designated email addresses for operational instructions; changes shall be effective upon Notice.

19.5 This Services Agreement may be executed in counterparts, each of which shall be considered an original and all of which shall constitute but one and the same instrument.

19.6 This Services Agreement shall supersede all other prior and contemporaneous understandings or agreements, both written and oral, between the Parties relating to the subject matter of this Services Agreement.

19.7 This Services Agreement may only be amended by a writing executed by both Parties.

IN WITNESS WHEREOF, the Parties hereto have executed this Services Agreement as of the date first above written.

MIDAMERICAN ENERGY COMPANY	CUSTOMER
By: _____	By:_____
Name: Peggi Allenback	Name: _____
Title: SVP, Market Operations & Supply	Title:_____

Market Services Schedules

Definitions

Operating Day: The daily twenty-four (24) hour period beginning at midnight Eastern Standard Time (EST) for which transactions in the MISO's energy markets are scheduled.

Business Day: Any day except a Saturday, Sunday, or a Federal Reserve Bank holiday. A Business Day shall open at 8:00 a.m. and close at 5:00 p.m. local time for the relevant Party's principal place of business. The relevant Party, in each instance unless otherwise specified, shall be the Party to whom the notice, payment or delivery is being sent and by whom the notice or payment or delivery is to be received.

Day Prior: The last weekday, Monday through Friday prior to the Operating Day, excluding North American Electric Reliability Corporation (NERC) Holidays, the day after Thanksgiving, and Christmas Eve day.

Payment

If Customer subscribes to Schedule A – Joint Owned Unit Market Service, MidAmerican will receive all revenue and expenses from the MISO for Customer's Joint Owned Unit (JOU) share. For each settlement statement received from the MISO where revenues and expenses result in a net revenue for the JOU, MidAmerican shall disburse to Customer its share of net revenues received from the MISO within 7 Business Days of receipt of payment from the MISO. For each settlement statement received from the MISO where revenues and expenses result in a net expense for the JOU, and unless alternative payment arrangements are made between Customer and MidAmerican to net such expenses with other revenue streams, MidAmerican shall bill the Customer its share of net expenses owed to the MISO, and MidAmerican shall receive payment from Customer within 7 Business Days of the date of the invoice from MidAmerican. Interest on any unpaid amount from the date due until the date upon which payment is made shall accrue at the lesser of a) the prime rate published in the Wall Street Journal on the first Business Day of the month plus three percent (3%) per annum, and b) the maximum rate permitted by applicable law.

For Schedule B through Schedule H, the Customer shall be responsible for all revenue and expense obligations with the MISO.

Communications by Email

Each Party shall provide notification to the other Party regarding the designated email addresses to be utilized to enable the provision of services under Schedules B, C, D, E, and F. Such notification shall be provided prior to the effective date of any Confirmation Letter and prior to any modification to such email addresses.

Schedule A - Joint Owned Unit Market Service

Where MidAmerican is the operator of a Joint Owned Unit (JOU), Customer's share of a JOU will be combined with MidAmerican's share and the shares of other owners of the JOU for whom MidAmerican is providing this service. MidAmerican will make all necessary market registrations and other arrangements to meet MISO criteria to enable JOU shares to be combined. Customer shall assist in the market registration process as necessary.

MidAmerican will determine the energy and ancillary services offer strategies for the aggregated shares and submit offers to the MISO. MidAmerican will dispatch the unit as directed by the MISO.

MidAmerican will be the Meter Data and Management Agent (MDMA) for metering associated with the JOU.

The MISO will settle all revenues and expenses with MidAmerican for combined JOU shares. MidAmerican shall allocate all revenues and expenses associated with the MISO settlements to Customer taking this Schedule A service according to Customer's ownership percentage in the aggregate of owners taking this Schedule A service.

Schedule B - Resource Offer Service

Customer shall make all necessary market registrations and arrangements to meet MISO criteria to enable wholly owned, demand response resource, or individually modeled units to be separately modeled and dispatched by the MISO.

Customer shall provide MidAmerican with an offer strategy or with specific offer volumes, pricing, and other parameters necessary to offer or self-schedule each resource into the MISO market. MidAmerican will submit the offers in the MISO day-ahead and real-time markets. The Customer will communicate by email to MidAmerican default offer values, and will communicate by email to MidAmerican any offer revisions at or before 8:30 a.m. Central Prevailing Time (CPT) of the Day Prior to the Operating Day to enable MidAmerican to update offers for the day-ahead market. Customer shall also communicate by email to MidAmerican any necessary updates to operating parameters within the Operating Day.

Schedule C - Load Forecasting Service

Each day MidAmerican will forecast Customer's load for the next Operating Day for the purpose of determining the demand bid quantity in the MISO day-ahead market. MidAmerican will communicate by email the forecast to the Customer for review at or before 7:30 a.m. CPT of the Day Prior to the Operating Day. Customer may revise the forecast if desired, including reducing the forecast to account for operation of behind-the-meter local generation. If the Customer takes Schedule D - Demand Bid Service, Customer will communicate by email to MidAmerican any forecast revisions at or before 8:30 a.m. CPT of the Day Prior to the Operating Day. Customer shall assist

MidAmerican in the development of initial and ongoing load forecasts through the provision of historical and ongoing load and weather station data to MidAmerican. Three years of historical data is preferred for the initial load forecast.

Schedule D - Demand Bid Service

Customer shall make all necessary market registrations and arrangements to meet MISO criteria to enable the modeling of Customer's load zone by the MISO.

MidAmerican will enter a demand bid on behalf of Customer for the forecasted load or some percentage of the forecasted load as agreed upon with the Customer. If Customer subscribes to Schedule C – Load Forecasting Service, then the process for developing the load forecast will occur as described under Schedule C. Otherwise, Customer shall perform its own forecast of the demand bid volumes and pricing and communicate by email this forecast to MidAmerican at or before 8:30 a.m. CPT of the Day Prior to the Operating Day.

Schedule E - Varying Schedule Tagging Service

Customer shall make all necessary market registration and transmission service arrangements to meet MISO criteria to enable the scheduling of Customer's transactions.

MidAmerican will create ETag schedules that vary on a daily or weekly basis. Each day MidAmerican will determine the varying hourly schedule volumes according to Customer's prescribed scheduling strategy. MidAmerican will email the schedule to the Customer for review at or before 7:30 a.m. CPT of the Day Prior to the Operating Day. The Customer may revise the schedule if desired and communicate by email the revised schedule to MidAmerican at or before 8:30 a.m. CPT of the Day Prior to the Operating Day. Customer shall indicate whether it desires the schedule to be a part of both the day-ahead and real-time MISO markets, or just the real-time market.

Schedule F - Fixed Schedule Tagging Service

Customer shall make all necessary market registration and transmission service arrangements to meet MISO criteria to enable the scheduling of Customer's transactions.

MidAmerican will create ETag schedules that vary on a monthly basis. MidAmerican will determine the varying hourly schedule volumes according to Customer's prescribed scheduling strategy. MidAmerican will email the schedule to the Customer for review at or before 7:30 a.m. CPT of the Day Prior to the first day of the month. The Customer may revise the schedule if desired and communicate by email the revised schedule to MidAmerican at or before 8:30 a.m. CPT of the Day Prior to the first day of the month.

Customer shall indicate whether it desires the schedule to be a part of both the day-ahead and real-time MISO markets, or just the real-time market.

Schedule G - MDMA Services

MidAmerican will process and transmit revenue metering data to the MISO on behalf of the Customer. The Customer and MidAmerican shall cooperate to provide settlement data within MISO timing requirements. This service is available for meters associated with the Customer's commercial pricing nodes for resources and loads provided the Customer elects to take Schedule B or Schedule D services. The Customer and MidAmerican will meet initially to determine the meter data collection methodology and any netting methodology for multiple meters that is required to be performed prior to transmittal to the MISO.

Schedule H - Shadow Settlement of Customer's Market Participant Settlement Statement

For Customer's taking services under Schedules B, D, E, or F, MidAmerican will validate the Customer's MISO settlement statement against a MidAmerican computed settlement calculation using billing determinants and rates. At Customer's direction, MidAmerican will assist the Market Participant with disputes that arise from the validation process.

MidAmerican Market Services Agreement
JOU Confirmation Letter

This Confirmation Letter shall confirm the MISO Market Services that MidAmerican Energy Company will perform on behalf of <<Customer>> ("Customer").

Services:

✓ Schedule A - Joint Owned Unit (JOU) Market Services (for units listed below)

<<Unit 1>>
<<Unit 2>>
<<Unit 3>>
<<Unit 4>>

Market Services Fee:

Administrative expenses associated with the provision of Schedule A services will be charged through the JOU accounting procedure currently utilized for the JOU agreement(s).

This Confirmation Letter is in effect commencing <<Date>> and ending on <<Date>>.

This Confirmation Letter is being provided pursuant to and in accordance with the MidAmerican Market Services Agreement dated <<Contract Date>> (the "Services Agreement") between MidAmerican Energy Company and the Customer and constitutes part of and is subject to the terms and provisions of such Services Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Services Agreement.

Upon execution by MidAmerican Energy Company and the Customer this Confirmation Letter shall confirm the Services set forth herein and supersedes all prior and contemporaneous agreements and understandings, oral or written, between the Parties relating to these Services.

Either Party may terminate this Confirmation Letter at any time by providing one year written notice to the other Party, excepting only if the Party is providing Notice pursuant to Section 13, Termination for Cause, of the Services Agreement, in which case the Confirmation Letter will be terminated as provided in that Section. The precise date of termination if not for Cause will coincide with the next eligible MISO market registration and modeling change allowed by the MISO that is at least one year following said written notice.

MidAmerican Energy Company	<<Customer>>
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Agent Services Confirmation Letter

This Confirmation Letter shall confirm the MISO Market Services that MidAmerican Energy Company will perform on behalf of <<Customer>> ("Customer").

Services:

☐ Schedule B - Wholly Owned Unit, Demand Response Resource, or Individually Modeled Unit Offer Service (for units listed below)
<<Unit1>>
<<Unit2>>
<<Unit3>>
<<Unit4>>

☐ Schedule C - Load Forecasting Service (for load as described below)

☐ Schedule D - Demand Bid Service (for load as described below)

☐ Schedule E - Varying Schedule Tagging Service (for schedules listed below)

☐ Schedule F - Fixed Schedule Tagging Service (for schedules listed below)

☐ Schedule G - MDMA Services (for loads and wholly owned units, demand response resources, and individually modeled units listed below)

_____
_____
_____

☐ Schedule H - Shadow Settlement Services (for loads and wholly owned units, demand response resources, and individually modeled units listed below)

_____
_____
_____
_____

Market Services Fees:

Monthly Fee: <<Monthly Fee>>

This Confirmation Letter is in effect commencing <<Date>> and ending on <<Date>>.

This Confirmation Letter is being provided pursuant to and in accordance with the MidAmerican Market Services Agreement dated <<Contract Date>> (the "Services Agreement") between MidAmerican Energy Company and the Customer and constitutes part of and is subject to the terms and provisions of such Services Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Services Agreement.

Upon execution by MidAmerican Energy Company and the Customer this Confirmation Letter shall confirm the Services set forth herein and supersedes all prior and contemporaneous agreements and understandings, oral or written, between the Parties relating to these Services.

Either Party may terminate this Confirmation Letter at any time by providing at least ninety (90) days written notice to the other Party, excepting only if the Party is providing Notice pursuant to Section 13, Termination for Cause, of the Services Agreement, in which case termination will be effective as provided in that Section.

MidAmerican Energy Company	<<Customer>>
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, IA 52753 • qcanalytical.net
O: 563-289-3373 • Fx: 563-289-5526

Laboratory Report

Eldridge, City of
Cegan Long
305 North 3rd Street
Eldridge,IA 52748

Date Received: 05/14/26 11:57
Date Reported: 06/01/26 19:10
Project: PWS ID # IA8230008 Eldridge
Email reports and Invoice

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Sample ID: 821 W Donahue St - Routine Grab			**Date Sampled: 05/13/26 12:49**		**Date Received: 05/14/26 11:57**	
Lab No.: 26E1422-01			**Sampled by: Eldridge Personnel**			
Classical Chemistry Parameters						
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	3.45	mg/L	05/13/26 12:49	Eldridge I	SM 4500 Cl G	

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Sample ID: 305 N 3rd St - Routine Grab			**Date Sampled: 05/13/26 13:01**		**Date Received: 05/14/26 11:57**	
Lab No.: 26E1422-02			**Sampled by: Eldridge Personnel**			
Classical Chemistry Parameters						
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	3.68	mg/L	05/13/26 13:01	Eldridge I	SM 4500 Cl G	

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Sample ID: 105 E LeClaire Rd - Routine Grab			**Date Sampled: 05/13/26 13:10**		**Date Received: 05/14/26 11:57**	
Lab No.: 26E1422-03			**Sampled by: Eldridge Personnel**			
Classical Chemistry Parameters						
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	1.97	mg/L	05/13/26 13:10	Eldridge I	SM 4500 Cl G	

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Sample ID: 914 W Hickory St - Routine Grab			**Date Sampled: 05/13/26 13:28**		**Date Received: 05/14/26 11:57**	
Lab No.: 26E1422-04			**Sampled by: Eldridge Personnel**			
Classical Chemistry Parameters						
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	

Analysis Certified by:

Randall Wanke, Ph.D.

Amy Dobbelare For Randall Wanke, Laboratory Director

Randal Wanke, Laboratory Director

IA DNR lab #113

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, IA 52753 • qcanalytical.net
O: 563-289-3373 • Fx: 563-289-5526

Eldridge, City of	Project:	PWS ID # IA8230008 Eldridge	
305 North 3rd Street		Email reports and Invoice	**Reported:**
Eldridge IA, 52748	Client Contact:	Cegan Long	06/01/26 19:10

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Field Chlorine	2.93	mg/L	05/13/26 13:28	Eldridge I	SM 4500 Cl G	

Sample ID: 880 E Sheridan Dr - Routine Grab **Date Sampled: 05/13/26 13:46** **Date Received: 05/14/26 11:57**
Lab No.: 26E1422-05 **Sampled by: City Personnel**

Classical Chemistry Parameters

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	2.43	mg/L	05/13/26 13:46	City Pers	SM 4500 Cl G	

Sample ID: 1801 S 5th St - Routine Grab **Date Sampled: 05/14/26 9:17** **Date Received: 05/14/26 11:57**
Lab No.: 26E1422-06 **Sampled by: City Personnel**

Classical Chemistry Parameters

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	2.46	mg/L	05/14/26 9:17	City Pers	SM 4500 Cl G	

Sample ID: 2199 E Lomar St - Routine Grab **Date Sampled: 05/14/26 9:33** **Date Received: 05/14/26 11:57**
Lab No.: 26E1422-07 **Sampled by: Eldridge Personnel**

Classical Chemistry Parameters

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	1.87	mg/L	05/14/26 9:33	Eldridge I	SM 4500 Cl G	

Sample ID: 120 N Scott Park Rd - Routine Grab **Date Sampled: 05/14/26 9:51** **Date Received: 05/14/26 11:57**
Lab No.: 26E1422-08 **Sampled by: Eldridge Personnel**

Classical Chemistry Parameters

Analyte	Result	Units	Analyzed	Analyst	Method	Notes
Total Coliforms	Negative	MPN/100 mL	05/14/26 14:34	ad	SM 9223B	
Field Chlorine	1.91	mg/L	05/14/26 9:51	Eldridge I	SM 4500 Cl G	

N-1	Negative
_A	Bacteria Absent

AGENDA

QC Analytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-08

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle**, **Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: - . -

Total Chlorine: 1 . 91

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 14 Year 2026 Time: Hour 09 Minutes 51 (AM) - PM)

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 120 N Scott Park Rd

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/14/26 Time 9:51

Lab Signature _____ Print name _____

Date 5-14-26 Time 11:30

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Endorsement by Federal or State Governments or their agencies is not implied. Drinking Water Certifications: Iowa (113)

AGENDA

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-07

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle, Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: - . -

Total Chlorine: 1 . 87

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 14 Year 2026 Time: Hour 09 Minutes 33 (AM) PM

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 2199 E Lomar St

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/14/26 Time 9:34

Lab Signature _____ Print name _____

Date 5-14-26 Time 11:30

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AGENDA

QC Analytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-06

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle**, **Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: - . -

Total Chlorine: 2 . 46

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 14 Year 2026 Time: Hour 09 Minutes 17 (AM) PM

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 1801 S 5th St

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/14/26 Time 9:18

Lab Signature _____ Print name _____

Date 5/14/26 Time 11:30

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AGENDA

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-05

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle**, **Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: - . -

Total Chlorine: 2 . 43

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 13 Year 2026 Time: Hour 13 Minutes 46 (AM - PM)

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 880 E Sheridan Dr

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/13/26 Time 13:46

Lab Signature _____ Print name _____

Date 5/14-26 Time 11:30

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AGENDA

QC Analytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-04

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle, Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: - . -

Total Chlorine: 2 . 93

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 13 Year 2026 Time: Hour 13 Minutes 28 (AM - PM)

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 914 W Hickory Rd

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/13/26 Time 13:29

Lab Signature _____ Print name _____

Date 5-14-26 Time 11:30

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AGENDA

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-03

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle**, **Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: — . —

Total Chlorine: 1 . 97

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 13 Year 2026 **Time:** Hour 13 Minutes 10 (AM (PM))

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 105 E LeClaire Rd

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/13/26 Time 13:11

Lab Signature _____ Print name _____

Date 5-14-26 Time 11:30

AGENDA

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-02

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle**, **Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: — . —

Total Chlorine: 3 . 68

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 13 Year 2026 Time: Hour 13 Minutes 01 (AM (PM))

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 305 N 3rd St

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/13/26 Time 13:01

Lab Signature _____ Print name _____

Date 5-14-26 Time 11:30

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AGENDA

QCAnalytical Services, LLC
1798 Iowa Drive, LeClaire, Iowa 52753

Iowa SDWA Form

Lab Sample ID # 26E1422-01

Facility Name:	PWS ID:
Eldridge	IA 8230008

Test analysis (Please **Circle, Check or Write-in**) (Check IA DNR Permit for Accuracy)

Total Coliform	Contact Person:	Mail Report:
Water samples must be analyzed within 30 hours of collection.	Contact Phone:	Email Report:

Sample Type: (Check one)

✓	Routine	
	Triggered	SEP#_____
	Repeat (circle one->)	upstream downstream original
	Special	

Free Chlorine: — . —

Total Chlorine: 3 . 45

Lab Tech Note:
Add Field Data Analysis
Total Chlorine at Log-in on
to **Res. Cl mg/L tab**.

Sample date: Month 05 Day 13 Year 2026 Time: Hour 12 Minutes 49 (AM (PM))

Facility ID: 950

Sampling Point ID (use facility ID, if not #assigned): 950

Sample Collection Location: 821 W Donahue St

Sample Collector (last name, first name): Long, Cegan

Client Signature _____ Print name Cegan Long

Date 5/13/26 Time 12:50

Lab Signature _____ Print name _____

Date 5-14-26 Time 11:30

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