



**IMU BOARD OF TRUSTEES OF THE ELECTRIC,
WATER AND COMMUNICATIONS UTILITIES**

March 9, 2026

5:30 PM

IMU Boardroom

Agenda

- 1. Call to Order**
- 2. Roll Call**
- 3. Public Comment**
- 4. Consent Agenda**
 - A. Approval of Claims
 - B. Approval of Minutes of the prior meetings
 - C. Approve Quarter 4 Set-offs with the State of Iowa
 - D. Resolution Approving Payment Application #4 to Miller Electric
 - E. Resolution Approving Payment Application #2 to Van Maanen Electric, Inc for the Water Treatment Facility Standby Generator Project
 - F. Resolution Setting Public Hearing for Water Rate Resolution
 - G. Resolution Setting Public Hearing for Communications Rate Resolution
 - H. January 2026 Financial Report
- 5. Electric Utility Action Items**
 - A. Resolution Approving Certificate of Completion of the NE/SE Alley Premise Wiring Modification Project
 - B. Resolution Approving the Indianola Municipal Utilities Annual Reliability Plan.
- 6. Electric Utility Informational Items**
- 7. Water Utility Informational Items**
- 8. Communications Utility Action Items**
 - A. Resolution Approving Amendment No.2023NG to Grant No. 433553 awarded for Notice of Funding Availability NOFA #007
 - B. Resolution Approving Amendment No.2023NG to Grant No. 433551 awarded for Notice of Funding Availability NOFA #007
- 9. Communications Utility Informational Items**
- 10. Combined Electric, Water and Communications Action Items**

- A. Discussion and Direction regarding the shared cost for the joint vehicle fueling station
 - B. Authorization to select AMI Vendor
 - C. Public hearing on the authorization of a Loan Agreement and the issuance of Notes to evidence the obligation of the City thereunder.
 - D. Resolution instituting proceedings to take additional action for the authorization of a loan agreement and the issuance of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes
 - E. Public Hearing regarding Indianola Municipal Utilities Budget 2027
 - F. Resolution Approving Indianola Municipal Utilities Budget 2027
- 11. Combined Electric, Water and Communications Informational Items**
- 12. Other Business**
- 13. Closed Session: Enter into closed session in accordance with Iowa Code Section 388.9(1) to discuss marketing and pricing strategies and proprietary information of the telecommunications division whose competitive position will be harmed by public disclosure that is not required of potential or actual competitors and no public purpose is served by such disclosure.**
- 14. Adjourn**



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Approval of Claims

Recommendation:

- Attachments:**
1. 022526 AP Check Preview
 2. 031026 AP Check Preview

AP Check Preview

Date Range: All Dates

225-26

Indianola Municipal Utilities

Wednesday, February 25, 2026
2:43:22 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number	Payment Type
--------	----------	-------	-------	------------	----------	----------	------------	---------	----------------	-------------	--------------

Account To Be Paid From			0000-10120-999								
MUNICIPAL ENERGY AGENCY OF NEBRASKA - VEND-35805 - EFT File											
3/2/2026		Purchased Power - Jan26	Net 30	786,451.42	0.00	15.00	786,451.42	786,451.42	310882	BL-18196	EFT File
				<u>786,451.42</u>			<u>786,451.42</u>				

Total Payment Count:	1	Totals:	\$786,451.42	\$786,451.42
Total Check Count:	0	Check Totals:	\$0.00	\$0.00
Total EFT File Count:	1	EFT File Totals:	\$786,451.42	\$786,451.42
Total Online Payments Count:	0	Online Payments Totals:	\$0.00	\$0.00
Total Bank Draft Count:	0	Bank Draft Totals:	\$0.00	\$0.00
Total No Check Count:	0	No Check Totals:	\$0.00	\$0.00

*one off payment

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
Account To Be Paid From		0000-10120-999									
Aaron Gebhart - VEND-1486 - EFT File											
3/31/2026	Mar26	Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18209	EFT File
							75.00	75.00			
ACCO UNLIMITED CORP. - VEND-2810 - EFT File											
2/19/2026	ACCO	Liquid Chlorinating Solution	Open Terms	2,478.80	0.00	0.00	2,478.80	2,478.80	0260636-IN	BL-18217	EFT File
							2,478.80	2,478.80			
BRAND, JUSTIN - VEND-100310 - EFT File											
3/2/2026	Mar26	Mobile Device Allowance	Open Terms	75.00	0.00	0.00	75.00	75.00	Mar26	BL-18215	EFT File
							75.00	75.00			
Calix Inc - VEND-1028 - EFT File											
3/19/2026	Router		Net 30	10,110.92	0.00	15.00	10,110.92	10,110.92	403055	BL-18218	EFT File
							10,110.92	10,110.92			
Cedar Falls Utilities - VEND-1045 - EFT File											
4/1/2026	0226	Labor & Rack Space 28E Agreement (IP	Net 30	5,970.28	0.00	15.00	5,970.28	5,970.28	94598	BL-18219	EFT File
							5,970.28	5,970.28			
Central Municipal Power Agency/Services (CMPAS) - VEND-1484 - EFT File											
3/22/2026	CAPX	Brookings-2nd Circuit Build-Aug25	Net 30	20,837.81	0.00	15.00	20,837.81	20,837.81	8033	BL-18220	EFT File
							20,837.81	20,837.81			
City Of Indianola - VEND-1008 - BL-18221											
4/1/2026	0326	Professional Services	Net 30	6,513.39	0.00	15.00	6,513.39	6,513.39	Inv-00168	BL-18221	EFT File
							6,513.39	6,513.39			
Consortia Consulting - VEND-1009 - EFT File											
3/25/2026	0126	Consulting	Net 30	1,200.00	0.00	15.00	1,200.00	1,200.00	28339	BL-18222	EFT File
							1,200.00	1,200.00			
CORE & MAIN - VEND-102636 - Check											
2/18/2026	Lab	Supplies	Open Terms	465.18	0.00	0.00	465.18	465.18	INV0026613	BL-18223	Check
							465.18	465.18			
CROSSROADS MOBILE MAINTENANCE - VEND-102507 - EFT File											

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
	2/27/2026	Unit 7 Repairs	Open Terms	2,734.07	0.00	0.00	2,734.07	2,734.07	201S10078	BL-18224	EFT File
							2,734.07	2,734.07			
DES PLANQUES, CHRIS - VEND-101766 - EFT File											
	3/2/2026	Mar26 Mobile Device Allowance	Open Terms	75.00	0.00	0.00	75.00	75.00	Mar26	BL-18213	EFT File
							75.00	75.00			
Doug Pagel - VEND-1283 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18214	EFT File
							75.00	75.00			
Doug Shull - VEND-1105 - EFT File											
	3/31/2026	Mar26 Treasurer Contract	Net 30	83.34	0.00	15.00	83.34	83.34	Mar26	BL-18225	EFT File
							83.34	83.34			
Dylan Michelsen - VEND-1180 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18208	EFT File
							75.00	75.00			
Elisha Brown - VEND-1209 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18212	EFT File
							75.00	75.00			
FanDuel Sports Network - VEND-1446 - EFT File											
	3/30/2026	0226 Expanded Basic	Net 30	2,838.80	0.00	15.00	2,838.80	2,838.80	30853	BL-18226	EFT File
							2,838.80	2,838.80			
Finley Law Firm, P.C. - VEND-1439 - EFT File											
	3/21/2026	0126 Legal Services	Net 30	7,380.00	0.00	15.00	7,380.00	7,380.00	526042	BL-18227	EFT File
							7,380.00	7,380.00			
Gradient9 - VEND-1392 - EFT File											
	3/23/2026	0226 Monthly Newsletter/Website	Net 30	2,310.00	0.00	15.00	2,310.00	2,310.00	INV-5663	BL-18228	EFT File
							2,310.00	2,310.00			
GRAYMONT WESTERN LIME INC - VEND-101387 - EFT File											
	2/24/2026	High Calcium Quicklime	Open Terms	6,649.00	0.00	0.00	6,649.00	6,649.00	14-211265RI	BL-18229	EFT File
							6,649.00	6,649.00			

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
Gregg Young Buick GMC - VEND-1227 - Check											
	3/5/2026	Side Mirror Replacement Glass	Net 30	83.71	0.00	15.00	83.71	83.71	81249	BL-18230	Check
							83.71	83.71			
Hannah Saf - VEND-1141 - BL-18198											
	2/26/2026	Credit Refund	Net 30	683.22	0.00	0.00	683.22	683.22	00014180-6	BL-18198	Check
							683.22	683.22			
ImOn Communications LLC - VEND-1072 - Check											
	3/30/2026	0226 Regulatory & Billing	Net 30	6,792.08	0.00	15.00	6,792.08	6,792.08	INV0034198	BL-18231	Check
							6,792.08	6,792.08			
IMU - VEND-8629 - Check											
	3/2/2026	Utilities - EL	Open Terms	2,370.71	0.00	0.00	2,370.71	2,370.71	10536896	BL-18232	Check
	3/2/2026	Utilities - Util Svcs	Open Terms	206.33	0.00	0.00	206.33	206.33	10542660	BL-18233	Check
	3/2/2026	Utilities - Fiber	Open Terms	1,364.49	0.00	0.00	1,364.49	1,364.49	10539558	BL-18234	Check
	3/2/2026	0226 Trash - Fiber/111 S Buxton	Open Terms	17,901.27	0.00	0.00	17,901.27	17,901.27	10540767	BL-18294	Check
							21,842.80	21,842.80			
Independent Advocate - VEND-1136 - EFT File											
	3/20/2026	Official Notifications	Net 30	137.34	0.00	15.00	137.34	137.34	7575	BL-18235	EFT File
	3/26/2026	Official Notice Proposed Authorization Loan A	Net 30	32.76	0.00	15.00	32.76	32.76	7579	BL-18236	EFT File
	3/26/2026	Print & Digital Ad - Feb26	Net 30	500.00	0.00	15.00	500.00	500.00	7604	BL-18237	EFT File
							670.10	670.10			
Indoff Incorporated - VEND-1058 - Check											
	3/27/2026	Copier Paper	Net 30	228.68	0.00	15.00	228.68	228.68	3847807	BL-18238	Check
							228.68	228.68			
Innovative Systems - VEND-1048 - EFT File											
	4/1/2026	Mar Elation Maint Fee	Net 30	12,788.62	0.00	15.00	12,788.62	12,788.62	Inv-30341	BL-18240	EFT File
	4/2/2026	InnoStream License / Hardware	Net 30	48,689.33	0.00	15.00	48,689.33	48,689.33	INV-30418	BL-18239	EFT File
	4/3/2026	0326 Utility Bills	Net 30	7,215.79	0.00	15.00	7,215.79	7,215.79	INV-30454	BL-18295	EFT File
							68,693.74	68,693.74			
Internal Revenue Service - VEND-1307 - Online Payments											
	3/29/2026	941 Income Tax Payable - 022726 Payroll	Net 30	33,515.72	0.00	15.00	33,515.72	33,515.72	022726 Payroll	BL-18241	Online Payments
							33,515.72	33,515.72			

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
Iowa Department Of Human Services - VEND-1310 - Online Payments											
	3/29/2026	Garnishment Payable - 022726 Payroll	Net 30	653.99	0.00	15.00	653.99	653.99	022726 Payroll	BL-18242	Online Payments
							653.99	653.99			
Iowa Department Of Revenue - VEND-1117 - Online Payments											
	3/29/2026	IA Income Tax Payable - 022726 Payroll	Net 30	3,534.65	0.00	15.00	3,534.65	3,534.65	022726 Payroll	BL-18243	Online Payments
							3,534.65	3,534.65			
IPERS - VEND-1309 - Online Payments											
	3/30/2026	IPERS Payable - Feb26	Net 30	43,363.57	0.00	15.00	43,363.57	43,363.57	Feb26	BL-18244	Online Payments
							43,363.57	43,363.57			
Irby - VEND-1259 - EFT File											
	3/19/2026	Locate Paint	Net 30	263.22	0.00	15.00	263.22	263.22	S014513027.001	BL-18248	EFT File
	3/26/2026	Battery Crimp & Cutter Tools	Net 30	4,718.70	0.00	15.00	4,718.70	4,718.70	S014490583.001	BL-18246	EFT File
	3/29/2026	East Iowa Circuit Switcher Project - Breaker T	Net 30	13,606.12	0.00	15.00	13,606.12	13,606.12	S013989557.003	BL-18245	EFT File
	3/29/2026	East Iowa Circuit Switcher Project - Breakers	Net 30	228,111.16	0.00	15.00	228,111.16	228,111.16	S013989557.005	BL-18247	EFT File
							246,699.20	246,699.20			
ISolved - VEND-1363 - Online Payments											
	3/29/2026	FSA Payable - 022726 Payroll	Net 30	419.23	0.00	15.00	419.23	419.23	022726 Payroll	BL-18249	Online Payments
							419.23	419.23			
Jet Surge - VEND-1361 - Check											
	3/26/2026	Lime Drain Cleaning	Net 30	1,215.00	0.00	15.00	1,215.00	1,215.00	WO-07819	BL-18250	Check
							1,215.00	1,215.00			
KARL CHEVROLET - VEND-101740 - Check											
	2/13/2026	Chevy Colorado Truck	Open Terms	35,113.40	0.00	0.00	35,113.40	35,113.40	Mar26 - Truck	BL-18251	Check
							35,113.40	35,113.40			
KNIA/KRLS - VEND-1090 - EFT File											
	3/24/2026	0226 :30 Spot Hometown Values	Net 30	739.44	0.00	15.00	739.44	739.44	26020456	BL-18252	EFT File
	3/24/2026	0226 Sports Stream Spot	Net 30	65.00	0.00	15.00	65.00	65.00	26020457	BL-18253	EFT File
							804.44	804.44			
Kurt Gocken - VEND-1023 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18205	EFT File

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
							75.00	75.00			
Kurt Ripperger - VEND-1025 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18206	EFT File
							75.00	75.00			
Lamar Companies - VEND-1478 - EFT File											
	3/28/2026	Advertising - IMU Fiber - 2026	Net 30	1,100.00	0.00	15.00	1,100.00	1,100.00	117969149	BL-18254	EFT File
	3/28/2026	Advertising - IMU Fiber - 2026	Net 30	200.00	0.00	15.00	200.00	200.00	117967231	BL-18255	EFT File
							1,300.00	1,300.00			
Marquee Sports Network - VEND-1165 - EFT File											
	3/30/2026	0226 Expanded Basic	Net 30	3,414.65	0.00	15.00	3,414.65	3,414.65	Feb26	BL-18256	EFT File
							3,414.65	3,414.65			
METCALF, MIKE - VEND-34230 - EFT File											
	3/2/2026	Mar26 Mobile Device Allowance	Open Terms	75.00	0.00	0.00	75.00	75.00	Mar26	BL-18211	EFT File
							75.00	75.00			
MH EQUIPMENT - VEND-103149 - Check											
	2/19/2026	Counter balance forklift service	Open Terms	329.14	0.00	0.00	329.14	329.14	S21045582-1	BL-18257	Check
	2/19/2026	Rough Terrain Forklift Service	Open Terms	682.33	0.00	0.00	682.33	682.33	S21045583-1	BL-18258	Check
							1,011.47	1,011.47			
Michelle Sheraden - VEND-1501 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18210	EFT File
							75.00	75.00			
Mid American Energy Co - VEND-1018 - EFT File											
	3/15/2026	Electric - 11634 R63 Hwy, W Substation	Net 30	10.00	0.00	15.00	10.00	10.00	577162355	BL-18265	EFT File
	3/25/2026	Gas - 909 E Hillcrest Ave, Generator	Net 30	14.58	0.00	15.00	14.58	14.58	577454336	BL-18260	EFT File
	3/25/2026	Gas - 111 S Buxton St	Net 30	1,616.07	0.00	15.00	1,616.07	1,616.07	577458248	BL-18261	EFT File
	3/25/2026	Gas - 1300 E Iowa Ave Bldg B	Net 30	60.43	0.00	15.00	60.43	60.43	577435296	BL-18262	EFT File
	3/25/2026	Gas - 110 S B St	Net 30	658.83	0.00	15.00	658.83	658.83	577458132	BL-18264	EFT File
	3/25/2026	Gas - 210 W 2nd Ave	Net 30	113.41	0.00	15.00	113.41	113.41	577476690	BL-18266	EFT File
	4/22/2026	Gas - 1300 E Iowa Ave Bldg A	Net 30	503.68	0.00	15.00	503.68	503.68	577443497	BL-18263	EFT File
							2,977.00	2,977.00			
Midwest Alarm Services - VEND-1116 - EFT File											

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
2/7/2026	Turbine 7 & 8 Fire Suppression System Annual	Net 30	1,950.36	0.00	15.00	1,950.36	1,950.36	531851	BL-18267	EFT File
3/14/2026	Brycer Compliance Fee - Bldg A 1300 E Iowa	Net 30	21.40	0.00	15.00	21.40	21.40	535456	BL-18269	EFT File
3/14/2026	Brycer Compliance Fee - Bldg B 1300 E Iowa	Net 30	21.40	0.00	15.00	21.40	21.40	535457	BL-18270	EFT File
3/20/2026	Brycer Compliance Fee - 111 S Buxton	Net 30	21.40	0.00	15.00	21.40	21.40	535829	BL-18268	EFT File
3/20/2026	Brycer Compliance Fee - 110 S B St	Net 30	21.40	0.00	15.00	21.40	21.40	535831	BL-18271	EFT File
						2,035.96	2,035.96			
MILLER ELECTRIC SERVICES - VEND-34642 - Check										
2/21/2026	Dntwn Undgrd Primise Wiring NE/SE - Pay Ap	Open Terms	6,640.50	0.00	0.00	6,640.50	6,640.50	20150	BL-18272	Check
						6,640.50	6,640.50			
Mission Square - VEND-1303 - Online Payments										
3/29/2026	457 Payable - 022726 Payroll	Net 30	6,589.56	0.00	15.00	6,589.56	6,589.56	022726 Payroll	BL-18273	Online Payments
						6,589.56	6,589.56			
MUNICIPAL SUPPLY INC - VEND-35810 - Check										
3/5/2026	6x12 Repair Clamp	Open Terms	198.00	0.00	0.00	198.00	198.00	0962953-IN	BL-18296	Check
						198.00	198.00			
National Cable Television Cooperative, Inc. - VEND-1095 - EFT File										
3/28/2026	0226 Cable Programming	Net 30	63,812.25	0.00	15.00	63,812.25	63,812.25	26020535	BL-18274	EFT File
						63,812.25	63,812.25			
Nexstar Broadcasting, Inc - VEND-1092 - EFT File										
3/30/2026	0226 NewsNation	Net 30	528.50	0.00	15.00	528.50	528.50	624957	BL-18275	EFT File
3/30/2026	0226 Nexstar - WHO	Net 30	11,956.40	0.00	15.00	11,956.40	11,956.40	624785	BL-18276	EFT File
						12,484.90	12,484.90			
Power & Tel - VEND-1037 - EFT File										
3/19/2026	Drop Cable	Net 30	12,491.24	0.00	15.00	12,491.24	12,491.24	8204088-00	BL-18277	EFT File
4/3/2026	Cable Drop Low Profile	Net 30	430.73	0.00	15.00	430.73	430.73	8241044-00	BL-18297	EFT File
						12,921.97	12,921.97			
POWER LINE SUPPLY - VEND-103039 - EFT File										
2/17/2026	Arresters	Open Terms	308.41	0.00	0.00	308.41	308.41	56955888	BL-18278	EFT File
						308.41	308.41			
Segra / Unite Private Networks - VEND-1054 - EFT File										
3/31/2026	Dark Fiber	Net 30	3,931.70	0.00	15.00	3,931.70	3,931.70	SI-26-013019	BL-18279	EFT File

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
							3,931.70	3,931.70			
Skye McBroom - VEND-1026 - EFT File											
	3/31/2026	Mar26 Mobile Device Allowance	Net 30	75.00	0.00	15.00	75.00	75.00	Mar26	BL-18207	EFT File
							75.00	75.00			
Teklink - VEND-1262 - EFT File											
	3/25/2026	Bore & Drop	Net 30	2,704.00	0.00	15.00	2,704.00	2,704.00	WE 2/21/2026	BL-18280	EFT File
	4/1/2026	Bore & Drop	Net 30	4,110.00	0.00	15.00	4,110.00	4,110.00	WE 2/28/2026	BL-18281	EFT File
							6,814.00	6,814.00			
Terry-Durin Co - VEND-1038 - EFT File											
	3/21/2026	1 1/2" INNER DUCT	Net 30	4,943.40	0.00	15.00	4,943.40	4,943.40	211198-00	BL-18283	EFT File
	3/28/2026	3" Innerduct - Ground Wire - Ground Wire	Net 30	3,885.30	0.00	15.00	3,885.30	3,885.30	210013-00	BL-18282	EFT File
							8,828.70	8,828.70			
TRM DISPOSAL LLC - VEND-101016 - EFT File											
	2/25/2026	0326 Recycle - Fiber/111 S Buxton	Open Terms	83.00	0.00	0.00	83.00	83.00	39304	BL-18284	EFT File
	2/25/2026	0326 Trash/Recycle - Util Svcs	Open Terms	56.00	0.00	0.00	56.00	56.00	39303	BL-18285	EFT File
							139.00	139.00			
TrueNorth Companies LC - VEND-1100 - EFT File											
	3/22/2026	Feb26 Safety Meeting	Net 30	138.47	0.00	15.00	138.47	138.47	185279	BL-18286	EFT File
							138.47	138.47			
VAN WERT INC - VEND-101069 - EFT File											
	2/26/2026	Meter Parts	Open Terms	426.93	0.00	0.00	426.93	426.93	82821	BL-18287	EFT File
							426.93	426.93			
VEENSTRA & KIMM - VEND-57600 - Check											
	2/22/2026	Engineering Svcs N 6th St Place Water Main I	Open Terms	8,996.00	0.00	0.00	8,996.00	8,996.00	285116-6	BL-18298	Check
							8,996.00	8,996.00			
WESCO - VEND-60220 - EFT File											
	2/18/2026	FIBER LOCATE PAINT	Open Terms	146.12	0.00	0.00	146.12	146.12	890996	BL-18288	EFT File
	2/18/2026	U-Guard	Open Terms	145.86	0.00	0.00	145.86	145.86	890997	BL-18291	EFT File
	2/19/2026	Connectors	Open Terms	714.93	0.00	0.00	714.93	714.93	893751	BL-18292	EFT File
	2/25/2026	Lineman Wrench	Open Terms	145.25	0.00	0.00	145.25	145.25	902055	BL-18289	EFT File
	2/26/2026	Fiberglass Guy Insulators	Open Terms	515.42	0.00	0.00	515.42	515.42	904783	BL-18290	EFT File

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Wednesday, March 4, 2026
2:23:32 PM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Pavment	Invoice Number	Bill Number	Payment Type
							1,667.58	1,667.58			
Wiegert Disposal Inc - VEND-1081 - EFT File											
	3/31/2026	0226 Trash - Fiber/111 S Buxton	Net 30	110.00	0.00	15.00	110.00	110.00	Mar26	BL-18293	EFT File
							110.00	110.00			
Total Payment Count: 61						Totals:	\$679,457.17	\$679,457.17			
Total Check Count: 12						Check Totals:	\$83,270.04	\$83,270.04			
Total EFT File Count: 43						EFT File Totals:	\$508,110.41	\$508,110.41			
Total Online Payments Count: 6						Online Payments Totals:	\$88,076.72	\$88,076.72			
Total Bank Draft Count: 0						Bank Draft Totals:	\$0.00	\$0.00			
Total No Check Count: 0						No Check Totals:	\$0.00	\$0.00			



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Approval of Minutes of the prior meetings

Recommendation:

Attachments: 1. 2-23-2026 Minutes

IMU BOARD OF TRUSTEES OF THE ELECTRIC, WATER AND COMMUNICATIONS UTILITIES

February 23, 2026, 5:30 PM IMU Boardroom Minutes

The IMU Board of Trustees met in regular session at 5:30 pm on February 23, 2026, in the IMU Conference Room. Board Chair Dom Selgrade called the meeting to order and on roll call the following board members were present: Dom Selgrade, Deb White, Lori Smith, Adam Voigts and Paul Craven.

Public comment: Afton Bradley, Indianola Parks & Recreation Coordinator spoke on behalf of the Veterans Memorial Aquatic Center request for 1.5 million gallons of water.

Smith moved to approve the **Consent Agenda** as follows: Approval of Claims, Approval of Minutes of the prior meetings, Authorization for Warren Water District to serve a customer located at 13134 McGregor St, December 2025 Finance Report reviewed by Doug Shull, Authorization for Warren Water District to serve a customer located at 12095 Nevada Street; and Voigts seconded it. On roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None. Whereas the motion carried unanimously.

Electric Utility Action Items

Craven moved to enter public hearing regarding the plans, specifications, form of contract and estimate of cost for East Iowa Circuit Switcher Replacement Project- Installation, Voigts seconded. On roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None There was no public comment.

Smith moved to exit public hearing and Craven seconded, on roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None. Smith moved to approve **Resolution 2026-010** approving the plans, specifications, form of contract and estimate of cost for East Iowa Circuit Switcher Replacement Project- Installation and Craven seconded. In discussion, Metcalf explained the equipment was ordered in June 2024 and will be delivered this week. On roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None. Whereas the motion carried unanimously. Voigts moved to approve

Resolution 2026-011 awarding and approving a contract to Harold K. Scholz Co. for the East Iowa Circuit Switcher Replacement Project- Installation and Craven seconded, on roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None.

Electric Utility Informational Items

Electric Director Mike Metcalf shared that staff is tree trimming, doing overhead maintenance, and vehicle maintenance. The AMI project bids will be opened on Friday with the results being present to the Trustees at the March 9th meeting. The Downtown Square Project electrician work has been completed. The overhead lines will need to remain until the North 1st Street project is completed.

Water Utility Action Items

Craven moved to enter public hearing regarding the plans, specifications, form of contract and estimate of cost for N. 6th Street Place Water Main Improvements Project White seconded. On roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None Water Department Director Justin Brand explained the water 1700' main was installed in 1959 and there have been 24 main breaks. Project impact should be minimal utilizing boring equipment to reduce ground/pavement excavation.

Libby Patton from Veenstra and Kimm shared project details and maps.

Public Comment:

Gene Grimm, 604 N 6th St Place asked about timeline and scope of work, and project costs.

Becky Backstrom, 811 E Franklin spoke on scope, timeline and accessibility concerns.

Councilperson Melissa Sones emphasized that this project does not benefit from combining with city projects at this time.

Suzy Shuppe 912 E Girard, questioned the project name, scope and areas of work and water service disruptions.

(Mayor) Steve Richardson, 611 N 6th St Place spoke about ADA concerns, emergency access, and verified hydrant locations on the map provided.

Brand reiterated that notifications would be sent once the contractor sets the timeline.

White moved to exit public hearing and Voigts seconded, on roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None. Craven moved to approve **Resolution 2026-012** Resolution approving the plans, specifications, form of contract and estimate of cost for N. 6th Street Place Water Main Improvements Project and Voigts seconded. On roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None. Whereas the motion carried unanimously. Smith moved to approve **Resolution 2026-013** awarding and approving a contract to Busy Bee Construction, LLC for the N. 6th Street Place Water Main Improvements Project and White seconded, on roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None.

Water Utility Informational Items

Water Department Director Justin Brand shared Water Department staff are working on equipment maintenance, plant cleanup, isolating valves as the weather allows, continuing meter swaps and working with the schools and Simpson to schedule meter swaps over spring break.

Communications Utility Action Items

White moved to approve **Resolution 2026-014** Approving IPTV 28E Draft Amendment - Agreement Termination; Voigts seconded. On roll call, the vote was AYES: Selgrade, Smith, White, Voigts, Craven. NAYS: None. Whereas the motion carried unanimously.

Communications Utility Informational Items

Communications Director Kurt Ripperger and staff have taken advantage of warm temps for outside tasks, will be updating IPTV servers, install and testing of MDU device at 410 N 1st St, connecting dark fiber loop for the High School addition, and usual seasonal tasks.

Combined Electric, Water and Communications Action Items

Department Heads and Administrative Staff are preparing for the March 2 annual financial report to the city, IPA transmission investment meetings, DesPlanques attended the IAMU Energy Conference, discussed pending legislation, and PPA impacts. DesPlanques and Finance director Michelle Sheraden met with city staff about Health Insurance renewals and have scheduled a joint meeting at 6pm March 10th at City Hall to discuss mutual interests.

Combined Electric, Water and Communications Informational Items

General Manager Chris DesPlanques presented budget details and led discussion for the proposed FY 2027 budget.

No Other Business was discussed.

At 6:48 Smith motioned and Craven seconded to enter into **Closed Session** in accordance with Iowa Code Section 388.9(1) to discuss marketing and pricing strategies and proprietary information of the telecommunications division whose competitive position will be harmed by public disclosure that is not required of potential or actual competitors and no public purpose is served by such disclosure. On roll call, Ayes: Selgrade, Smith, White, Voigts, Craven; Nays: None, motion passed unanimously.

Voigts motioned to exit this closed session and White seconded. On roll call, Ayes: Selgrade, Smith, White, Voigts, Craven; Nays: None, motion passed unanimously.

White moved to **Adjourn** at 7:05 pm, and Smith seconded. On Voice vote, Ayes: Selgrade, Smith, White, Voigts, Craven; Nays: None, motion passed unanimously.



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Approve Quarter 4 Set-offs with the State of Iowa

Recommendation:

- Attachments:**
1. Q4 Write Offs 2025 IMU
 2. Master IMU Write Off Sheet 2025

IMU 2025 Q4 Write Offs

Electric Billed	\$4,148,811.49	
Electric Write-off	\$12,437.93	0.30%
Water Billed	\$911,461.74	
Water Write-off	\$1,348.14	0.15%
Telecom Billed	\$1,401,595.18	
Telecom Write-off	\$3,670.82	0.26%

Total # of accounts wrote off - 50

Service	Total Dollar Amount
Admin Fee Telecom	\$ 516.79
Electric	\$ 12,437.93
Internet	\$ 2,735.62
Video	\$ 418.41
Water	\$ 1,348.14
Phone	\$ -
Grand Total	\$ 17,456.89

	Electric	Water	Fiber	Total		Billed	
2020 Q1	\$ -	\$ -	\$ -	\$ -		\$ -	2020 Q1
2020 Q2	\$ -	\$ -	\$ -	\$ -		\$ -	2020 Q2
2020 Q3	\$ -	\$ -	\$ -	\$ -		\$ -	2020 Q3
2020 Q4	\$ 94,423.05	\$ 10,258.90	\$ 21,030.59	\$ 125,712.54	2020 Year Total	\$22,791,382.92	2020 Q4
Total	94423.05	10258.9	21030.59		\$ 125,712.54	\$22,791,382.92	Total
2021 Q1	\$ 15,295.20	\$ 1,916.64	\$ 1,579.28	\$ 18,791.12		\$ 5,156,082.50	2021 Q1
2021 Q2	\$ 24,269.78	\$ 3,613.11	\$ 7,325.55	\$ 35,208.44		\$ 4,731,319.59	2021 Q2
2021 Q3	\$ 30,962.47	\$ 3,166.59	\$ 5,782.16	\$ 39,911.22		\$ 6,461,485.61	2021 Q3
2021 Q4	\$ 16,663.91	\$ 2,745.50	\$ 1,793.22	\$ 21,202.63	2021 Year Total	\$ 5,734,992.34	2021 Q4
Total	\$ 87,191.36	\$ 11,441.84	\$ 16,480.21		\$ 115,113.41	\$22,083,880.04	Total
2022 Q1	\$ 23,751.80	\$ 4,140.98	\$ 4,893.85	\$ 32,786.63		\$ 4,903,775.99	2022 Q1
2022 Q2	\$ 14,131.61	\$ 5,200.81	\$ 2,827.08	\$ 22,159.50		\$ 5,048,142.99	2022 Q2
2022 Q3	\$ 19,033.37	\$ 1,967.77	\$ 6,588.42	\$ 27,589.56		\$ 7,026,036.45	2022 Q3
2022 Q4	\$ 13,275.56	\$ 1,276.93	\$ 4,352.77	\$ 18,905.26	2022 Year Total	\$ 5,748,767.56	2022 Q4
Total	\$ 70,192.34	\$ 12,586.49	\$ 18,662.12		\$ 101,440.95	\$22,726,722.99	Total
2023 Q1	\$ 12,321.75	\$ 2,562.37	\$ 5,050.43	\$ 19,934.55		\$ 5,536,842.34	2023 Q1
2023 Q2	\$ 17,161.87	\$ 3,994.19	\$ 5,198.47	\$ 26,354.53		\$ 5,247,361.73	2023 Q2
2023 Q3	\$ 26,887.28	\$ 4,348.64	\$ 8,319.25	\$ 39,555.17		\$ 6,918,285.58	2023 Q3
2023 Q4	\$ 19,205.96	\$ 1,952.72	\$ 3,048.12	\$ 24,206.80	2023 Year Total	\$ 6,234,078.30	2023 Q4
Total	\$ 75,576.86	\$ 12,857.92	\$ 21,616.27		\$ 110,051.05	\$23,936,567.95	Total
2024 Q1	\$ 8,673.83	\$ 1,038.14	\$ 3,614.35	\$ 13,326.32		\$ 4,494,521.28	2024 Q1
2024 Q2	\$ 17,887.36	\$ 2,169.98	\$ 4,021.45	\$ 24,078.79		\$ 5,258,652.65	2024 Q2
2024 Q3	\$ 29,193.87	\$ 3,786.37	\$ 7,310.16	\$ 40,290.40		\$ 6,511,635.81	2024 Q3
2024 Q4	\$ 15,394.72	\$ 2,129.05	\$ 3,084.09	\$ 20,607.86	2024 Year Total	\$6,293,434.87	2024 Q4
Total	\$ 71,149.78	\$ 9,123.54	\$ 18,030.05		\$ 98,303.37	\$22,558,244.61	Total
2025 Q1	\$ 14,390.94	\$ 995.73	\$ 3,388.32	\$ 18,774.99		\$ 5,943,181.15	2025 Q1
2025 Q2	\$ 16,410.27	\$ 1,931.20	\$ 3,923.21	\$ 22,264.68		\$ 5,718,897.41	2025 Q2
2025 Q3	\$ 19,501.70	\$ 2,336.55	\$ 8,885.03	\$ 30,723.28		\$ 7,602,495.33	2025 Q3
2025 Q4	\$ 12,437.93	\$ 1,348.14	\$ 3,670.82	\$ 17,456.89	2025 Year Total	\$ 6,461,868.41	2025 Q4
Total	\$ 62,740.84	\$ 6,611.62	\$ 19,867.38		\$ 89,219.84	\$25,726,442.30	Total

0.55%

0.52%

0.45%

0.46%

0.44%

0.35%

2020-2025	Electric	Water	Fiber	2020-2025 Total
Totals	\$ 461,274.23	\$ 62,880.31	\$ 115,686.62	\$139,823,240.81
Averages	\$ 76,879.04	\$ 10,480.05	\$ 19,281.10	\$ 23,303,873.47



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving Payment Application #4 to Miller Electric

Recommendation:

- Attachments:**
1. Res 2026 Approving Payment Application 4 to Miller Electric for the Downtown Underground Conversion Project NE -SE ALLEY PREMISE WIRING MODIFICATION
 2. Recommendation for Payment 4

Indianola Municipal Utilities
RESOLUTION NO 2026-

**RESOLUTION APPROVING PAY APP 4 TO MILLER ELECTRIC FOR THE DOWNTOWN UNDERGROUND
CONVERSION PROJECT NORTH-EAST SOUTH-EAST ALLEY PREMISE WIRING PROJECT**

WHEREAS, the Board of Trustees of the Indianola Municipal Utilities has deemed it necessary to move forward with the Downtown Underground Conversion Project NE-SE Alley Premise Wiring Project in the Electric Department; and

WHEREAS, on October 13, 2025, the Board passed and approved “Resolution 2025-084 awarding a contract for the NE-SE Alley Premise Wiring Modification Project to Miller Electric”; and

WHEREAS, the contract was awarded to Miller Electric. in the amount of \$ 136,640.00

WHEREAS, on February 22, 2026, Miller Electric submitted a recommendation for payment #4 for said contract in the amount of **\$6,640.50**

NOW, THEREFORE, BE IT RESOLVED by the Indianola Municipal Board of Trustees that:

1. The payment to Miller Electric Inc. in the amount of \$6,640.50 hereby approved; and
2. The IMU staff is authorized and directed to execute the payment application on behalf of the IMU Board of Trustees.

Passed and approved this 9th day of March 2026.

Dom Selgrade, Chairperson

ATTEST:

Monica Thompson, Board Secretary

RECOMMENDATION FOR PAYMENT

Date 2/22/2026
 Owner: Indianola Municipal Utilities
 Contractor: Miller Electrical Services
 Project: Downtown Underground Conversion Project
 NE-SE Alley Premise Wiring
 P&E Project No. 9790

Date of Application 2/20/2026
 Application No. 4
 Invoice No. 20150

Contract Amount	\$	136,640.00
Change Order Adjustments	\$	-
Current Value of Contract	\$	136,640.00

Estimated Percentage of Completion	100.0%
Estimated Value of Completed Work	\$ 136,640.00

Less 5% Retainage	\$	6,831.00
-------------------	----	----------

Total Amount Due Contractor	\$	129,809.00
Less Previously Approved Applications	\$	123,168.50

Amount Due with this Application	\$	6,640.50
---	-----------	-----------------

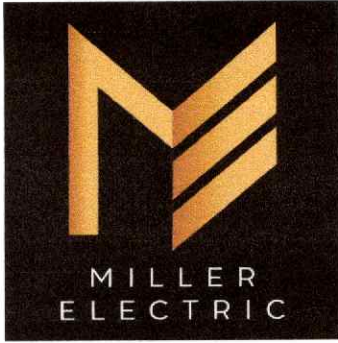
(Payable to Miller Electrical Services, Inc.)

Payment Remaining on Contract	\$	6,831.00
-------------------------------	----	----------

All work has been completed. This is the final invoice except for retainage. I recommend the above amounts for payment in accordance with the terms of the Contract.



Allan Powers, P.E.
P & E Engineering Co.



Miller Electrical Services, Inc.
PO Box 354
Indianola, IA 50125
Phone # (515) 961-5842
Email: office@mmillerelectric.com

Invoice

Date	Invoice #
2/20/2026	20150

Bill To
IMU Att: Mike Metcalf 210 W 2nd Ave Indianola, IA 50125

P.O. No.	Terms	Due Date
	Due in 10 days	3/2/2026

Qty	Description	Rate	Amount
	IMU NORTHEAST & SOUTHEAST SQUARE PROJECT		
	B19 LABOR	3,495.00	3,495.00
	B63 LABOR	3,495.00	3,495.00
	RETAINAGE	-349.50	-349.50

We appreciate your business! If you like the work we provided please give a review on Google! Please send payment within 10 days of receipt of this invoice. A finance charge of 1.5% per month will be assessed on all unpaid amounts more than 30 days past due. Please make checks out to Miller Electric for this invoice.	Subtotal	\$6,640.50
	Sales Tax (7.0%)	\$0.00
	Total	\$6,640.50
	Payments/Credits	\$0.00
	Balance Due	\$6,640.50

Building	Invoice# 19871		Invoice# 20029		Invoice# 20083		Invoice# 20150		Totals	% Complete
	Amount	% Complete	Amount	% Complete	Amount	% Complete	Amount	% Complete		
B17	\$13,664.00		\$5,465.00		\$5,000.00		\$3,199.00		\$13,664.00	100%
B18	\$6,832.00		\$2,732.00		\$2,500.00		\$1,600.00		\$6,832.00	100%
B19	\$40,992.00		\$16,396.00		\$15,000.00		\$6,101.00	\$3,495.00	\$40,992.00	100%
B20	\$6,832.00		\$2,732.00		\$2,500.00		\$1,600.00		\$6,832.00	100%
B20A	\$13,664.00		\$5,465.00		\$5,000.00		\$3,199.00		\$13,664.00	100%
B63	\$40,992.00		\$16,396.00		\$15,000.00		\$6,101.00	\$3,495.00	\$40,992.00	100%
B64	\$6,832.00		\$2,732.00		\$2,500.00		\$1,600.00		\$6,832.00	100%
B65	\$6,832.00		\$2,732.00		\$2,500.00		\$1,600.00		\$6,832.00	100%
Work Completed	\$136,640.00		\$54,650.00		\$50,000.00		\$25,000.00	\$6,990.00	\$136,640.00	100%
Retainage (5%)	\$ 6,831.00		\$2,731.50		\$2,500.00		\$1,250.00	\$348.50	\$6,831.00	
Total Due	\$ 136,640.00		\$51,918.50		\$47,500.00		\$23,750.00	\$6,640.50	129,809.00	
								TOTAL	\$136,640.00	

Indianola Municipal Utilities
 NE-SE Alley Premise Wiring Modification Contract
 Miller Electric Invoice Record

Building	Pay App 1, Invoice 19871, 10/29/25			Pay App 2, Invoice 20029, 12/29/25			Pay App 3, Invoice 20083, 1/28/26			Pay App 4, Invoice 20150, 2/20/26		
	Amount	% Complete	Amount	% Complete	Amount Completed	Due this invoice	% Complete	Amount Completed	Due this invoice	% Complete	Amount Completed	Due this invoice
B17	\$13,664.00	40%	\$5,465.00	77%	\$10,465.00	\$5,000.00	100%	\$13,664.00	\$3,199.00	100%	\$13,664.00	\$0.00
B18	\$6,832.00	40%	\$2,732.00	77%	\$5,232.00	\$2,500.00	100%	\$6,832.00	\$1,600.00	100%	\$6,832.00	\$0.00
B19	\$40,992.00	40%	\$16,396.00	77%	\$31,396.00	\$15,000.00	91%	\$37,497.00	\$6,101.00	100%	\$40,992.00	\$3,495.00
B20	\$6,832.00	40%	\$2,732.00	77%	\$5,232.00	\$2,500.00	100%	\$6,832.00	\$1,600.00	100%	\$6,832.00	\$0.00
B20A	\$13,664.00	40%	\$5,465.00	77%	\$10,465.00	\$5,000.00	100%	\$13,664.00	\$3,199.00	100%	\$13,664.00	\$0.00
B63	\$40,992.00	40%	\$16,396.00	77%	\$31,396.00	\$15,000.00	91%	\$37,497.00	\$6,101.00	100%	\$40,992.00	\$3,495.00
B64	\$6,832.00	40%	\$2,732.00	77%	\$5,232.00	\$2,500.00	100%	\$6,832.00	\$1,600.00	100%	\$6,832.00	\$0.00
B65	\$6,832.00	40%	\$2,732.00	77%	\$5,232.00	\$2,500.00	100%	\$6,832.00	\$1,600.00	100%	\$6,832.00	\$0.00
Contract	\$136,640.00											
Work Completed		40.0%	\$54,650.00	76.6%	\$104,650.00	\$50,000.00		\$129,650.00	\$25,000.00		\$136,640.00	\$6,990.00
Retainage (5%)			\$2,731.50		\$5,231.50	\$2,500.00		\$6,481.50	\$1,250.00		\$6,831.00	\$349.50
Total Due to Date			\$51,918.50		\$99,418.50			\$123,168.50			\$129,809.00	
Prev Payments			\$0.00		\$51,918.50			\$99,418.50			\$123,168.50	
Due this invoice			\$51,918.50			\$47,500.00			\$23,750.00			\$6,640.50

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving Payment Application #2 to Van Maanen Electric, Inc for the Water Treatment Facility Standby Generator Project

Recommendation:

Attachments:

1. Res 2026 Approving Payment Application 2 to Van Maanen Electric for Water Treatment Facility, Standby Generator Project
2. 285114_Partial Payment No. 2
3. Certificate of Property Insurance, Stored Materials Invoices and Photos of Stored Materials

Indianola Municipal Utilities
RESOLUTION NO 2026-

RESOLUTION APPROVING PAY APP 2 TO VAN MAANEN ELECTRIC INC FOR THE WATER TREATMENT FACILITY, STANDBY GENERATOR PROJECT

WHEREAS, the Board of Trustees of the Indianola Municipal Utilities has deemed it necessary to move forward with the Water Treatment Facility, Standby Generator Project; and

WHEREAS, on August 11, 2025, the Board passed and approved "Resolution 2025-062 awarding and approving a contract to Van Maanen Electric, Inc for the Water Treatment Facility Standby Generator Project"; and

WHEREAS, the contract was awarded to Van Maanen Electric, Inc in the amount of \$572,486.00

WHEREAS, on January 5th 2026, Van Maanen Electric, Inc submitted a recommendation for payment #2 for said contract in the amount of \$15,013.66.

NOW, THEREFORE, BE IT RESOLVED by the Indianola Municipal Board of Trustees that:

1. The payment to Van Maanen Electric, Inc. in the amount of \$52,874.70. hereby approved; and
2. The IMU staff is authorized and directed to execute the payment application on behalf of the IMU Board of Trustees.

Passed and approved this 9th day of March 2026.

Dom Selgrade, Chairperson

ATTEST:

Monica Thompson, Board Secretary



ESTIMATE OF CONSTRUCTION COMPLETED

PARTIAL PAYMENT NO. 2

PROJECT TITLE: Water Treatment Facility, Standby Generator

Owner: Indianola Municipal Utilities **Date: March 4, 2026**




Contractor: Van Maanen Electric, Inc.

Original Contract Amount & Date: \$572,486.00; August 11, 2025

Pay Period: February 1, 2025 to February 28, 2026

BID ITEMS

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED (ORIG. CONT.)	UNIT PRICE	EXTENDED PRICE	QUANTITY COMPLETED TO DATE	VALUE COMPLETED TO DATE
1.1	Bonding	LS	XXXXX	\$ 5,800.00	\$ 5,800.00	100%	\$5,800.00
1.2	Sitework	LS	XXXXX	\$ 80,600.00	\$ 80,600.00	0%	\$0.00
1.3	Electrical Work	LS	XXXXX	\$ 45,060.00	\$ 45,060.00	0%	\$0.00
1.4	Hangers and Supports	LS	XXXXX	\$ 2,300.00	\$ 2,300.00	0%	\$0.00
1.5	Electrical Raceway Systems	LS	XXXXX	\$ 20,600.00	\$ 20,600.00	0%	\$0.00
1.6	Wires & Cables	LS	XXXXX	\$ 85,660.00	\$ 85,660.00	0%	\$0.00
1.7	Wiring Devices	LS	XXXXX	\$ 11,005.00	\$ 11,005.00	0%	\$0.00
1.8	Grounding	LS	XXXXX	\$ 1,481.00	\$ 1,481.00	0%	\$0.00
1.9	Standby Generator	LS	XXXXX	\$ 295,750.00	\$ 295,750.00	0%	\$0.00
1.10	Automatic Transfer Switch	LS	XXXXX	\$ 14,830.00	\$ 14,830.00	0%	\$0.00
1.11	Electrical Tests	LS	XXXXX	\$ 7,800.00	\$ 7,800.00	0%	\$0.00
1.12	Process Control and Instrumentation Systems	LS	XXXXX	\$ 1,600.00	\$ 1,600.00	0%	\$0.00
Total Value Completed - Bid Items							\$5,800.00

SUMMARY			
		Original Contract	Total Completed
Bid Item Subtotal		\$572,486.00	\$5,800.00
APPROVED CHANGE ORDERS			
Change Order No.	Description/Notes	Total Approved	Total Completed
1		\$0.00	\$0.00
2		\$0.00	\$0.00
3		\$0.00	\$0.00
4		\$0.00	\$0.00
5		\$0.00	\$0.00
6		\$0.00	\$0.00
7		\$0.00	\$0.00
8		\$0.00	\$0.00
9		\$0.00	\$0.00
10		\$0.00	\$0.00
Total Change Orders		\$0.00	\$0.00
		Total Approved	Total Completed
Revised Contract Price		\$572,486.00	\$5,800.00
			Total Completed
Total Materials Stored			\$64,188.00
Total Completed Plus Materials Stored			\$69,988.00
Retainage (3%)			\$2,099.64
Total Earned Less Retainage			\$67,888.36
APPROVED PARTIAL PAYMENTS			
Partial Payment No.	Period	Total Approved	
1	December 1, 2025 - December 18, 2025	\$52,874.70	
2		\$0.00	
3		\$0.00	
4		\$0.00	
5		\$0.00	
6		\$0.00	
7		\$0.00	
8		\$0.00	
9		\$0.00	
10		\$0.00	
		Total Previously Approved	\$52,874.70
Amount Due This Request			\$15,013.66
Note: The amount \$15,013.66 is recommended for approval for payment in accordance with the terms of the Contract.			
CONTRACT SUMMARY			
		ORIGINAL CONTRACT AMOUNT	\$0.00
		TOTAL CONTRACT AMOUNT PLUS CHANGE ORDERS	\$572,486.00
		THIS PARTIAL PAYMENT	\$15,013.66
		TOTAL PARTIAL PAYMENTS INCL THIS PAYMENT	\$67,888.36
		BALANCE	\$504,597.64
		PERCENT COMPLETE	12.2%
Recommended By: Veenstra & Kimm, Inc.		Contractor: Van Maanen Electric, Inc.	
Approved by: Indianola Municipal Utilities			
Signature		Signature	
Name	Vincent Driscoll	Name	Nathan Van Maanen
Title	Project Engineer	Title	President
Date	3/4/2026	Date	3/4/2026
Signature		Signature	
Name		Name	Justin Brand
Title		Title	Water Director
Date		Date	3/5/2026



EVIDENCE OF PROPERTY INSURANCE

DATE (MM/DD/YYYY)

2/24/2026

THIS EVIDENCE OF PROPERTY INSURANCE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE ADDITIONAL INTEREST NAMED BELOW. THIS EVIDENCE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS EVIDENCE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE ADDITIONAL INTEREST.

AGENCY AssuredPartners Great Plains, LLC 4200 University Ave., Suite 200 West Des Moines, IA 50266-5945		PHONE (A/C, No, Ext): 515-244-0150 License#: 1001000272	COMPANY EMCASCO Insurance Company P.O. Box 712 Des Moines, IA 50306-0712	
FAX (A/C, No): 515-244-0150	E-MAIL ADDRESS: lindsay.gentry@AssuredPartners.com			
CODE:	SUB CODE:			
AGENCY CUSTOMER ID #:		LOAN NUMBER		POLICY NUMBER 6X57919
INSURED Van Maanen Electric, Inc. 500 Iowa Speedway Dr. Newton IA 50208		EFFECTIVE DATE 08/01/2025	EXPIRATION DATE 08/01/2026	<input type="checkbox"/> CONTINUED UNTIL TERMINATED IF CHECKED
THIS REPLACES PRIOR EVIDENCE DATED:				

PROPERTY INFORMATION

LOCATION/DESCRIPTION Materials stored at Insured's warehouse
--

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS EVIDENCE OF PROPERTY INSURANCE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

COVERAGE INFORMATION

PERILS INSURED BASIC BROAD SPECIAL

COVERAGE / PERILS / FORMS	AMOUNT OF INSURANCE	DEDUCTIBLE
Building & Contents - Special Cause of Loss - Replacement Cost Wind and Hail	12,837,000	5,000 10,000


REMARKS (Including Special Conditions)

Re: Stored materials for the Indianola Water Treatment Facility Standby Generator project stored at Van Maanen Warehouse, which is located at 500 Iowa Speedway Drive Newton, IA 50208. Materials being stored valued at \$15,478.0

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

ADDITIONAL INTEREST

NAME AND ADDRESS City of Indianola 110 N 1st St Indianola, IA 50125	<input type="checkbox"/> ADDITIONAL INSURED	<input type="checkbox"/> LENDER'S LOSS PAYABLE	<input type="checkbox"/> LOSS PAYEE
	<input type="checkbox"/> MORTGAGEE		
	LOAN #		
AUTHORIZED REPRESENTATIVE 			

TERRA VAULTS
PC.2436 24.722

TERRA
PC.2436

TERRA VAULTS
PC.2436

Indianola
WTP

TERRA VAULTS
PC.2436 24.722



Small white label with illegible text.

Indianola
WTP

ENCORE

Small rectangular stamp with illegible text.

SR7-J-48X23X17
1/7/26

Indianola
WTP

ACCIRE
WIRE



ROLL OFF
POSITION

Indianola
WTP

CE WIR CO.
SERV



Indianola WTP
Generator
5-30-66

FRAGILE



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Setting Public Hearing for Water Rate Resolution

Recommendation:

Attachments: 1. Resolution for Public Hearing Water Rates 2026

Indianola Municipal Utilities
RESOLUTION NO. 2026-

RESOLUTION SETTING DATE OF PUBLIC HEARING ON THE PROPOSED WATER RATE
RESOLUTION

WHEREAS, the Indianola Municipal Utilities Board of Trustees deems it necessary to update the water utility resolution; and

WHEREAS, a public hearing upon the proposed updates should be held and a time and place for hearing thereon should be fixed.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE INDIANOLA MUNICIPAL UTILITIES THAT:

1. The public hearing be held by the Indianola Municipal Utilities Board of Trustees on the proposed water utility rate increases at the IMU Board Room, 210 W 2nd Ave Indianola, Iowa, at 5:30 PM on April 13, 2026, at which time the Board of Trustees will consider any objections to the proposed amendment and will hear all interested persons.
2. The Chairperson and Trustee Secretary be and hereby are authorized and instructed to give Notice of said Public Hearing, as required by law.

PASSED AND APPROVED THIS 9th DAY OF MARCH 2026.

Dom Selgrade, Chairperson

ATTEST:

Monica Thompson, Board Secretary



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Setting Public Hearing for Communications Rate Resolution

Recommendation:

Attachments: 1. Resolution for Public Hearing Telecommunication Rates 2026

Indianola Municipal Utilities
RESOLUTION NO. 2026-

RESOLUTION SETTING DATE OF PUBLIC HEARING ON PROPOSED TELECOMMUNICATION
RATE RESOLUTION

WHEREAS, the Indianola Municipal Utilities Board of Trustees deems it necessary to update the telecommunication utility resolution; and

WHEREAS, a public hearing upon the proposed updates should be held and a time and place for hearing thereon should be fixed.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE
INDIANOLA MUNICIPAL UTILITIES THAT:**

1. The public hearing be held by the Indianola Municipal Utilities Board of Trustees on the proposed telecommunication utility rate increases at the IMU Board Room, 210 W 2nd Ave Indianola, Iowa, at 5:30 PM on April 13, 2026, at which time the Board of Trustees will consider any objections to the proposed amendment and will hear all interested persons.
2. The Chairperson and Trustee Secretary be and hereby are authorized and instructed to give Notice of said Public Hearing, as required by law.

PASSED AND APPROVED THIS 9th DAY OF MARCH 2026.

Dom Selgrade, Chairperson

ATTEST:

Monica Thompson, Board Secretary



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: January 2026 Financial Report

Recommendation:

Attachments: 1. 0126 Financial Report

**Indianola Municipal Utilities
Financial Report
For the Seven Months Ended January 31, 2026
(58% of Fiscal Year Completed)**

As discussed in the strategic planning meeting, the capital funds will collapse into the O&M funds to eliminate negative cash fund balances. The project has started and most of the work is expected to be completed in March 2026.

Net position reflects each department's long-term financial position. It includes cash and other assets (such as billing receivables and infrastructure), minus liabilities and accumulated depreciation.

Cash on Hand - 110 days or more of cash on hand based on the recommended 90-120 days to maintain our bond rating (A).

This report is on a modified cash basis, with monthly (non-cash) depreciation included.

Capital expenses may fall ahead or behind budget due to timing of project completion and payments.

Water and Electric

- Revenues are seasonal and do not accrue evenly throughout the year.
- Year-to-date results should be evaluated in the context of seasonality rather than a straight-line 58% benchmark.
- January revenue reflects November-December usage.

Water

- Total consumption is approximately 5.8 million gallons lower than the prior year, primarily driven by reduced irrigation usage (2.4 million gallons), the closure of Harvest Innovations (1.0 million gallons) and lower consumption from car wash locations (500,000 gallons).

Electric

- Electric usage remains steady compared to fiscal last year.
- The Electric O&M Transfer Out budget includes a planned transfer to the capital fund. Actual transfers to date reflect only transfers for debt service.

Fiber

- The number of fiber subscriptions and revenue dollars are up 5% fiscal year-to-date over last year.
- The Fiber O&M Transfer Out budget includes a planned transfer to the capital fund. Actual transfers to date reflect only transfers for debt service.
- Inventory on hand includes both customer premise equipment, \$1,890,136 and stock supply inventory, \$243,054.

Admin & Utility Services

- This fund is intended to maintain a zero balance; any balance reflects routine timing of monthly city service transfers.

**Water Utility Financial Summary
January 31, 2026**

	FY24-25			FY25-26		
	Budget	YTD Actual	% of Budget	Budget	YTD Actual	% of Budget
600 WATER OPERATING FUND						
Water Service Sales	3,473,300	1,870,124	53.8%	3,637,072	1,892,449	52.0%
Other Water Revenue	587,684	328,997	56.0%	595,584	331,268	55.6%
Total Revenue:	4,060,984	2,199,121		4,232,656	2,223,717	
Water O&M Expense	2,301,497	1,282,055	55.7%	2,436,707	1,274,701	52.3%
Water O&M Transfers Out	1,950,600	1,137,850	58.3%	1,526,200	0	0.0%
Water Depreciation		377,515			385,620	
Total Expense, Transfers & Depreciation:	4,252,097	2,797,420		3,962,907	1,660,320	
Beginning Net Position		14,593,603			13,881,413	
Net Surplus (Deficit)		(598,300)			563,396	(1,679.59)
Ending Net Position		13,995,303			14,444,810	
700 WATER CAPITAL FUND						
From Water Operations	1,950,600	1,137,850	58.3%	1,526,200	0	0.0%
Total Transfers In:	1,950,600	1,137,850		1,526,200	0	
Water Capital Expense	2,085,600	369,296	17.7%	1,526,200	571,046	37.4%
Total Expense:	2,085,600	369,296		1,526,200	571,046	
Beginning Net Position		4,151,843			6,102,443	
Net Surplus (Deficit)		768,554			(571,046)	
Ending Net Position		4,920,397			5,531,397	
780 WATER IMPROVE FUND						
Beginning Net Position		75,000			75,000	
Net Surplus (Deficit)		0			0	
Ending Net Position		75,000			75,000	

	Gallons Billed	
	FY24-25	FY25-26
Jul	35,997,123	36,675,070
Aug	31,501,680	32,864,800
Sep	35,801,270	31,933,430
Oct	29,598,580	36,128,840
Nov	37,798,490	30,821,760
Dec	30,435,080	27,221,330
Jan	27,068,140	26,744,000
Feb		
Mar		
Apr		
May		
Jun		
YTD	228,200,363	222,389,230
		-2.5%

	Inventory on Hand	
	FY24-25	FY25-26
Jul	\$ 408,909	\$ 335,804
Aug	\$ 401,413	\$ 321,662
Sep	\$ 390,131	\$ 318,511
Oct	\$ 389,592	\$ 310,751
Nov	\$ 385,777	\$ 299,644
Dec	\$ 389,152	\$ 335,234
Jan	\$ 367,443	\$ 321,038
Feb		
Mar		
Apr		
May		
Jun		
YTD	\$ 390,345	\$ 320,378
		-17.9%

WATER CASH ON HAND	
(110 days or greater)	
O&M	\$ 435,356
Capital	\$ 4,621,359
Debt Service	\$ 75,000
473 days	\$ 5,131,714

**Electric Utility Financial Summary
January 31, 2026**

	FY24-25			FY25-26		
	Budget	YTD Actual	% of Budget	Budget	YTD Actual	% of Budget
630 ELECTRIC OPERATING FUND						
Electric Service Sales	16,405,606	10,422,744	63.5%	17,225,886	10,894,355	63.2%
Other Electric Revenue	2,043,100	1,230,447	60.2%	2,084,700	1,097,966	52.7%
Total Revenue:	18,448,706	11,653,191		19,310,586	11,992,321	
Electric O&M Expense	16,893,220	9,377,482	55.5%	17,510,259	9,335,514	53.3%
Electric O&M Transfer Out	1,981,202	1,676,534	84.6%	3,178,800	339,400	10.7%
Electric Depreciation		968,746			953,867	
Total Expense, Transfers & Depreciation:	18,874,422	12,022,763		20,689,059	10,628,782	
Beginning Net Position		33,316,174			32,262,212	
Net Surplus (Deficit)		(369,572)			1,363,539	
Ending Net Position		32,946,602			33,625,752	
730 ELECTRIC CAPITAL FUND						
Electric Capital Revenue	1,274,100	944,509	74.1%	1,510,100	716,368	47.4%
From Electric Operations	1,250,000	1,250,000	100.0%	2,500,000	-	0.0%
Total Revenue and Transfers In:	2,524,100	2,194,509		4,010,100	716,368	
Electric Capital Expense	2,579,400	808,789	31.4%	2,421,000	1,006,516	41.6%
Total Expense:	2,579,400	808,789		2,421,000	1,006,516	
Beginning Net Position		11,764,299			14,770,282	
Net Surplus (Deficit)		1,385,720			(290,149)	
Ending Net Position		13,150,020			14,480,134	
793 ELECTRIC DEBT SERVICE						
From Electric Operations to Debt	731,202	426,535	58.3%	678,800	339,400	50.0%
Total Transfers In:	731,202	426,535		678,800	339,400	
Electric Debt Service	731,202	148,064	20.2%	678,800	140,833	20.7%
Total Expense:	731,202	148,064		678,800	140,833	
Beginning Net Position		1,379,914			1,384,135	
Net Surplus (Deficit)		278,470			198,567	
Ending Net Position		1,658,385			1,582,702	

	kWh Billed	
	FY24-25	FY25-26
Jul	11,504,883	9,967,863
Aug	11,693,918	12,994,911
Sep	12,751,518	13,609,870
Oct	11,534,130	11,690,953
Nov	10,618,514	10,205,744
Dec	8,582,354	8,300,186
Jan	9,584,636	9,857,030
Feb		
Mar		
Apr		
May		
Jun		
YTD	76,269,953	76,626,557
		0.5%

	Inventory on Hand	
	FY24-25	FY25-26
Jul	\$ 1,678,539	\$ 1,755,215
Aug	\$ 1,646,986	\$ 1,738,861
Sep	\$ 1,656,391	\$ 1,710,662
Oct	\$ 1,711,813	\$ 1,689,418
Nov	\$ 1,681,717	\$ 1,728,756
Dec	\$ 1,655,261	\$ 1,710,369
Jan	\$ 1,874,764	\$ 1,699,749
Feb		
Mar		
Apr		
May		
Jun		
YTD	\$ 1,700,782	\$ 1,719,004
		1.1%

ELECTRIC CASH ON HAND
(110 days or greater)

O&M	\$ 8,183,627
Capital	\$ 11,358,843
Debt Service	\$ 1,582,702
374 days	\$ 21,125,173

**Fiber Utility Financial Summary
January 31, 2026**

	FY24-25			FY25-26		
	Budget	YTD Actual	% of Budget	Budget	YTD Actual	% of Budget
640 FIBER OPERATING FUND						
Fiber Service Sales	5,230,000	3,024,961	57.8%	5,365,000	3,175,046	59.2%
Other Fiber Revenue	410,050	170,163	41.5%	490,450	213,507	43.5%
Total Revenue:	5,640,050	3,195,125		5,855,450	3,388,553	
Fiber O&M Expense	3,627,836	2,108,352	58.1%	3,725,015	2,163,476	58.1%
Fiber O&M Transfer Out	2,022,828	1,214,225	60.0%	2,125,420	563,310	26.5%
Fiber Depreciation		211,493			299,867	
Total Expense, Transfers & Depreciation:	5,650,664	3,534,069		5,850,435	3,026,652	
Beginning Net Position		(2,673,110)			(2,307,139)	
Net Surplus (Deficit)		(338,945)			361,901	
Ending Net Position		(3,012,055)			(1,945,238)	
740 FIBER CAPITAL FUND						
Fiber Capital Revenue	0	1,695			330	
From Fiber Operations	896,300	557,083	62.2%	998,800	0	0.0%
Total Revenue and Transfers In:	896,300	558,778		998,800	330	
Fiber Capital Expense	1,121,300	429,294	38.3%	998,800	421,909	42.2%
Fiber Capital Depreciation		185,827		0	207,207	
Total Expense, Transfers & Depreciation:	1,121,300	615,121		998,800	629,115	
Beginning Net Position		984,304			1,508,816	
Net Surplus (Deficit)		(56,343)			(628,785)	
Ending Net Position		927,961			880,030	
795 FIBER DEBT SERVICE						
From Fiber Operations to Debt	1,126,528	657,141	58.3%	1,126,620	563,310	50.0%
Total Transfers In:	1,126,528	657,141		1,126,620	563,310	
Fiber Debt Service	1,126,528	167,611	14.9%	1,126,620	156,296	13.9%
Total Expense:	1,126,528	167,611		1,126,620	156,296	
Beginning Net Position		4,668			7,859	
Net Surplus (Deficit)		489,530			407,014	
Ending Net Position		494,198			414,873	

*Fund 640 Ending Fund Balance	(2,517,857)	(1,530,365)
*Fund 740 Ending Fund Balance	927,961	880,030
	<u>(1,589,896)</u>	<u>(650,335)</u>

The deficit fund balance reflects start-up costs incurred to launch the utility service. It is expected to be eliminated over time through net customer revenues.

FIBER CASH ON HAND	O&M	\$ 143,390
(110 days or greater)	Capital	\$ 318,439
	Debt Service	\$ 414,873
55 days		<u>\$ 876,702</u>

	Subscriptions	
	FY24-25	FY25-26
Jul	4,177	4,444
Aug	4,204	4,459
Sep	4,230	4,446
Oct	4,268	4,476
Nov	4,290	4,479
Dec	4,280	4,514
Jan	4,319	4,514
Feb		
Mar		
Apr		
May		
Jun		
YTD	4,253	4,476
		5.3%

	Inventory on Hand	
	FY24-25	FY25-26
Jul	\$ 1,819,505	\$ 2,035,210
Aug	\$ 1,823,670	\$ 2,025,066
Sep	\$ 1,875,146	\$ 2,030,392
Oct	\$ 1,857,023	\$ 2,071,282
Nov	\$ 1,886,575	\$ 2,133,190
Dec	\$ 1,896,759	\$ 2,152,234
Jan	\$ 1,895,756	\$ 2,138,202
Feb		
Mar		
Apr		
May		
Jun		
YTD	\$ 1,864,919	\$ 2,083,654
		11.7%

**IMU Admin/US Financial Summary
January 31, 2026**

	FY24-25			FY25-26		
	Budget	YTD Actual	% of Budget	Budget	YTD Actual	% of Budget
620 ADMIN & UTILITY SERVICES						
Admin/US Revenue	1,409,493	871,284	61.8%	1,444,214	709,584	49.1%
Total Revenue:	1,409,493	871,284		1,444,214	709,584	
Admin/US O&M Expense	1,409,493	801,569	56.9%	1,444,214	870,547	60.3%
Admin/US Depreciation		20,645			20,645	
Total Expense, Transfers & Depreciation:	1,409,493	822,215		1,444,214	891,193	
Beginning Net Position		181,343			247,710	
Net Surplus (Deficit)		49,069			(181,609)	
Ending Net Position		230,412			66,101	
855 LIABILITY INS FUND						
Beginning Net Position		9,099			9,099	
Net Surplus (Deficit)		0			0	
Ending Net Position		9,099			9,099	
US/ADMIN CASH ON HAND						
O&M	\$	443,243				
Transfer of city services collected in January 2026	\$	(528,550)				
	\$	(85,307)				

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving Certificate of Completion of the NE/SE Alley Premise Wiring Modification Project

Recommendation:

Attachments:

1. Resolution Approving Certificate of Completion-Downtown Underground Conversion Project NE-SE Alley Premise Wiring Modification
2. Certificate_Final_Completion 2026-02-22

Indianola Municipal Utilities

RESOLUTION NO 2026 -

**RESOLUTION APPROVING THE CERTIFICATE OF COMPLETION: THE DOWNTOWN UNDERGROUND
CONVERSION PROJECT NE/SE ALLEY PREMISE WIRING PROJECT**

WHEREAS, on October 13, 2025, the Indianola Municipal Utilities Board of Trustees authorized a contract with Miller Electric Inc for the Downtown Underground Conversion Project NE/SE Alley Premise Wiring Project; and

WHEREAS, the work has been completed on this project in compliance with the plans, specifications, and contract documents; and

WHEREAS, the consultant engineer for this project, P & E Engineering Co has recommended approval of the substantial completion of this project by Miller Electric Inc. and

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Indianola Municipal Utilities as follows:

Section 1. That it is hereby found and determined that the work of said project, been duly and substantially completed by the Contractor in accordance with the terms of the contract and the same, is hereby accepted and approved.

Section 2. Section 2. That it is hereby found and determined that the total of said project is in the amount of \$136,640.00. Retainage funds of \$6,831.00 should be released to the Contractor after 30 days of acceptance of this project, if no claims have been filed.

Section 3. That all amounts due to the Contractor are hereby ordered to be paid in accordance with the contract procedures prescribed by the Code of Iowa.

Section 4. That all resolutions or parts of resolutions in conflict here with be, and the same, are hereby repealed to the extent of such conflict.

Passed and approved on this 9th day of March 2026.

Dom Selgrade, Chairperson

ATTEST:

Monica Thompson, Board Secretary

CERTIFICATE OF FINAL COMPLETION

Date Issued Feb. 22, 2026
Owner Indianola Municipal Utilities
Contractor Miller Electric
Project NE/SE Alley Premise Wiring Modification Contract

This Certificate of Final Completion applies to all Work under the referenced Contract.

The Work to which this Certificate applies has been inspected by authorized representatives of Owner and Contractor, and that Work is hereby declared to be complete in accordance with the Contract Documents on

Feb. 20, 2026 (Date of Final Completion)

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's General Warranty and Guarantee under Paragraph 6.19 of the General Conditions of the Contract.

Issued by P & E Engineering Co. on Feb. 22, 2026 by Allan Powers.
(Printed Name)

Signed 

Accepted by Owner on _____ by _____.
(Printed Name)

Signed _____

Accepted by Contractor on _____ by _____.
(Printed Name)

Signed _____



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving the Indianola Municipal Utilities Annual Reliability Plan.

Recommendation:

Attachments: 1. Res 2026 Approving The Electric Transmission and Distribution Inspection and Maintenance Plan

Indianola Municipal Utilities
RESOLUTION NO 2026-

**RESOLUTION APPROVING ELECTRIC TRANSMISSION AND DISTRIBUTION INSPECTION AND
MAINTENANCE PLAN**

WHEREAS, Indianola Municipal Utilities determined a need for an updated Electric Transmission and Distribution Inspection and Maintenance Plan; and

WHEREAS, the Electric Director has prepared the plan to follow for its duration; and

WHEREAS, it is the determination of the Indianola Municipal Utilities Board of Trustees that IMU shall follow the Electric Transmission and Distribution Inspection and Maintenance Plan.

NOW, THEREFORE, BET IT RESOLVED by the Indianola Municipal Utilities Board of Trustees that the aforementioned plan is hereby approved, and the Board Chair is authorized and directed to execute the plan on behalf of Indianola Municipal Utilities.

Approved this 9th day of March 2026.

ATTEST:

Dom Selgrade, Chairperson

Monica Thompson, Board Secretary

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving Amendment No.2023NG to Grant No. 433553 awarded for Notice of Funding Availability NOFA #007

Recommendation:

Attachments:

1. Resolution Approving Amendment No.2023NG to Grant No. 433553 awarded for NOFA #007
2. 433553

Indianola Municipal Utilities
RESOLUTION NO 2026-

**RESOLUTION APPROVING AMENDMENT NO.2023NG TO GRANT NO. 433553
AWARDED FOR NOTICE OF FUNDING AVAILABILITY NOFA #007**

WHEREAS, IMU Board of Trustees agrees that it is in the best interests of IMU to Amend No.2023NG, for Grant No. 433553 awarded for Notice of Funding Availability #007 ("**NOFA**"), by and between the State of Iowa, acting by and through the Department of Management ("**State of Iowa**" or "**Office**"), and Indianola Municipal Utilities, a Local Government organized under the laws of Iowa ("**Grantee**"), is made, entered into, and effective as of the date of last signature below ("**Effective Date**"). This Amendment will remain coterminous with the Contract. The Amendment modifies, to the extent specified in the attached document, the terms and conditions of the Contract.

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Indianola Municipal Utilities, Iowa, the amendment No. 2023NG is approved, and the Board Chair and General Manager are hereby authorized and directed to authorize the amendment on behalf of Indianola Municipal Utilities.

Approved this 9th day of March 2026.

Dom Selgrade, Board Chair

ATTEST:

Monica Thompson,
Board Secretary

Amendment No. 2023NG to Grant Agreement No. 433553

This Amendment No.2023NG, (“**Amendment**”) to Grant No. 433553 (“**Agreement**”), awarded for Notice of Funding Availability #007 (“**NOFA**”), by and between the State of Iowa, acting by and through the Department of Management (“**State of Iowa**” or “**Office**”), and Indianola Municipal Utilities, a Local Government organized under the laws of Iowa (“**Grantee**”), is made, entered into, and effective as of the date of last signature below (“**Effective Date**”). This Amendment will remain coterminous with the Contract. The Amendment modifies, to the extent specified below, the terms and conditions of the Contract:

Section 1: Background. On May 17, 2023, the U.S. Treasury issued new guidance entitled “SLFRF and CPF Supplementary Broadband Guidance.” (available at: <https://home.treasury.gov/system/files/136/SLFRF-and-CPF-Supplementary-Broadband-Guidanc e.pdf>) (the “Guidance”). In the Guidance, Treasury clarified that, among other things, it is permissible for state recipients of ARPA funds to designate grant subrecipients as having received “fixed amount subawards,” which lessens certain burdens on subrecipients but also imposes new obligations on subrecipients. The parties are entering into this Amendment to adapt Grantee’s existing NOFA7 Agreement to the new guidance.

Section 2: Amendment to the Agreement. In light of the above, the parties to the Agreement amend the Agreement as follows:

Revision 1: On the first page of the Agreement, the following text is added at the bottom of the cell entitled “Business Name of Grantee.”

Designation under 2 C.F.R. § 200.331: For purposes of this Agreement, Grantee is deemed a “subrecipient” receiving a fixed amount subaward. *See generally* 2 C.F.R. part 200.

Revision 2: On the second page of the Agreement in the cell designated as “7. Acknowledgement of Subrecipient Status,” the text of this cell is replaced with the following:

7. Acknowledgement of Subrecipient Status. By executing the Agreement and accepting this CSLFRF-funded award made available under the American Rescue Plan Act and this NOFA, Grantee acknowledges that it shall be deemed a “Subrecipient” as defined by Applicable Law and receiving a fixed amount subaward.

Revision 3: Attachment A, subsection 2.1 is amended to read as follows:

2.1 “**Applicable Law(s)**” means any and all applicable federal, state, foreign, and local laws, rules, regulations, codes, ordinances, policies, orders or any other legal requirements or limitations, and specifically including CSLFRF Requirements in place at execution of this Agreement, as well as any and all future amendments, changes, or additions to such laws as of the effective date of such change.

Revision 4: Attachment A, subsection 3.1 are amended to read as follows:

Period of Performance. The period of performance begins on March 3, 2021, and ends September 30, 2026 (the “CSLFRF Performance Period”). Only costs associated with project costs incurred, paid, and invoiced to the Office during the CSLFRF Performance Period, or that were incurred prior to Grantee’s receipt of this award and subsequently used in the Project, may be considered as Allowable Expenditures under this Grant Agreement. Grantee must fully finish its Project(s) by the date set forth in the CD&E in accordance with and consistent with any deadlines established in the NOFA. Grantee’s Project(s) must be deployed and implemented in a manner that complies with all applicable terms, conditions, requirements, and limitations set forth in this Agreement, the NOFA, and as proposed/represented in the Application. Except in the case of any prepayments contemplated by the NOFA (“**Authorized Prepayment(s)**”), prior to being reimbursed for any Allowable Expenditures, Grantee’s Project(s) must be “complete” as that term is more fully defined and described herein.

Revision 5: Attachment A, subsection 3.2 is amended by marking the provision “Reserved.”

Revision 6: Attachment A, subsection 3.5.2.1 is amended to read as follows:

3.5.2.1 Any and all information required to be provided to the federal government pursuant to federal guidance; and

Revision 7: Attachment A, subsection 3.6, the leading language before the subsections in Section 3.6 is amended to read as follows:

Performance Testing. The Office may, in its sole discretion, conduct performance tests for purposes of verifying compliance with the terms of this Agreement, the NOFA, and Applicable Laws, on one or multiple occasions for up to five years after Broadband service is certified as complete pursuant to Section 3.4 (Certification). Such performance tests may include but are not be limited to:

Revision 8: Attachment A, in subsection 3.7 a new subsection 3.7.4 is added, which reads as follows:

3.7.4 Confirms that the Grantee participates in the Affordable Connectivity Program and is offering customers in their completed project area assistance with enrollment.

Revision 9: Attachment B, subsection 2.5 is amended to reads as follows (this change deletes all subparts below section 2.5):

2.5 Applicable provisions of Federal Uniform Guidance (2 C.F.R. part 200) applicable to subrecipients receiving a fixed amount subaward. Pursuant to subregulatory guidance published by the U.S. Treasury on May, 17, 2023, Grantee is not required to comply with the cost principles and procurement practices of the Uniform Guidance, and,

Revision 10: Attachment B, subsection 5 (Cost Principles) is deleted and replaced with the following text:

5. Ownership & Federal Interest

5.1 The federal government’s interest in CSLFRF broadband infrastructure built pursuant to this Agreement will last until December 31, 2034 (the “Federal Interest Period”). Title to real property or equipment acquired or improved under this Agreement (i.e., the broadband infrastructure installed pursuant to this Agreement) (“Project Property”) vests in Grantee, subject to the condition that, for the duration of the Federal Interest Period, Grantee and any successors or transferees:

- 5.1.1 Must use the Project Property for the authorized purposes of the project in the same manner as Grantee use comparable real property and equipment within its networks in the ordinary course of their business, subject to the rights to disposition provided below,
- 5.1.2 Must continue to provide internet service to the service areas

and at the standard initially agreed upon by the Office and Grantee,

- 5.1.3 Must participate in federal programs that provide low-income consumers with subsidies on broadband internet access services,
- 5.1.4 Must comply with the requirements of 2 C.F.R. § 200.310 (Insurance), which may be satisfied by adequate self-insurance,
- 5.1.5 Must comply with the use and management requirements for equipment in 2 C.F.R. §§ 200.313(c)(4) and 200.313(d), which may be satisfied by applying Grantee's commercial practices for meeting such requirements in the normal course of business (e.g., commercial inventory controls, loss prevention procedures, etc.), provided that such inventory controls indicate the applicable federal interest,
- 5.1.6 Must maintain records of real property that include an indication of the applicable federal interest,
- 5.1.7 May dispose of Project Property when no longer needed to operate the network, such as in order to upgrade equipment and improve facilities, provided that at least the same level of service provided by the network is maintained and there is no material interruption to service and that such upgraded property is subject to the same requirements as provided in Treasury's guidance as other Project Property,
- 5.1.8 May otherwise sell Project Property only after provision of notice to Treasury that identifies the successor or transferee and after securing the agreement of the successor or transferee to comply with these requirements and the acknowledgement of the successor or transferee of the federal property interest; and
- 5.1.9 Must notify the Office and Treasury upon the filing of a petition under the Bankruptcy Code, whether voluntary or involuntary, with respect to the ISP or its affiliates.

5.2 Pursuant to 2 CFR § 200.316 and in recognition that this broadband program is being executed for the benefit of the public being served by the broadband infrastructure, for the duration of the Federal Interest Period, the Grantee must hold Project Property in trust for the beneficiaries of the CSLFRF broadband infrastructure project.

5.3 Grantee may encumber Project Property if Treasury receives a shared first lien position in the Project Property such that, if the Project Property

were foreclosed upon and liquidated, Treasury would receive the portion of the fair market value of the property that is equal to Treasury's percentage contribution to the project costs. For example, in the case in which Treasury had contributed 50% of the project costs, Treasury would receive 50% of the fair market value of the Project Property when liquidated. Treasury will post standard forms of liens, covenants, and intercreditor agreements to implement this arrangement, and Grantee shall comply with all such guidance once published. Beyond recognition of this federal Project Property interest, Grantee is not required to record liens or other notices of record.

5.4 Grantee shall comply with 2 C.F.R. § 200.312 to the extent any federal-owned real property or equipment is used by the Grantee. If Grantee is not in compliance with the requirements of all guidance issued by Treasury in relation to property subject to the Federal Interest Period, Grantee must request disposition instructions from Treasury pursuant to 2 C.F.R. § 200.311(c) or 200.313(e), as applicable. Subject to the exceptions set forth here, the property standards set forth in 2 C.F.R. § 200.311 and 200.313 - .315 shall not apply.

Section 3: Ratification and Authorization. Except as expressly amended and supplemented herein, the Agreement shall remain in full force and effect, and the parties hereby ratify and confirm the terms and conditions thereof. Each party to this Amendment represents and warrants to the other that it has the right, power, and authority to enter into and perform its obligations under this Amendment, and it has taken all requisite actions (corporate, statutory, or otherwise) to approve execution, delivery and performance of this Amendment, and that this Amendment constitutes a legal, valid, and binding obligation.

Section 4: Execution. In consideration of the mutual covenants set forth above and for other good and valuable consideration, the receipt, adequacy and legal sufficiency of which are hereby acknowledged, the parties have entered into the above Amendment and have caused their duly authorized representatives to execute this Amendment.

STATE OF IOWA, acting by and through the
Department of Management:

Indianola Municipal Utilities:

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

Date: _____

Date: _____



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving Amendment No.2023NG to Grant No. 433551 awarded for Notice of Funding Availability NOFA #007

Recommendation:

- Attachments:**
1. Resolution Approving Amendment No.2023NG to Grant No. 433551 awarded for NOFA #007
 2. 433551

Indianola Municipal Utilities
RESOLUTION NO 2026-

**RESOLUTION APPROVING AMENDMENT NO.2023NG TO GRANT NO. 433551
AWARDED FOR NOTICE OF FUNDING AVAILABILITY NOFA #007**

WHEREAS, IMU Board of Trustees agrees that it is in the best interests of IMU to Amend No.2023NG, for Grant No. 433551 awarded for Notice of Funding Availability #007 ("**NOFA**"), by and between the State of Iowa, acting by and through the Department of Management ("**State of Iowa**" or "**Office**"), and Indianola Municipal Utilities, a Local Government organized under the laws of Iowa ("**Grantee**"), is made, entered into, and effective as of the date of last signature below ("**Effective Date**"). This Amendment will remain coterminous with the Contract. The Amendment modifies, to the extent specified in the attached document, the terms and conditions of the Contract.

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Indianola Municipal Utilities, Iowa, the amendment No. 2023NG is approved, and the Board Chair and general manager are hereby authorized and directed to authorize the amendment on behalf of Indianola Municipal Utilities.

Approved this 9th day of March 2026.

Dom Selgrade, Board Chair

ATTEST:

Monica Thompson,
Board Secretary

Amendment No. 2023NG to Grant Agreement No. 433551

This Amendment No.2023NG, (“**Amendment**”) to Grant No. 433551 (“**Agreement**”), awarded for Notice of Funding Availability #007 (“**NOFA**”), by and between the State of Iowa, acting by and through the Department of Management (“**State of Iowa**” or “**Office**”), and Indianola Municipal Utilities, a Local Government organized under the laws of Iowa (“**Grantee**”), is made, entered into, and effective as of the date of last signature below (“**Effective Date**”). This Amendment will remain coterminous with the Contract. The Amendment modifies, to the extent specified below, the terms and conditions of the Contract:

Section 1: Background. On May 17, 2023, the U.S. Treasury issued new guidance entitled “SLFRF and CPF Supplementary Broadband Guidance.” (available at: <https://home.treasury.gov/system/files/136/SLFRF-and-CPF-Supplementary-Broadband-Guidance.pdf>) (the “Guidance”). In the Guidance, Treasury clarified that, among other things, it is permissible for state recipients of ARPA funds to designate grant subrecipients as having received “fixed amount subawards,” which lessens certain burdens on subrecipients but also imposes new obligations on subrecipients. The parties are entering into this Amendment to adapt Grantee’s existing NOFA7 Agreement to the new guidance.

Section 2: Amendment to the Agreement. In light of the above, the parties to the Agreement amend the Agreement as follows:

Revision 1: On the first page of the Agreement, the following text is added at the bottom of the cell entitled “Business Name of Grantee.”

Designation under 2 C.F.R. § 200.331: For purposes of this Agreement, Grantee is deemed a “subrecipient” receiving a fixed amount subaward. *See generally* 2 C.F.R. part 200.

Revision 2: On the second page of the Agreement in the cell designated as “7. Acknowledgement of Subrecipient Status,” the text of this cell is replaced with the following:

7. Acknowledgement of Subrecipient Status. By executing the Agreement and accepting this CSLFRF-funded award made available under the American Rescue Plan Act and this NOFA, Grantee acknowledges that it shall be deemed a “Subrecipient” as defined by Applicable Law and receiving a fixed amount subaward.

Revision 3: Attachment A, subsection 2.1 is amended to read as follows:

2.1 “**Applicable Law(s)**” means any and all applicable federal, state, foreign, and local laws, rules, regulations, codes, ordinances, policies, orders or any other legal requirements or limitations, and specifically including CSLFRF Requirements in place at execution of this Agreement, as well as any and all future amendments, changes, or additions to such laws as of the effective date of such change.

Revision 4: Attachment A, subsection 3.1 are amended to read as follows:

Period of Performance. The period of performance begins on March 3, 2021, and ends September 30, 2026 (the “CSLFRF Performance Period”). Only costs associated with project costs incurred, paid, and invoiced to the Office during the CSLFRF Performance Period, or that were incurred prior to Grantee’s receipt of this award and subsequently used in the Project, may be considered as Allowable Expenditures under this Grant Agreement. Grantee must fully finish its Project(s) by the date set forth in the CD&E in accordance with and consistent with any deadlines established in the NOFA. Grantee’s Project(s) must be deployed and implemented in a manner that complies with all applicable terms, conditions, requirements, and limitations set forth in this Agreement, the NOFA, and as proposed/represented in the Application. Except in the case of any prepayments contemplated by the NOFA (“**Authorized Prepayment(s)**”), prior to being reimbursed for any Allowable Expenditures, Grantee’s Project(s) must be “complete” as that term is more fully defined and described herein.

Revision 5: Attachment A, subsection 3.2 is amended by marking the provision “Reserved.”

Revision 6: Attachment A, subsection 3.5.2.1 is amended to read as follows:

3.5.2.1 Any and all information required to be provided to the federal government pursuant to federal guidance; and

Revision 7: Attachment A, subsection 3.6, the leading language before the subsections in Section 3.6 is amended to read as follows:

Performance Testing. The Office may, in its sole discretion, conduct performance tests for purposes of verifying compliance with the terms of this Agreement, the NOFA, and Applicable Laws, on one or multiple occasions for up to five years after Broadband service is certified as complete pursuant to Section 3.4 (Certification). Such performance tests may include but are not be limited to:

Revision 8: Attachment A, in subsection 3.7 a new subsection 3.7.4 is added, which reads as follows:

3.7.4 Confirms that the Grantee participates in the Affordable Connectivity Program and is offering customers in their completed project area assistance with enrollment.

Revision 9: Attachment B, subsection 2.5 is amended to reads as follows (this change deletes all subparts below section 2.5):

2.5 Applicable provisions of Federal Uniform Guidance (2 C.F.R. part 200) applicable to subrecipients receiving a fixed amount subaward. Pursuant to subregulatory guidance published by the U.S. Treasury on May, 17, 2023, Grantee is not required to comply with the cost principles and procurement practices of the Uniform Guidance, and,

Revision 10: Attachment B, subsection 5 (Cost Principles) is deleted and replaced with the following text:

5. Ownership & Federal Interest

5.1 The federal government’s interest in CSLFRF broadband infrastructure built pursuant to this Agreement will last until December 31, 2034 (the “Federal Interest Period”). Title to real property or equipment acquired or improved under this Agreement (i.e., the broadband infrastructure installed pursuant to this Agreement) (“Project Property”) vests in Grantee, subject to the condition that, for the duration of the Federal Interest Period, Grantee and any successors or transferees:

- 5.1.1 Must use the Project Property for the authorized purposes of the project in the same manner as Grantee use comparable real property and equipment within its networks in the ordinary course of their business, subject to the rights to disposition provided below,
- 5.1.2 Must continue to provide internet service to the service areas

and at the standard initially agreed upon by the Office and Grantee,

- 5.1.3 Must participate in federal programs that provide low-income consumers with subsidies on broadband internet access services,
- 5.1.4 Must comply with the requirements of 2 C.F.R. § 200.310 (Insurance), which may be satisfied by adequate self-insurance,
- 5.1.5 Must comply with the use and management requirements for equipment in 2 C.F.R. §§ 200.313(c)(4) and 200.313(d), which may be satisfied by applying Grantee's commercial practices for meeting such requirements in the normal course of business (e.g., commercial inventory controls, loss prevention procedures, etc.), provided that such inventory controls indicate the applicable federal interest,
- 5.1.6 Must maintain records of real property that include an indication of the applicable federal interest,
- 5.1.7 May dispose of Project Property when no longer needed to operate the network, such as in order to upgrade equipment and improve facilities, provided that at least the same level of service provided by the network is maintained and there is no material interruption to service and that such upgraded property is subject to the same requirements as provided in Treasury's guidance as other Project Property,
- 5.1.8 May otherwise sell Project Property only after provision of notice to Treasury that identifies the successor or transferee and after securing the agreement of the successor or transferee to comply with these requirements and the acknowledgement of the successor or transferee of the federal property interest; and
- 5.1.9 Must notify the Office and Treasury upon the filing of a petition under the Bankruptcy Code, whether voluntary or involuntary, with respect to the ISP or its affiliates.

5.2 Pursuant to 2 CFR § 200.316 and in recognition that this broadband program is being executed for the benefit of the public being served by the broadband infrastructure, for the duration of the Federal Interest Period, the Grantee must hold Project Property in trust for the beneficiaries of the CSLFRF broadband infrastructure project.

5.3 Grantee may encumber Project Property if Treasury receives a shared first lien position in the Project Property such that, if the Project Property

were foreclosed upon and liquidated, Treasury would receive the portion of the fair market value of the property that is equal to Treasury's percentage contribution to the project costs. For example, in the case in which Treasury had contributed 50% of the project costs, Treasury would receive 50% of the fair market value of the Project Property when liquidated. Treasury will post standard forms of liens, covenants, and intercreditor agreements to implement this arrangement, and Grantee shall comply with all such guidance once published. Beyond recognition of this federal Project Property interest, Grantee is not required to record liens or other notices of record.

5.4 Grantee shall comply with 2 C.F.R. § 200.312 to the extent any federal-owned real property or equipment is used by the Grantee. If Grantee is not in compliance with the requirements of all guidance issued by Treasury in relation to property subject to the Federal Interest Period, Grantee must request disposition instructions from Treasury pursuant to 2 C.F.R. § 200.311(c) or 200.313(e), as applicable. Subject to the exceptions set forth here, the property standards set forth in 2 C.F.R. § 200.311 and 200.313 - .315 shall not apply.

Section 3: Ratification and Authorization. Except as expressly amended and supplemented herein, the Agreement shall remain in full force and effect, and the parties hereby ratify and confirm the terms and conditions thereof. Each party to this Amendment represents and warrants to the other that it has the right, power, and authority to enter into and perform its obligations under this Amendment, and it has taken all requisite actions (corporate, statutory, or otherwise) to approve execution, delivery and performance of this Amendment, and that this Amendment constitutes a legal, valid, and binding obligation.

Section 4: Execution. In consideration of the mutual covenants set forth above and for other good and valuable consideration, the receipt, adequacy and legal sufficiency of which are hereby acknowledged, the parties have entered into the above Amendment and have caused their duly authorized representatives to execute this Amendment.

STATE OF IOWA, acting by and through the
Department of Management:

Indianola Municipal Utilities:

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

Date: _____

Date: _____



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Discussion and Direction regarding the shared cost for the joint vehicle fueling station

Recommendation: Discussion and direction only

Attachments: 1. 26.01.27.Cost Sharing Agreement - IMU

FUEL TANK REMOVAL COST SHARING AGREEMENT

THIS AGREEMENT is entered into on the ____ day of _____, 2026, by and between the City of Indianola, Iowa, hereinafter designated as “Indianola” and Indianola Municipal Utilities, hereinafter designated as “IMU”, collectively referred to as “Parties.”

WHEREAS, Indianola and IMU are parties to the “28E Agreement Regarding Warren County, City of Indianola, and Indianola Community School District” of which Warren County, Iowa is no longer a party;

WHEREAS, Indianola and IMU continue to share a joint vehicle fueling station on real property owned by Indianola and continue to be bound by the 28E Agreement for purposes of exercising their respective powers to finance, develop, construct, own, operate, and manage the vehicle fueling facility for all vehicles owned and operated by the respective parties; and

WHEREAS, the Iowa DNR is requiring removal of the fuel tanks and Parties agree it is in the best interest of the parties that such fuel tanks be removed;

WHEREAS, the Parties wish to share the costs associated with the removal of the tanks as set forth herein;

NOW, THEREFORE Indianola and IMU agree as follows:

1. Purpose. The purpose of this Agreement is to fund removal of the fuel tanks that are the subject of the 28E Agreement entitled “28E Agreement Regarding Warren County, City of Indianola, and Indianola Community School District”.

2. Ordinary Administration. Except for certain matters specified herein, this Agreement shall be administered by the City Manager for Indianola and the Board Chair for IMU.

3. Removal. Indianola shall undertake, oversee, direct and contract for the removal of the fuel tanks subject only to applicable DNR, State and Federal laws, conditions, requirements, regulations, and rules. All approvals, including final acceptance of the removal project, shall be the right and obligation of Indianola. Indianola shall have the right, but not the obligation to apply for any applicable grants to cover all or part of the cost of the removal project. The fuel tanks shall be removed no later than July 1, 2027.

4. Initial Payment. Indianola shall be responsible for timely payment of the costs associated with removal of the fuel tanks including any contractor invoices, less any grants obtained for payment of the fuel tank removal. Indianola shall provide Supporting Documentation including, where applicable, work invoices and proof of payment for all invoiced amounts, to IMU within thirty (30) days of completion of the removal project.

5. Reimbursement by IMU. Within thirty (30) days of provision of the Supporting Documents, IMU shall reimburse Indianola for one quarter (1/4) of the actual billed costs, less any

amounts paid by any applicable grant. Such reimbursement payment shall be capped at Ten Thousand Dollars (\$10,000.00) and in no event shall IMU be required to pay reimbursement greater than \$10,000.00 unless this Agreement is amended in writing by the Parties. So long as Supporting Documents are provided, IMU shall have the obligation to reimburse pursuant to this Section 6.

6. No Amendment of 2010 28E Agreement. Nothing herein shall act to amend, change, increase, reduce, or revise any of the terms, rights or liabilities of the Parties under the certain 28E Agreement entitled “28E Agreement Regarding Warren County, City of Indianola, and Indianola Community School District” nor the ownership of the real property on which the fuel tanks are located to and until such 28E Agreement termination is effectuated and/or the purpose of such 28E Agreement has become null and void.

7. Effective Date. This Agreement shall be in full force and effect upon: a) the approval of the governing bodies of the Parties, b) execution by the parties to this Agreement.

8. Non-Assignment of Interest under This Agreement. Neither party may assign its right or responsibilities under this Agreement without prior written consent of the other party in each instance, which consent may be withheld or conditioned in the sole discretion of the consenting party.

9. Termination. This Agreement may be terminated by joint agreement of the Parties, at any time, by written termination executed by Indianola and IMU. In the event of termination, both parties shall be relieved of all further obligations or duties beyond the date of termination, but neither party shall be relieved of its duties and obligations under this Agreement through the date of termination, including expenses incurred prior to termination.

10. Notice. All notices, requests, claims, demands and other communications between the parties shall be in writing, and shall be given by delivery in person or by regular mail or email. All notices shall be effective upon receipt, if notice is given by delivery in person or email, or on the fifth day following mailing to the other party at its respective address listed below:

City of Indianola, Iowa
Attn: City Manager
jmeshke@indianolaiowa.gov

Indianola Municipal Utilities
Attn: Board Chair
dselgrade@indianola.com

11. Entire Agreement - Amendment. This Agreement contains the entire understanding between the parties and cannot be changed or terminated orally but only by an agreement in writing signed by both parties.

12. Severability. If any provisions of this Agreement are declared invalid or unenforceable, the remainder of the Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Agreement on the ____ day of _____, 2026.

INDIANOLA MUNICIPAL UTILITIES

ATTEST:

Board Chair

Board Secretary

STATE OF IOWA)

) ss:

COUNTY OF WARREN)

On this ____ day of _____, 2026, before me, the undersigned, a Notary Public in the State of Iowa, personally appeared _____ and _____ to me personally known, and who, being by me duly sworn did state that they are the Board President and Secretary, respectively, of the Indianola Community School District, a public school corporation, that the instrument was signed on behalf of Indianola Community School District, by authority of its Board, as contained in Resolution adopted by the Board and that _____ and _____ acknowledge the execution of the instrument to be the voluntary act and deed of Indianola Community School District, by it and by them voluntarily executed.

Notary Public in and for the State of Iowa



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Authorization to select AMI Vendor

Recommendation: After review of the proposals, Staff recommend approving the Tantalus RFP, attached. A Simple Motion is in order.

- Attachments:**
1. Response to Indianola AMI RFP-Tantalus-FINAL
 2. Final Bid Vision

RESPONSE TO REQUEST FOR PROPOSAL

Indianola Municipal Utilities
Advanced Metering Infrastructure
February 27, 2026



Tantalus Systems Inc.
1130 Situs Court, Suite 230
Raleigh, NC 27606 USA

P: 919.900.8970
F: 919.900.8978
www.tantalus.com

February 26, 2026

via electronic transmission to: mmetcalf@indianola.com

Indianola Municipal Utilities
Attn: Mike Metcalf, Electric Director
210 West 2nd Avenue
Indianola IA 50125

RE: Request for Proposal for Advanced Metering Infrastructure

Tantalus Systems Inc., in partnership with Van Wert Company, is pleased to present Indianola Municipal Utilities (IMU) with our proposal in response to the above-referenced RFP. We appreciate your consideration as your technology solutions provider.

Tantalus is a technology company focused on helping public power and electric cooperative utilities, along with their communities, modernize their distribution grids. With more than 35 years of experience and over 325 public power deployments, we offer solutions that enable utilities to use data effectively and accelerate grid modernization.

The proposed Tantalus solution offers IMU a differentiated approach and unique advantages, including:

- A proven, Itron-backed solution for long-term preservation of IMU's substantial ERT investment
- The TRUSense Fiber Gateway™, a unique, simple yet powerful approach to grid modernization, leveraging IMU's fiber-to-the-home network
- TRUSync™ software integrates IMU's existing SCADA system, greatly enhancing capabilities
- Our industry-leading commitment to public power utilities, especially in the state of Iowa
- Our value. After careful review of these RFP's requirements, we are pleased to offer IMU a cost reduction from our previous offer in December 2025. Please refer to the cost proposal herein for complete details.

Tantalus and Van Wert Company recognize the importance of this project to IMU. We are eager to support you and build a long-term partnership to help achieve your grid modernization goals. Please contact me or our Regional Sales Manager, Chris Christensen, at (325) 260-6717 or cchristensen@tantalus.com with any questions or for additional information.

Best Regards,

A handwritten signature in black ink, appearing to read "Michael Julian".

Michael Julian
Chief Revenue Officer



Table of Contents

- Executive Overview 1
- Background and Experience 5
 - Proposed Project Team 6
 - References 10
- Minimum Requirements 13
 - AMI Vendor 13
 - AMI System 14
- IMU’s Responsibilities 21
- Vendor Responsibilities 22
- Cost Proposal 25
 - AMI System Project 25
 - Alternate Bid to Upgrade Water Meters 29
 - Alternate Bid for Full Deployment 30
- Supporting Documents 31



Executive Overview

Tantulus understands that Indianola Municipal Utility (IMU) is seeking an Advanced Metering Infrastructure (AMI) system to replace AMR electric meters with AMI meters over 3 years beginning in July 2026. In addition, the IMU Water Department would like an alternate bid to upgrade the existing 5/8" and 3/4" water meters, including Itron 100W ERTs and installation services.

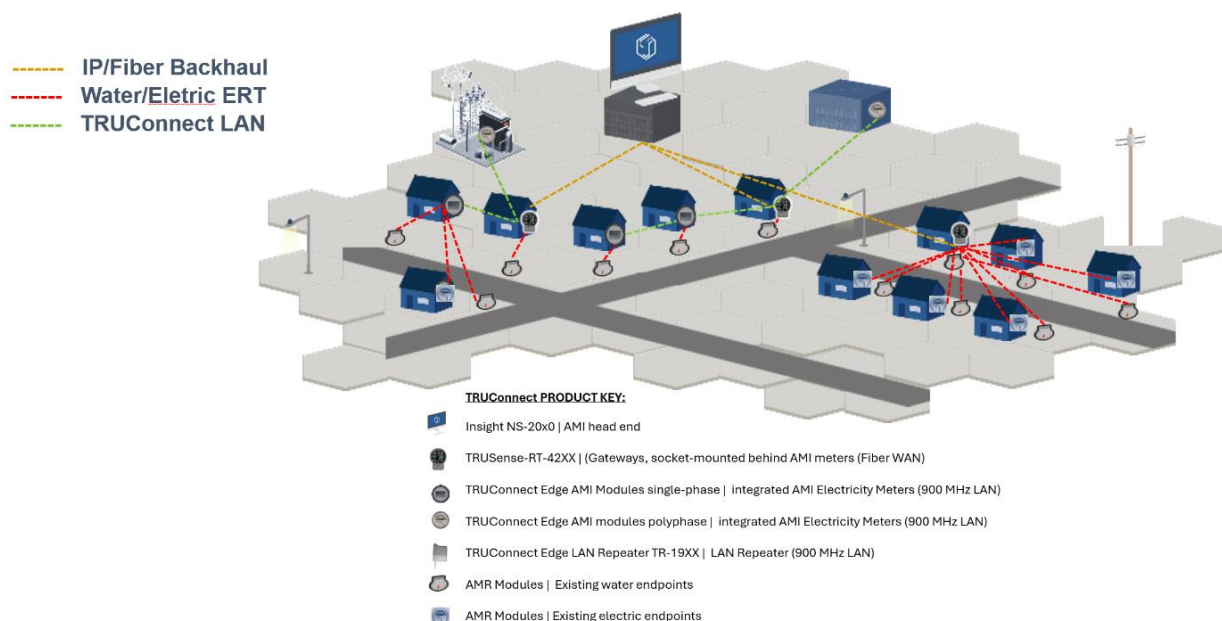
Tantulus is a technology company committed to helping municipal utilities and the communities they serve modernize their distribution grids. For more than 35 years, the company has delivered data-centric solutions that enable utilities to harness data and accelerate their grid modernization efforts in the most proven and cost-effective way.

Recommended Solution

The proposed solution will establish an important foundational step in the modernization of IMU's electric and water systems, which includes:

- An AMI system that allows IMU to reuse Itron AMR meters without replacing all devices and to be deployed over an anticipated three-year period (see diagram below).
- A creative, simple, cost-effective, yet powerful approach to leveraging IMU's fiber-to-the-home network, using the TRUSense Fiber Gateway to lay a foundation for solving challenges posed by Distributed Energy resources (DERs)
- An option to upgrade a selection of aged water meters and ERTs, including installation services
- Training and support services for IMU staff/contractors as outlined in the Vendor Responsibilities section.

IMU - TRUConnect™ AMI Network-Fiber





TRUConnect AMI Network Components

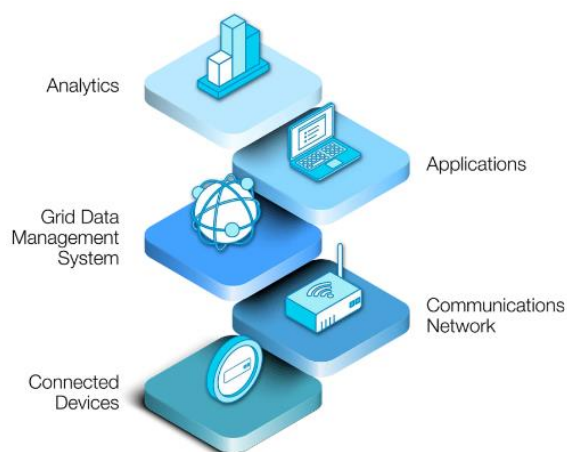
- Insight Head End user interface designed by utilities to manage all aspects of an AMI deployment
- TRUSense Fiber Gateway™ Multi-purpose device installed in the meter socket to create a secure communication pathway
- TRUConnect™ Edge Intelligent module for the Itron CENTRON® C1s, C2s, and CP3 meters
- LAN Repeater TR-1901 Omni-directional 900 MHz network repeater to extend the reach of the TRUConnect LAN communications into hard-to-reach locations and over challenging terrain

Full descriptions of the features and benefits of the components of our proposed solution are provided in product and solutions sheets included in the Supporting Documents section of our proposal.

The Tantalus Grid Modernization Platform™ (TGMP™) is a technology architecture that provides a secure, flexible, and affordable path to grid modernization, grounded in a data-centric approach. It delivers true data interoperability across devices, systems, and vendors.

TGMP includes a suite of solutions across five layers: connected devices, communications network, grid data management, applications, and analytics.

Our solutions can be deployed individually or together, and were designed to be interoperable with other devices, systems, and vendors. TGMP delivers utilities the most cost-effective, proven path to becoming more resilient, reliable, secure, affordable, flexible, and sustainable. These are the mission-critical pillars of grid modernization.



Our data-centric approach enables **Unified Intelligence** across the entire distribution grid—from the substation to devices behind the meter—empowering utilities to achieve the most valuable outcomes with the most relevant insights, regardless of where the underlying data originates.

Tantalus: A Unique Value Proposition for IMU

Our offer is a highly unique, simple, cost-effective, yet powerful value proposition that no other vendor can provide.

Reuse of Itron ERT Technology: Tantalus was the first to release Itron ERT reading and integration into a modern AMI system, dating back to 2013. No other vendor can match this experience. Our ERT Overlay approach is unique in the industry because it does not require replacing all electric ERTs to achieve a utility's overall technology goals. We have worked very closely with Itron in a partnership, backed by agreements, to ensure this technology is rock solid. The Tantalus TRUConnect network is an Itron-approved ERT reading solution that does not void Itron's warranty, unlike other unapproved ERT reading solutions. This keeps Itron's 20-year water ERT warranty intact for IMU.



TRUSense Fiber Gateway: Our socket-based gateway enables a direct, simple fiber connection to IMU's fiber-to-the-home network. Not only does TRUSense serve as an Itron ERT reading device and AMI gateway, but it also provides simultaneous, real-time grid monitoring by connecting to IMU's existing SCADA system via our TRUSync software. TRUSense can capture up to 13,000 data samples per second, transmit them every minute, and deliver them to any headend system, such as IMU's SCADA system. In a future release, TRUSense will offer full streaming capability, delivering data continuously in real time. There is no simpler, cost-effective, or more powerful way to achieve IMU's technology goals while preserving the Itron ERT investment.

TRUSync: Our software provides IMU with a one-of-a-kind path to future Grid Modernization initiatives that achieve Unified Intelligence across the entire utility. TRUSense Fiber Gateways will be installed as part of this project. The future addition of TRUSync software will allow any device, regardless of protocol or manufacturer, to communicate with any head end/application. For IMU, this means that any device (breaker, cap bank, recloser, etc.) that an IMU wants to integrate into the existing SCADA system beyond TRUSense Gateways can be added at any time without complex, costly integrations.

Addresses Distributed Energy Resource (DER) challenges: DERs present both significant opportunities and challenges for any utility. Integrating them into a utility's daily operations will be time-consuming and costly. Every TRUSense Gateway includes built-in, utility-managed Wi-Fi connectivity. Adding Tantalus' TRUFlex Load + DER Management platform will enable IMU to address any Wi-Fi-connected load behind any meter, at any service location. These devices include thermostats, solar inverters, EV chargers, and water heaters, among others. Deploying the Tantalus TRUSense Gateways as part of this project will allow IMU to have its own Wi-Fi connection to any device, rather than relying on the customer's home Wi-Fi. This approach is simpler, more robust, and more reliable than using customer Wi-Fi.

Public power experience: The solutions offered in this proposal were developed specifically for public power. The daily users who work in utilities serve on our advisory committees. Utility employees on these committees guide us every day as we develop solutions such as the Itron ERT reading capability and the TRUSense Gateway, both of which are offered in this proposal. Municipal and cooperative utilities have a direct say in Tantalus' future technology direction because they are at the table.

Tantalus and The Van Wert Company believe that we are offering IMU the best value any AMI vendor provides



Why Tantalus

Grid modernization goes beyond simply upgrading meters and devices. It focuses on the results utilities can achieve through solutions that deliver the right data from the right device to the appropriate application. This illustrates the strength of [Unified Intelligence](#). It represents a continuous, incremental shift from a centralized, device-focused grid to a flexible, data-driven system.

What Sets Tantalus Apart:

- ✓ Data-centric approach to distribution grid modernization that delivers Unified Intelligence
- ✓ Proven systems that deliver advanced capabilities, grounded in a commitment to quality
- ✓ Unparalleled collaboration with our customers, who have direct input into our product roadmaps
- ✓ World-class and tailored customer support that meets utilities wherever they are on their distribution grid modernization journey

Our flexible solution gives IMU autonomy and control over your grid modernization journey. As your AMI provider, Tantalus will uphold IMU's commitment to the City's high standards and to delivering reliable, affordable services and high-quality customer experiences.



Background and Experience

Vendor Name: Tantalus Systems Inc.

Address: 1130 Situs Court, Suite 230, Raleigh, NC 27606

Contact: Chris Christensen, Regional Sales Manager (325) 260-6717; cchristensen@tantalus.com

Website: <https://tantalus.com/>

Product Names:

- TRUConnect™ AMI
- TRUSense Gateway™
- Tantalus Grid Modernization Platform™ (TGMP™)
- TRUSync™ Grid Data Management
- TRUGrid™ Automation Suite
- TRUConnect Edge™ Intelligent Endpoint AMI Communications Module for the Itron CENTRON C1s, C2S, and Polyphase III meters
- LAN Repeater TR-1901 Omni-directional 900 MHz network repeater

Please refer to the product/solution sheets provided in the Supporting Documents for full descriptions, including features and benefits.

Tantalus was founded in 1989 as a privately held consulting company providing turnkey product engineering services to other manufacturing companies in the wireless communications, security, and industrial computing markets. Today, Tantalus is a technology company that has delivered more than 4 million endpoints and helped more than 325 public power and electric cooperative utilities modernize their distribution grids through a data-centric approach.

- 2004**
First Tantalus Utility Network installed at a public utility
- 2009**
First phased deployment of FTTH
- 2013**
Introduced Linux-based intelligent smartgrid endpoint
- 2015**
VersaComms™ Gateway increases the capacity and efficiency of network
- 2019**
Released advanced streetlight control solution that includes ERT reading capabilities
- 2021**
Launched TRUSense Gateway™, a FTTH and IP solution
- 2022**
Acquired Congruitive, a technology company which helps integrate EVs and DERs to improve grid reliability
- 2024**
Launched the Tantalus Grid Modernization Platform™

We deliver solutions that enable utilities to harness data to improve visibility, command, and control across the entire distribution grid, from substations to devices behind the meter. We call this [Unified Intelligence](#), ensuring that actionable information is accessible wherever needed, across any device, application, or system. Ultimately, everything we do is purpose-driven to support utilities and the communities they serve in the most proven and cost-effective way.

Tantalus is proud of the inclusive ecosystem of [Partnerships and Alliances](#) we've built, enabling our customers to shape the evolution of their smart grids. Visit our website for more information on what sets us apart in helping utilities modernize their distribution grids.

Please visit our website for the latest [news and happenings](#) at Tantalus.



PROPOSED PROJECT TEAM



Carleigh Lider, Project Manager

Carleigh Lider is a Project Manager at Tantalus with over ten years of professional experience in the utility industry. She is highly skilled at leading teams to deliver projects aligned with customer needs and regulatory requirements, coordinating resources with channel partners, and developing solutions to address customer challenges. She is dedicated to meeting project deadlines while staying within budget. Her partnerships and resources are strategically aligned to achieve results. Carleigh holds a BS in Geological Engineering from the University of North Dakota.

Carleigh will lead the AMI deployment and serve as the liaison between upper management, stakeholders, and cross-functional team members, overseeing project execution. She will be responsible for the direction, coordination, implementation, executive control, and completion of the project, remaining aligned with IMU's strategy, commitments, and goals so you can benefit from the Tantalus solution from day one.



Kim Harrison, Customer Success Manager

Kim Harrison has been with Tantalus for over 17 years, managing Customer Success in the Northeast, Midwest, Caribbean, and Canadian regions. She uses excellent communication, teamwork, problem-solving, and product expertise to assist her clients. Before her current role, Kim was a business analyst at SAS, a software firm, supporting the global sales team as part of the executive team. She earned a BS in Sports Management with a minor in Business from Slippery Rock University.

Kim will work closely with IMU as you become an active user of the Tantalus Community. She will ensure that you have the tools and resources to help maximize the value of our products and services. She will work to build a long-term relationship throughout the lifetime of your system by assisting with annual service renewals, providing training and education resources, and helping to resolve problems as they arise so you can achieve your overall business goals.

Brian Percival, Supervisor, Pre-deployment & Sales Support

Brian Percival is a telecommunications professional with over 14 years of experience. He has an extensive background working with RF systems, including cellular, satellite, and smart-grid metering, and a strong understanding of design principles and the network installation process. Brian is an expert in operating, maintaining, and troubleshooting new systems and a strong team leader, skilled at building relationships while maintaining focused communication, problem-solving, and accountability. Brian served four years in the US Army as a Satellite Communications Operator/Maintainer (25S)

Brian will oversee the system design, guiding the process from concept to completion while ensuring it meets functional, schedule, and cost objectives. He will serve as the primary contact for all design-related issues, facilitating communication among clients, designers, and construction teams. He will also identify and manage risks during the pre-construction phase, ensuring all stakeholders' requirements are fulfilled.

Jonathan Leake, Manager of Project Operations

Jonathan Leake is an operations manager with 20 years of experience in the municipal power industry. He leverages his operational expertise in utilities to promote the adoption of new processes, policies, and procedures across the organization, ensuring successful project completion. Jonathan holds a BA in International Affairs with a focus on Business and Law from Kennesaw State University.

Jonathan will oversee the successful completion of the project by managing resources, directing team members, ensuring on-time delivery within budget, and meeting quality standards. He will help ensure the project runs smoothly, maximizes efficiency, and collaborates to achieve our shared business goals.



Mike Pasquino, Sr. Manager, Customer Success

Mike Pasquino is the Senior Manager of Customer Success, responsible for ensuring long-term customer satisfaction at Tantalus. He brings more than 25 years of experience supporting municipal, cooperative, and investor-owned utilities in achieving their AMI and grid modernization goals, with a focus on sales support, customer service, and account and relationship management. Mike holds a Bachelor of Science degree in Electrical Engineering from Clemson University.

In his role, Mike oversees the Customer Success Manager, who is responsible for building long-term relationships with IMU, ensuring business value and outcomes are achieved, and enhancing the overall customer experience with Tantalus during and after project deployment. Mike also serves as an additional resource and escalation point within Tantalus as needed.

Chris Christensen, Regional Sales Manager

Chris Christensen serves as a Regional Sales Manager at Tantalus, with over 30 years of experience providing technology solutions in retail, transportation, military, and utility sectors. In the utility field, he has supported modernization efforts by offering Engineering Analysis, OMS, GIS, IVR, and Staking solutions. At Tantalus, he specializes in helping cooperative and municipal utilities modernize their Smart Grid technologies, including AMI, Load and DER Management, and SCADA integration. Chris earned a Bachelor of Arts in Business Management.

Chris will serve as an additional resource for IMU throughout the project. He will guide you through pricing, deployment planning, and expediting processes on behalf of Tantalus Systems. Additionally, He will stay prepared and available to collaborate with the project team, both virtually and on-site, as needed.

Brook Marin, Sr. Director of Customer Experience

Brook Marin is a seasoned professional in the smart grid industry, with expertise in personnel management, device development, software design and development, project management, and technical troubleshooting. Brook holds a bachelor’s degree in Wireless Engineering, with a Hardware Option and Networking Specialization, from Auburn University.

Brook will ensure a seamless customer experience throughout all project stages. He will oversee the development and implementation of the technical support strategy and monitor progress across various departments, ensuring everyone works toward the established goals and objectives. He will also track your feedback and recommend and adopt tools and technologies to enhance your overall satisfaction throughout the project.



Paul Guyot, Sr. Director of Customer Success

Paul Guyot has over 25 years of experience in the high-tech sector, specializing in customer operations and the deployment of highly technical, sophisticated communications systems. He is a certified Project Management Professional (PMP) through the Project Management Institute (PMI) and holds a Professional Engineer (P.Eng.) designation from the government of British Columbia. He also earned an Executive MBA from the Smith School of Business at Queen's University.

Paul will oversee the Tantalus Customer Success, Project Management, Professional Services, and Training team members assigned to your project, ensuring a positive overall customer experience from contracting through project completion. He aims to help IMU achieve its goals by leveraging Tantalus products and services to build strong relationships and foster satisfaction and loyalty. He will customize services to meet your needs and provide excellent customer support.

Michael Julian, Executive Sponsor

Mike Julian is the Chief Revenue Officer at Tantalus, overseeing strategic initiatives to drive revenue growth in collaboration with the sales team. He collaborates with leadership to scale the company. A former U.S. Air Force officer, he has more than 20 years of leadership, sales, and management experience in the Energy and Communications industries, including roles at GE, Ericsson, Tekelec, and Catapult. He graduated from GE's Technical Sales Program, earned an MBA from Arizona State University, and holds a B.S. in Electrical Engineering from Villanova University.

Mike will serve as the Executive Sponsor and facilitate, observe, and guide processes throughout the project's lifetime. He will also be available to assist with decision-making and planning, ensuring the project team has all the necessary guidance and resources to maximize the benefits of positive strategies and increase efficiencies, ultimately delivering IMU the best possible outcome.



REFERENCES

ALGONA MUNICIPAL UTILITIES (AMU)

104 W Call St., Algona, IA 50511

Steve Grandgenett, Energy Efficiency, Safety, and AMI Coordinator

(515) 295-3584; sgrandgenett@netamu.com

Algona Municipal Utilities (AMU) is committed to connecting people to affordable, reliable services. AMU uses the latest technology to deliver reliable electric service and high-quality water at the tap to the community. AMU selected the Tantalus AMI solution, which offered robust network coverage and reliability, advanced metering, and two-way communication.

AMU had a significant investment in Itron's ERT AMR technology. All other AMI systems required replacing all meters to achieve AMI goals. In 2013, Tantalus was the only vendor capable of reading and integrating the existing Itron ERT technology into the TRUConnect platform. The Tantalus TRUConnect AMI solution can read existing Itron electric and water ERTs without replacing meters. This approach met AMI goals and eliminated drive-by without full replacement. It also allowed Algona to spread AMI deployment over as many years as they liked, as their budget and business cases evolved. This reduced risk, saved money, and enabled faster ROI.

Objectives

- Increase efficiency
- Enhance customer service through access to granular data
- Reuse and extend the life of a significant Itron ERT investment
- Improve outage response and restoration

Challenges

- Heavy vegetation & rural areas

Outcomes

- More efficient billing cycle
- Quicker processing and increased staff productivity
- Better data helps manage load and reduce costs

Endpoints: 3,740 electric / 2,955 water

System Integrations: CIS and MDM: NISC; SCADA: ACS

Project Dates: 2013 – present



CEDAR FALLS UTILITIES
PO Box 769, Cedar Falls, IA 50613

Adam Peterson, Electrical Substation & Metering Manager
(319) 268-5371; Adam.peterson@cfunet.net

Cedar Falls Utilities (CFU) was established in 1913. The electric service area encompasses the city limits and surrounding rural areas to the north, south, and west, serving over 18,000 customers. The Municipal Water Utility was created in 1888, and its water distribution system comprises four towers and 202 miles of water mains. CFU is a community-owned utility whose primary goal is to provide its community with dependable and affordable services. It reinvests revenues in local infrastructure and technology to maintain safety, reliability, and innovation.

During a rural broadband initiative, CFU first installed approximately 1,000 Tantalus TRUConnect Edge modules to upgrade rural electric meters. Early on, CFU recognized the benefits of the Tantalus AMI system, including reduced staffing requirements and enhanced customer service. Over the past 10 years, the conversion has continued at a steady pace, replacing about 1,000 electric meters each year. CFU aims to complete the entire electric system upgrade by 2029, which will involve adding roughly 7,000 more TRUConnect Edge modules.

CFU is currently piloting the Tantalus TRUGrid Reliability data analytics tool, which helps identify failing assets and the TRUGrid Transformer. This data analytics tool visualizes real-time transformer data across the grid to detect voltage issues, sags, swells, and transformer load. CFU is also using its streetlights and Tantalus gateways to collect data.

Objectives

- Provide high-quality solutions and services that bring the best value to the community
- Increase capacity and reliability
- Lower average outage duration

Challenges

Resource shortages

Future energy market: providing energy when renewables are not available

Outcomes

- The initial deployment immediately helped to fill gaps in CFU's staff shortages
- Improved reliability. Power outages are shorter, and service is restored more quickly

Endpoints: 12,000 electric / 13,000 water ERTs / 3,100 gas ERTs

System Integrations: CIS: Oracle; OMS: DataVoice

Project Dates: 2015 - present



MT. PLEASANT MUNICIPAL UTILITIES (MPMU)
509 North Adams St., Mt. Pleasant, IA 52641

Jody Fuller, Accounting Supervisor

(319) 385-4313; jodyfuller@mtputilities.com

Mount Pleasant Municipal Utilities (MPMU) is located in southeast Iowa and serves more than 4,000 customers for electric and water service. The utility employs 32 full-time employees. In July of 2024, MPMU chose Tantalus to modernize its metering program and improve system visibility to address industry changes, including the expansion of renewable energy installations and the rise of electric vehicle utilities. The AMI solution included an ERT overlay with cellular backhaul that could use existing AMR meters, allowing MPMU to deploy new assets at its own pace over the coming years.

Today, MPMU and Tantalus continue to work together to incorporate our latest analytics solutions to address ongoing industry changes and support a safety culture.

Objectives

- Improve safety and working conditions for employees
- Meet increased customer service expectations
- Leverage newer AMR assets to extend useful life

Challenges

- Increased dependence on electric service creates increased demand
- Significant regulatory changes

Outcomes

- Automation of all meter reading
- Reduced truck rolls through remote disconnect
- Improved outage management efficiency

Endpoints: 4,100 electric / 3,830 water

System Integrations: CIS: Tyler

Project Dates: Q3 2024 – Q2 2025

Please visit our website to learn more about [the utilities partnering with Tantalus](#) to modernize their distribution grids and achieve better outcomes for the communities they serve.



Minimum Requirements

AMI Vendor

Demonstrate its commitment to the municipal utility market.

Tantulus began implementing AMI solutions in 2004, focusing exclusively on public power. Currently, around 325 municipal and cooperative utilities are part of our user community. We demonstrate our dedication by involving utilities in the development process through Advisory Committees composed of utility professionals who regularly use our TRUConnect AMI system. Members influence the features and functionalities they want, and their feedback is shared with our Executive Management Team. Based on their input and our resources, Tantulus sets priorities for developing solutions. Although we can't promise to fulfill every request, our innovations are driven by active participation from municipal utilities like IMU. As far as we know, no other AMI provider involves public power entities in their product development in this way.

The TRUSense Fiber Gateway included in this proposal may seem very inventive and unique. However, TRUSense is actually a 2nd-generation device. The 1st-generation device has been deployed for over 15 years. The municipal utility employees who have deployed over 100,000 of the 1st-generation gateways came together to form the Advisory Committee for TRUSense, the 2nd generation of this socket-mounted device. All the functionality and ideas for developing TRUSense came from them.

Cedar Falls Public Utilities, IA (CFU), one of the references included in this proposal, has had the 1st generation of our socket-mounted gateways deployed for over 15 years. The gateways connect to their fiber-to-the-home network and can share insights into the history of our unique approach, then and now.

Provide information on the number of AMI deployments and the number of endpoints.

To date, we have over 325 AMI deployments and ~4,000,000M endpoints in the field.

Provide information on the percentage that AMI is of their portfolio.

AMI is the largest share of our product and solution offering (~85%). The balance of our portfolio comprises solutions for the substation-to-meter segment, from within the service location to behind-the-meter DERs, including:

- TRUFlex Load + DER Management – Includes integration of Distributed Energy Resources (DERs) behind the meter
- TRUGrid Reliability Analytics – Uses Artificial Intelligence (AI) on our AMI data to find distribution system issues, allowing them to be fixed proactively.
- TRUGrid Transformer Analytics – Uses Artificial Intelligence (AI) on our AMI data to provide a near-real-time view of activity across all transformers.
- TRUSync Grid Data Management – Allows integration of any head end with any field device from any vendor, using any protocol, including IMU's existing SCADA system.
- TRUGrid SCADA – For utilities that want to update their existing SCADA system or who do not have one today.



AMI System

Must be able to reuse Itron AMR electric and water meters on their AMI system without full replacement of all devices to allow IMU to complete the deployment over an anticipated three-year period.

Comply. We are an established, Itron-approved provider of ERT overlays. Any Tantalus device, such as electric meters, TRUSense Gateways, or repeaters, can communicate with Itron's electric, water, and gas ERT systems. Our overlay approach involves replacing only some Itron electric ERT meters with Tantalus AMI meters. Tantalus AMI meters, combined with TRUSense Gateways and a few pole-mounted repeaters, allow us to read all remaining electric and water meters that use Itron ERT technology.

Once deployed, Tantalus will detect other remaining electric and water devices. It will begin gathering readings daily, multiple times a day, and hourly, depending on the ERT types being monitored, transforming IMU's existing Itron AMR ERT meters into AMI meters without requiring replacements or modifications.

Our approach has been successfully implemented at various locations across the US, including in Iowa. Tantalus is currently reading hundreds of thousands of ERT devices of various types at any given time. Our expertise with the ERT overlay strategy ensures it will continue to serve IMU effectively for many years.

Vendor must provide an RF Mesh system so that all AMI devices can read and retransmit all Itron ERT meters remaining in the system.

Comply. TRUConnect operates as an RF Mesh network, with all devices communicating with each other. Each device can relay ERT data via the Mesh to the database, much like a TRUConnect AMI meter. Our proposed design enhances the chances of connecting to any ERT (electric, water, or gas), since any ERT can connect to any Tantalus device. Our configuration ensures more reliable communication and reduces the risk of ERT data transmission failures.

Be an approved Itron vendor allowed to read and integrate their devices.

Comply. Tantalus has established several agreements with Itron over the years that involve ERT technology integration. The agreements strengthen our partnership with Itron regarding ERT reading and its features. We have detailed access to the ERT technology, enabling us to continue developing and maintaining its functions.

TRUConnect offers more than just consumption readings; it also delivers specific messages, such as leak and low-battery alerts, along with interval data. We display all this information for the utility user, providing a simple, clear way to leverage many aspects of ERT data that are likely not fully utilized by IMU today.

Read and report the Itron NIM messaging protocol.

Comply. Tantalus also supports the Itron SCM and SCM+ protocols.



AMI vendor's system must be able to reuse the current Itron interface to the utility's billing system.

Comply: Tantulus can reuse Itron's MVRS, FCS, and Temetra billing interfaces. Our partnership with Itron grants access to their file formats, facilitating integration with IMU's billing system. Our cloud database can utilize the same Itron MVRS interface that IMU currently uses with mobile reading equipment. Alternatively, Tantulus also offers a direct connection to your billing system through a flat-file interface, allowing IMU to bypass MVRS if preferred.

Must have experience working with IMU's billing system which is eLation.

Comply. Tantulus has experience integrating TRUConnect with eLation at utilities such as Vinton, IA (VMEU).

System shall not require licensed communication frequencies.

Comply. TRUConnect Edge modules use the unlicensed ISM band from 902 to 928 MHz and comply with relevant FCC standards.

Must be able to deliver internal data from the meter to the head end and be able to do batched delivery at set intervals.

TRUConnect AMI meters surpass this standard by never batching intervals; they send all data in real time as it occurs. For instance, if set to 1-hour intervals, data is transmitted every hour; if set to 15-minute intervals, data is transmitted every 15 minutes. Unlike systems that batch data for future transmission, TRUConnect ensures timely updates, which greatly benefits utility staff handling customer calls. The information displayed to them is always current, no more than an hour old, aiding in resolving billing inquiries efficiently.

In contrast, batched data intervals are sent only a few times daily, meaning customer service reps may access data that is hours old. This delays utility response and hampers service. ERT readings exemplify this, as they are typically batched and delivered about every 4 hours, making real-time data unavailable.

Must have intelligent endpoints with distributed computing capabilities.

Tantulus began delivering the TRUConnect AMI modules for this project in 2013, making it one of the first providers to introduce distributed computing capabilities to the market. Each TRUConnect AMI device functions as a computer, equipped with 6 ASIC processors and 32 MB of RAM, and runs Linux. Its radio is software-definable, similar to modern smartphones. These features are common in many contemporary computing devices. Tantulus was among the pioneers to incorporate PC architecture into electric meters, turning them into true distributed computing devices akin to smartphones, laptops, or tablets. Software and functionality updates can be delivered over the air, just like on a smartphone.

Users can download new software or apps from the web, enabling the device to operate differently. Tantulus TRUConnect meters can receive comprehensive updates remotely by downloading them over the air, a method used to develop ERT reading with Itron's permission.



The system shall use LANs.

Comply. TRUConnect forms mesh connections between the meters and TRUSense Gateways.

The LANs shall be self-building and self-healing with the electric meters acting as the LAN repeater for other meters.

Comply. Every TRUConnect meter functions as an AMI meter, an ERT reading device, and a repeater for electric meters that cannot connect directly to a TRUSense Gateway. Each meter can hop up to 15 times to reach a gateway, and any device can act as a repeater to relay data.

The proposed network is designed to ensure that most meters connect directly to a gateway or use only 2 or 3 hops, providing a resilient, efficient, and rapid network. If a meter's connection to the gateway is disrupted by storms, gateway failure, or other issues, the meter automatically hops in a different direction up to 15 times to self-heal and reconnect to the database, all without utility intervention.

Must maintain time synchronization for all meters, nodes, and other devices within the network.

Comply.

Shall provide time-stamp capabilities.

Comply.

All AMI meters must be uniquely identified in the network.

Comply. Every Tantalus TRUConnect meter and ERT has a unique identifier on the network. We also map each device's location and display it on our digital map, TRUView. TRUView is a feature of our Insight software that provides a digital map of all electric and water meters, as well as all infrastructure devices. All devices will be uniquely identified from both LAN and geographic perspectives.

Residential electric meters shall provide a minimum of 60-minute meter reads, pushed to the head-end hourly.

Comply. All residential meters support rates at 60-, 30-, 15-, 10-, and 5-minute intervals. The cloud database in this setup is configured to collect data every 1 hour. Meters or groups can be adjusted to shorter intervals, such as 30, 15, 10, or 5 minutes, as needed, aiding your customer service team. However, reducing all residential meter intervals to 15 minutes or less might require more cloud storage, potentially increasing annual hosting costs.



System must be able to provide on-demand readings as needed by IMU staff.

Comply. All AMI meters will deliver an on-demand read within 30 seconds by pressing a button on their Insight software screen. The Itron 100W water ERT is a 2-way device that supports on-demand reads with the push of a button. Electric ERTs do not support on-demand reads.

Electric meters need to be able to monitor and report voltage at every interval and report the data in a manner that allows IMU to react to the information.

Every TRUConnect meter measures voltage at each interval, no matter how often they occur. Utilities can set specific limits for voltage Sag and Swell, either for individual meters, groups, or the entire system. When measurements go beyond the set limits, an alarm is triggered for voltage Sag or Swell. These alerts appear on the Insight software screen, ensuring IMU is quickly notified so they can take swift action.

The system shall support two-way communication.

Comply. Two-way communication is supported by TRUConnect meters and Itron 100W ERTs; however, it is not supported by the Itron Electric ERTs.

Must be able to demonstrate the ability to report outages within 2 minutes.

Comply. Outages are typically reported within 1 minute and are plotted on the TRUView map within the Insight software, providing you with an outage management map that requires no additional devices or software. Email and/or text messages are sent simultaneously to the appropriate utility staff members, even before incoming customer calls reporting outages, keeping your team ahead of the problem.

Read our case study to learn about how the Tantalus TRUView Outage monitoring capabilities helped one utility maintain critical visibility and respond quickly to restore power after an unprecedented storm flooded their city. <https://tantalus.com/case-studies/brightridge-electric/>

Must be able to demonstrate the ability to restore 90%-meter communication within 5 minutes.

Comply. TRUConnect devices store all of their mesh communication path in memory. As soon as power is restored, the device will quickly resume communicating along its original path.

Must be able to support remote disconnecting and reconnecting on a 200 and 320 amp residential electric meters.

Our proposal includes a CL200 disconnect for all 1S, 2S, and 12S meters. Because Itron does not offer a CL320 disconnect meter, we have excluded a disconnect option for the CL320 2S meters in this proposal. If required, Tantalus can offer to substitute the L+G Focus meter, which supports the CL320 disconnect. Pricing for this option is available upon IMU's request.



Communication module must be based on an industry standard computing platform.

Comply. The TRUConnect AMI module runs on Linux, a widely used platform for PCs, laptops, and servers. Tantalus is the sole AMI provider that offers a genuine PC-based operating system across all devices.

Polyphase AMI electric meters shall deliver power quality information to the head-end at least once per hour.

Comply. All TRUConnect polyphase meters are configured to record data every 15 minutes by default. Users can change this to 5-minute intervals instantly on any meter whenever needed. Additionally, numerous other real-time data channels are provided and updated every 15 minutes.

Meters must be able to report outages and restorations in real time.

Comply. The TRUConnect AMI meter will report an outage within 30 seconds. Restorations are also reported within 30 seconds, allowing crews to identify outages left over after restoration before returning to the utility.

System shall support the transmission of DNP3 protocol messages over the network.

The TRUSense Fiber Gateway supports both the AMI Gateway and DNP3 protocols using the TRUSync software. TRUSync enables the Gateway to connect directly to IMU's SCADA and allows any device, regardless of protocol or manufacturer, to be added to SCADA when ready, which isn't possible with traditional AMI Gateways.

The Tantalus DA Bridge Modem also supports the DNP3 protocol and can connect to any DNP3-capable field device. It uses the TRUConnect AMI network to transmit data to and from the grid device.

The Tantalus TRUConnect Edge Gateway is a DIGI device pre-configured with TRUSync software and supports any protocol and device, including DNP3. It uses cellular or fiber-optic connections to send data to systems like SCADA, DERMS, or ADMS. For grid devices without current communications, we recommend using IMU fiber to connect to SCADA. For hard-to-reach locations, use the DA Bridge or TRUConnect Edge Gateway.

Endpoint hardware must have at least 3-years of proven performance in the field.

Comply.

Quoted communication hardware must be currently deployed at municipal utilities with under 100,000 customers.

Comply.



Vendor shall provide ongoing system support, which would include an on-call account manager.

Comply. Ongoing system support is provided for the lifetime of your system. Please visit our website for more information about the online and in-person [resources available](#) to the Tantalus user community. Details of the technical support packages available to our customers are outlined in the NSSA provided in the supporting documents.

The system must enable the collection of data from every device, every protocol and distribution of that data to applications as required.

Comply. TRUSync supports any device-level protocol (DNP3, ModBus, IEEE 2030.5, etc.) and any head-end protocol (SCADA, DERMS, ADMS, etc.)

The network shall provide hardware for socket-based collection of data, including power quality and meter data.

Comply. Tantalus is the only vendor offering an electric socket-mounted, multi-function gateway that provides broader grid functionality, including simultaneous connection to IMU's SCADA system.

The network shall provide socket-based hardware, that where required, provides the ability to reach behind the meter with a utility-managed standard communication protocol to DERs such as EV chargers, solar inverters, etc.

Comply. Each gateway enables utility-managed behind-the-meter Wi-Fi connectivity at any service point. The integrated Wi-Fi chipset in TRUSense connects to any Wi-Fi-enabled device in the area, including DER devices such as EV chargers and solar inverters or arrays. It also supports smart devices like smart breakers in conventional breaker panels, water heaters, air conditioners, and thermostats.

The network shall provide the ability, where required, to collect hourly or daily reads from multiple manufacturers' endpoints over multiple protocols leveraging the same fixed network.

Comply. TRUConnect supports the Itron ERT protocol for Itron electric, water, and gas meters, the Neptune R900 protocol for Neptune water meters, and our proprietary AMI devices. We also support Badger Orion CE devices, which are largely obsolete and no longer in production. Nonetheless, we have maintained support for this protocol on our network for many years, and some units may still be in use today.

Ability to mount collectors on existing IMU infrastructures that are eye appealing to the utility and public.

TRUSense Fiber Gateways are installed at the meter socket with a low-profile design for concealment. Our proposal includes TR-1901 pole-mounted repeaters for water devices outside the electric footprint, about the size of a medium pizza box with an antenna, mounted discreetly. Tantalus offers optional street light repeaters that attach to existing street lights' photocells, making them smaller and less noticeable.



All transmission from collectors to the head-end will be done over IMU owned fiber facilities.

Comply. The TRUSense Fiber Gateways are connected via a single fiber strand to an SFP ONT housed inside the Gateway. IMU will choose and purchase the SFP ONT of their choice and install it inside each Fiber Gateway. Calix and AdTran are the most common ONT devices we see used.

Head-end hardware would be at IMU facilities and not cloud based.

Comply.



IMU's Responsibilities

Obtain access to mount AMI network equipment as needed.

Acknowledged. The proposed gateway relies on a meter socket-based system, eliminating the need for poles or tall structures. Our design includes a few Tantalus pole-mounted repeaters to cover water meters situated outside the electrical meter area along the utility's coverage area edges.

Installation of AMI meters.

Acknowledged.

Provide backhaul communications from the collector through IMU's fiber system.

Acknowledged.

Assist in identifying locations to mount network equipment in the field.

Acknowledged.



Vendor Responsibilities

Train IMU staff and/or contractor on retrofitting water meters.

Comply. Tantalus and The Van Wert Company provide support for all our products and services.

Train IMU staff on installation of network elements.

Comply.

Conduct system acceptance testing.

Comply. Please refer to the NSSA for SAT details.

Design AMI network to meet outlined requirements.

Comply. Please refer to the propagation study provided in the supporting documents.

Provide smart meters and AMI modules for retrofit as applicable.

Comply. The new meters will arrive at IMU with the AMI modules integrated. Our proposal also includes the tools required to retrofit any existing Itron meter.

Provide secure communications within the AMI communications network, including local and wide area networks, for AMI functionalities.

Comply. Tantalus employs WireGuard, a leading security solution adopted by many organizations worldwide. It ensures secure communication from the meter socket to the cloud database, including via the IMU fiber to the home network. Tantalus also implements military-grade vectoring techniques on our wireless network. These rigorous security measures integrated into our algorithms make TRUConnect highly secure.

Be able to upload readings into Itron MVRS for billing.

Comply. Tantalus can reuse Itron's MVRS, FCS, or Temetra interface for billing if desired. Our database supports the formats required to transmit meter data to your eLation billing system via MVRS, as your Itron mobile devices already send billing data. Alternatively, we can connect directly to your eLation billing system via a flat-file approach. Once we have set this up, it runs automatically from that point going forward. We have experience with eLation billing in the City of Vinton, IA.



Provide and provision the AMI network management system.

Comply. The head end software includes a dashboard with all the tools needed to manage the AMI network. These simple, intuitive, yet powerful tools help all utilities manage their AMI networks with minimal effort and maximum efficiency. The software was developed with direct input from many of our existing municipal utilities. Our concept is to access all kinds of data in three mouse clicks or fewer. We have striven to develop our software in line with this concept as it has evolved, making the system very user-friendly.

Provide training on the AMI network management system.

Comply. Training and support resources are available at each stage of your system's life cycle.

Provide implementation support (troubleshooting, network provisioning, other)

Comply. Please refer to the Proposed Project Team for details on the resources assigned to the project. Tantalus training and support resources are available throughout the lifetime of your system.

Secure delivery of meter reading data into an appropriate database(s).

Comply. Tantalus can securely deliver all data to a database at IMU or in the cloud. The data will travel through our secure WireGuard path. This proposal includes everything needed for IMU to host the data in its own virtual environment. Integration with your eLation billing system and database is also included. Integration with other databases, such as MDM, Prepay, SCADA, and GIS, is available for an additional charge, subject to IMU's requirements.

Support interfaces to other utility applications.

Comply. Our solution supports a wide variety of APIs for integration with third-party tools and applications.

- RESTFUL APIs to select 3rd party applications such as streetlight control and load curtailment.
- DNP3 for SCADA and DERMS systems
- MultiSpeak 3.0 and 4.1 for OMS, CMS, MDM, and DERMS integrations
- CSV for load management systems
- Geoserver for GIS integration
- CSV, CMEP, HHF, MDMR for billing systems
- SQLite extracts for ETL and analytics systems

Our TRUSync software allows for the integration of any device, from any manufacturer, using any protocol to communicate with any database.

Perform propagation studies as required.

Comply. Please refer to the propagation study included in the supporting documents.



Complete installation of network elements as outlined by the respondents' design.

Tantalus has not included pricing for the installation of third-party network equipment or electric meters. We will provide IMU with the training needed to set up and configure all network elements. Once the IMU staff is trained, Tantalus will also be available to guide and support the network installation process. Tantalus will also recommend to IMU where to install each device in the field.

Have support staff available to be at IMU to support the installation before, during, and after.

Comply. Our staff will support IMU for the lifetime of the AMI system. The included NSSA summarizes our technical support plan(s). Please visit the [Technical Support](#) section of our website for more information about the resources available to the Tantalus Community.



Cost Proposal

AMI System Project

Base offer for IMU Electric Department to replace AMR meters with AMI meters over a 3-year period

TRUConnect Equipment and Services	Full Deployment		
	Quantity	Unit Price	Ext. Price
TRUConnect WAN/LAN Equipment			
RT-4220 TRUSense Fiber Gateway	11	\$ 563.00	\$ 6,193.00
TR-1901 TRUConnect Repeater - Pole Mounted (Water Only Area)	18	\$ 349.04	\$ 6,282.72
DT-116 Centron Reset Key	1	\$ 39.68	\$ 39.68
DT-410-BUN Programming Kit	1	\$ 2,600.00	\$ 2,600.00
TRUConnect Infrastructure Sub Total			\$ 15,115.40
TRUEdge Endpoint			
TC-1216 Tantalus Single Phase Module - Itron	0	\$ -	\$ -
TC-1220RD Tantalus Single Phase Remote Disconnect Module - Itron	1975	\$ 80.00	\$ 158,000.00
PP-1320 Tantalus Poly Phase Module - Itron CP3	0	\$ -	\$ -
Endpoint and Meter Sub Total			\$ 158,000.00
TRUConnect Server & Software			
VSL-200 TRUConnect Virtualization License	1	\$ 11,000.00	\$ 11,000.00
TCC-2005 TRUConnect Insight Head End Software	1	\$ 56,925.00	\$ 56,925.00
NSE-201 TRUConnect Software License - per Endpoint	1,975	\$ 4.05	\$ 7,998.75
TXG-SW01 TRUSense Gateway Head End License	11	\$ 60.00	\$ 660.00
NSE-400 TRUScan - Itron Electric ERT Reading - One Time	5,328	\$ 2.00	\$ 10,656.00
NSE-420 TRUScan - Itron Water ERT Reading - One Time	6,240	\$ 2.00	\$ 12,480.00
NSE-430 TRUScan - Neptune Water/Gas R900 Reading - One Time	-	\$ -	\$ -
NSE-410 TRUScan - Itron Gas ERT Reading - One Time	-	\$ -	\$ -
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 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			\$ 103,469.75
TRUConnect System Services			
SV-1000 Deployment Services	1	\$ 79,530.00	\$ 79,530.00
-Project engineering, training, project mgt, system design, deployment prep			
-Database 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			\$ 356,115.15



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	1975	\$118.00	\$233,050.00
Itron C2SXD 12S CL200 240V w/ Disconnect w/ Tantalus Installed	0	\$0.00	\$0.00
Itron C1SX 2S CL200 240V w/ Tantalus Installed	0	\$0.00	\$0.00
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 - 9S 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 - 16S CL320 w/ Tantalus Installed	0	\$0.00	\$0.00
Itron Centron Poly 3 - 36S w/ Tantalus Installed	0	\$0.00	\$0.00
Itron Electric Meter - Grand Total			\$233,050.00

TRUConnect Project Grand Total			\$ 589,165.15
---------------------------------------	--	--	----------------------

TRUConnect System Annual Fees - Starting Year 2 of Deployment	Quantity	Unit Price	Ext. Price
TRUConnect Annual Maintenance	1	\$ 33,576.60	\$ 33,576.60
SL-2001 TRUConnect Technical Support - Standard	1	\$ 10,400.00	\$ 10,400.00
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			\$ 43,976.60



Pricing Notes

- Itron electric meters, water endpoints, Itron 100W ERTs, and water installation are to be contracted and purchased directly from the Van Wert Company.
- Cost Reduction: Pricing is reduced by \$41,890 in the Tantalus products section of the 12/2/2025 budgetary proposal for an ERT Overlay Deployment.
- Prices are in US Dollars.
- Prices do not include shipping. All Network Equipment is shipped FOB Shipping Point.
- Service time does not include installation of meters, collectors, repeaters, or other infrastructure equipment.
- Tantalus service time will be billed at actual. If additional days are necessary, Customer will be billed at Tantalus' then-current daily rate.
- The terms and conditions outlined in Tantalus' Network Systems Agreement (NSA) apply unless otherwise expressly agreed to by Tantalus in the final contract.
- 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 included in this proposal may affect the prices in this offer.
- Prices quoted for Tantalus' Network Equipment and Services may include allowances, discounts, and/or promotional pricing, which are available for a period of 90 days from the date of bid opening.
- Additional Network Equipment purchases and services shall be invoiced at Tantalus' then-current list price.
- Annual license, support, and maintenance fees may apply. Please work with your account representative to determine specific costs for your equipment.
- 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 (i.e., location, conditions of water pits, and type of pit lids, etc.) prior to contractual commitment to ensure that all equipment is installed in a manner that mitigates communication issues. Tantalus' network is designed to provide full connectivity and is based on customer-supplied site location data. To accommodate variances in data accuracy or completeness, Tantalus is willing to quote a Network Design Reserve during the contracting phase.
- 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 Support contained in Tantalus' NSA.
- 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 its sole discretion.
- 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.
- 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 details during contract negotiations.
- 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 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 and conditions shall govern and control over all purchases involving Third-Party Products.



- If applicable, water meters, encoder registers, connectors, RF endpoint, and through-the-lid antenna pricing are 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 are subject to the terms and conditions of Tantalus' Master Software Subscription Agreement.



Alternate Bid to Upgrade Water Meters

Upgrade the 5/8" and 3/4 " water meters (by contractor)



VAN WERT COMPANY

606 8th Street
Grundy Center, IA 50638

February 18, 2026

Indianola Municipal Utilities

Tantalus AMI Estimated System Proposal

Description	Quantity	Unit Price	Extended Price
Itron Water Radio Endpoint ERT			
• Neptune 5/8" T10 Water Meter	1688	\$215.90	\$364,439.20
• Neptune 3/4" T10 Water Meter	490	\$321.60	\$157,584.00
• Itron 100W ERT Radio Endpoint	2178	\$118.00	\$257,004.00
Water Meter Total			\$779,027.20
Optional			
• Water Meter Installation (with core exchange)	2178	\$80.00	\$174,240.00



Alternate Bid for Full Deployment

Purchase all equipment and services for the full replacement of IMU's electric meters (IMU Hosted database)

TRUConnect Equipment and Services	Full Deployment		
	Quantity	Unit Price	Ext. Price
TRUConnect WAN/LAN Equipment			
RT-4220 TRUSense Fiber Gateway	53	\$ 563.00	\$ 29,839.00
TR-1901 TRUConnect Repeater - Pole Mounted (Water Only Area)	18	\$ 349.04	\$ 6,282.72
DT-116 Centron Reset Key	1	\$ 39.68	\$ 39.68
DT-410-BUN Programming Kit	1	\$ 2,600.00	\$ 2,600.00
TRUConnect Infrastructure Sub Total			\$ 38,761.40
TRUEdge Endpoint			
TC-1216 Tantalus Single Phase Module - Itron	103	\$ 72.00	\$ 7,416.00
TC-1220RD Tantalus Single Phase Remote Disconnect Module - Itron	6949	\$ 77.00	\$ 535,073.00
PP-1320 Tantalus Poly Phase Module - Itron CP3	251	\$ 206.00	\$ 51,706.00
Endpoint and Meter Sub Total			\$ 594,195.00
TRUConnect Server & Software			
VSL-200 TRUConnect Virtualization License	1	\$ 11,000.00	\$ 11,000.00
TCC-2005 TRUConnect Insight Head End Software	1	\$ 56,925.00	\$ 56,925.00
NSE-201 TRUConnect Software License - per Endpoint	7,303	\$ 4.05	\$ 29,577.15
TXG-SW01 TRUSense Gateway Head End License	53	\$ 60.00	\$ 3,180.00
NSE-400 TRUScan - Itron Electric ERT Reading - One Time	-	\$ -	\$ -
NSE-420 TRUScan - Itron Water ERT Reading - One Time	-	\$ -	\$ -
NSE-430 TRUScan - Neptune Water/Gas R900 Reading - One Time	6,240	\$ 2.00	\$ 12,480.00
NSE-410 TRUScan - Itron Gas ERT Reading - One Time	-	\$ -	\$ -
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 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			\$ 116,912.15
TRUConnect System Services			
SV-1000 Deployment Services	1	\$ 79,530.00	\$ 79,530.00
-Project engineering, training, project mgt, system design, deployment prep			
-Database 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			\$ 829,398.55
Itron Electric Meters			
Itron C2SXD 1S CL200 240V w/ Disconnect w/ Tantalus Installed	9	\$180.00	\$1,620.00
Itron C2SXD 2S CL200 240V w/ Disconnect w/ Tantalus Installed	6508	\$118.00	\$767,944.00
Itron C2SXD 12S CL200 240V w/ Disconnect w/ Tantalus Installed	432	\$175.00	\$75,600.00
Itron C1SX 2S CL200 240V w/ Tantalus Installed	0	\$0.00	\$0.00
Itron C1SX 2S CL320 240V w/ Tantalus Installed	12	\$130.00	\$1,560.00
Itron C1SX 3S w/ Tantalus Installed	4	\$130.00	\$520.00
Itron C1SX 4S w/ Tantalus Installed	87	\$130.00	\$11,310.00
Itron Centron Poly 3 - 5S w/ Tantalus Installed	4	\$300.00	\$1,200.00
Itron Centron Poly 3 - 6S w/ Tantalus Installed	28	\$300.00	\$8,400.00
Itron Centron Poly 3 - 9S w/ Tantalus Installed	130	\$300.00	\$39,000.00
Itron Centron Poly 3 - 16S w/ Tantalus Installed	85	\$300.00	\$25,500.00
Itron Centron Poly 3 - 16S CL320 w/ Tantalus Installed	1	\$300.00	\$300.00
Itron Centron Poly 3 - 36S w/ Tantalus Installed	3	\$300.00	\$900.00
Itron Electric Meter - Grand Total			\$933,854.00



TRUConnect Project Grand Total				\$ 1,763,252.55
TRUConnect System Annual Fees - Starting Year 2 of Deployment				
TRUConnect Annual Maintenance		1	\$ 29,461.95	\$ 29,461.95
SL-2001 TRUConnect Technical Support - Standard		1	\$ 10,400.00	\$ 10,400.00
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				\$ 39,861.95

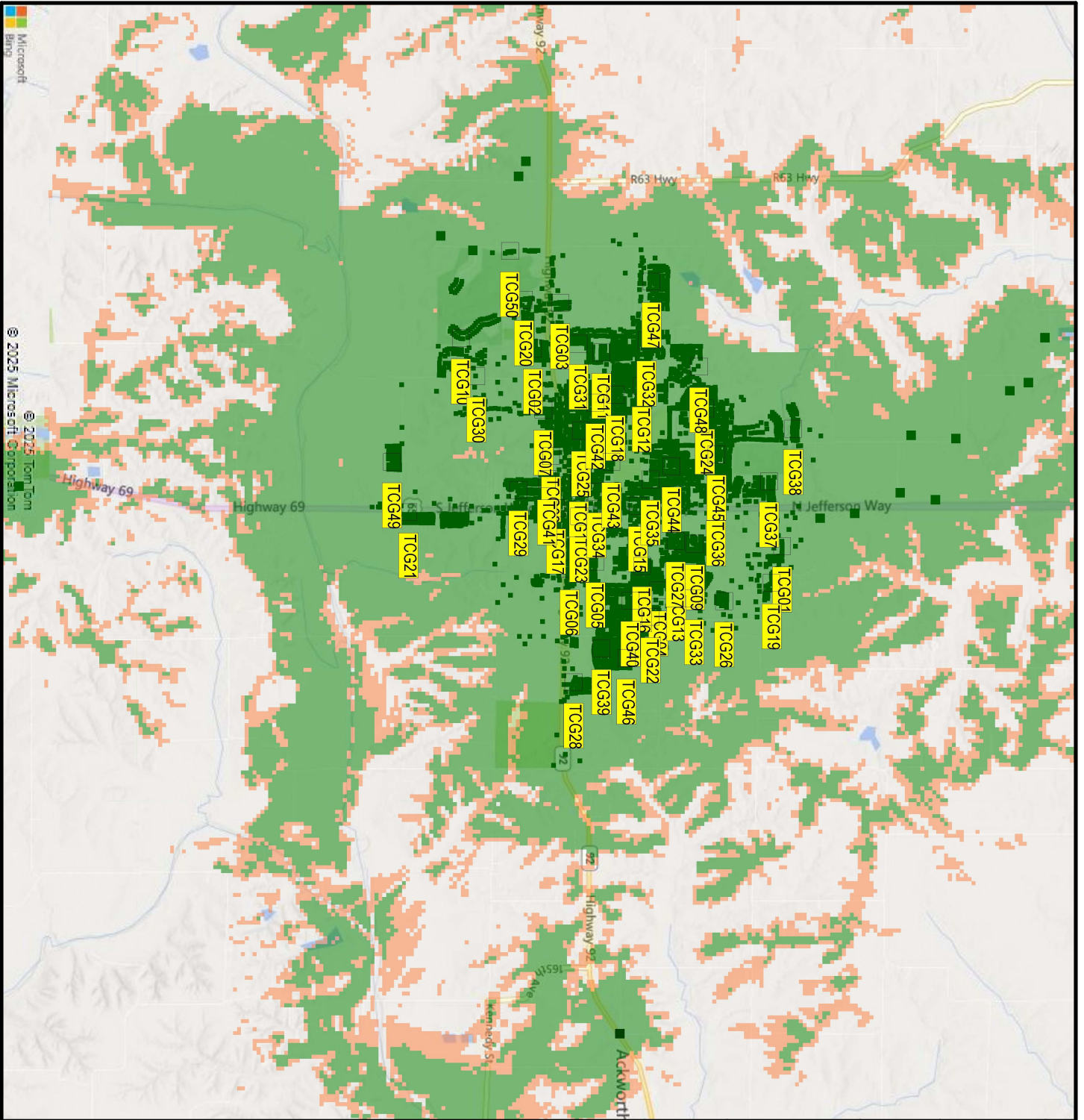
This offer is subject to the pricing Notes provided in the base offer and:

- Cost Reduction: Pricing is reduced by \$134,410 in the Tantalus products section of the 12/2/2025 proposal for a Full Deployment.
- The full deployment pricing is based on a blanket purchase order to be executed within 90 days following RFP submission.
- Pricing is valid for 12 months, subject to annual adjustments as outlined in the Tantalus NSSA.
- Should IMU wish to accelerate deployment, Tantalus is open to further pricing discussions.



Supporting Documents

- Propagation study
- Product and solution sheets
- Network System and Services Agreement (provided as a separate attachment)

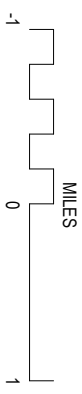


EDX @SignalPro@: Indiana, IA Full

M5 - 900 MHz Water Coverage @ 5ft

- >= -91.0 dBm/W Good Coverage
- -91.0 to -93.0 dBm/W Marginal Coverage
- < -93.0 dBm/W Poor Coverage

Display threshold level: -93.0 dBm/W

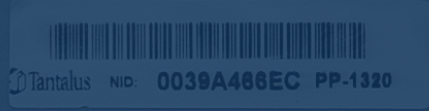


Indiana, IA

TruConnect 900 MHz LAN Coverage

Talk Out to 5 Ft. Devices

Tue Aug 12 20:25:14 2025



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. It's a critical part of the Tantalus Grid Modernization Platform™ and Tantalus' data-centric approach to distribution grid modernization.

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.

With Tantalus' highly differentiated data-centric approach to AMI, utilities are able to leverage Tantalus' network to achieve the most cost-effective, lowest-risk path to distribution grid modernization.

Components Included

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 and advanced power quality monitor that also acts as a gateway on the TRUConnect Network
- **The VersaComms Gateway™ (VC)**, a pole-mounted gateway that supports 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



A Differentiated Approach

- Multi-commodity support through Tantalus' 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 Tantalus' system-on-chip to ensure utilities avoid the expense of stranded assets while future-proofing their investments
- Flexibility in Tantalus' 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 Tantalus' TRUSync™ Grid Data Management system that offers utilities a truly interoperable solution and facilitates the integration of data from any device, any system and any vendor into other mission-critical systems

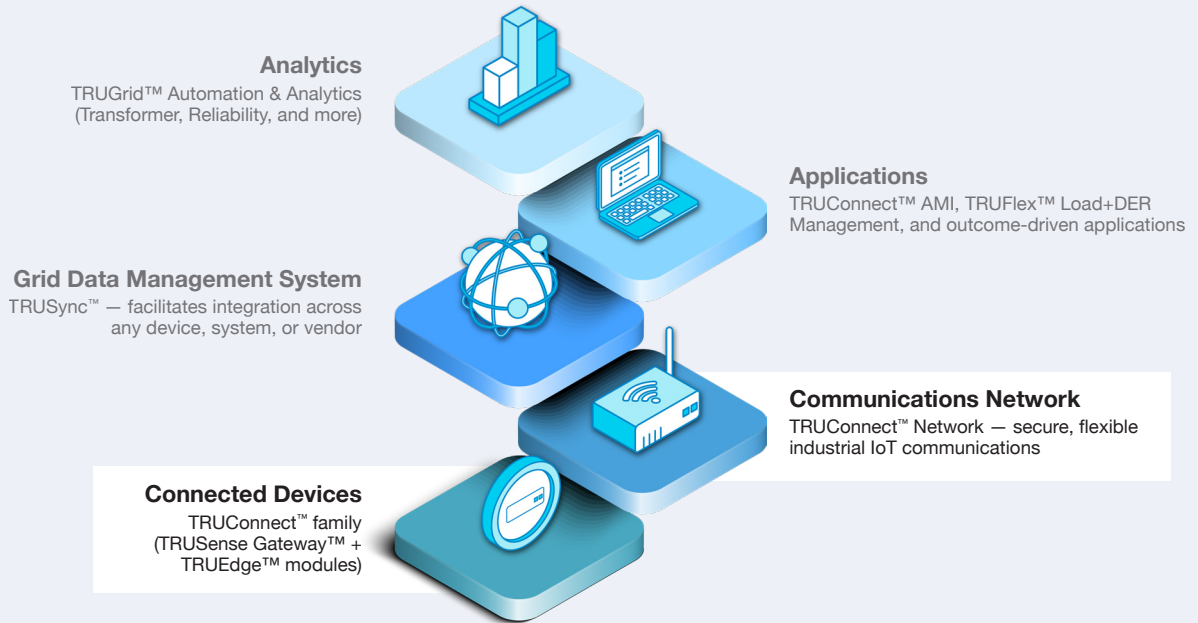
Continued on reverse side

TRUConnect™ AMI

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 Tantalus' 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 Tantalus' customers with the flexibility and expandability they need to serve their communities today and well into the future

The Tantalus Grid Modernization Platform



TRUConnect AMI is one of the foundational layers of the **Tantalus Grid Modernization Platform™ (TGMP™)**, a data-centric technology architecture that provides a secure, flexible, and affordable path to distribution grid modernization. By accessing data from devices across the entire distribution grid, including devices and appliances located behind the meter, TGMP provides unprecedented levels of visibility, command and control.

© Copyright 2009 - 2026 Tantalus Systems Corp. TRUConnect™, TRUSense Gateway™, and VersaComms Gateway™, TRUScan™ and the Tantalus Grid Modernization Platform (TGMP™) are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

Harness The Power of Data and Modernize Your Distribution Grid

Tantalus is a technology company dedicated to helping utilities modernize their distribution grids by leveraging a data-centric technology architecture that delivers Unified Intelligence. Our modular, interoperable solutions deliver the most cost-effective and lowest-risk path to grid modernization, enabling utilities to achieve better outcomes today while preparing for the future.

TRUSense Gateway™

The TRUSense Gateway is a multi-purpose device that can be installed in any ANSI meter socket to create a secure communication pathway via fiber, ethernet or cellular network to devices deployed behind the meter and across the distribution grid. It's a critical part of the Tantalus Grid Modernization Platform™ and Tantalus' data-centric approach to distribution grid modernization.

Description

The edge of the grid has moved to behind the meter. The distribution grid cannot be modernized without access to data from devices that are deployed behind the meter and have a major impact on the distribution grid, including DERs, electric vehicles, and other appliances. Without that data, utilities are flying blind.

That's why the TRUSense Gateway is one of the most valuable components of the Tantalus Grid Modernization Platform. Available in fiber, ethernet and cellular options, it delivers 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

A growing number of utilities are already deploying the TRUSense Gateway to accelerate their grid modernization efforts in the most cost-effective, lowest-risk way possible, and enhance the reliability, resilience and flexibility 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

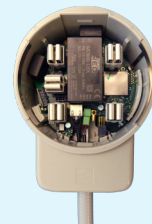


Enhancing broadband initiatives by leveraging fiber investments to connect meters for communications and powering optical network terminals delivering broadband services to the home

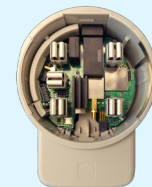
In short, the Tantalus TRUSense Gateway makes it easier for utilities to become more reliable, resilient, and innovative.



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

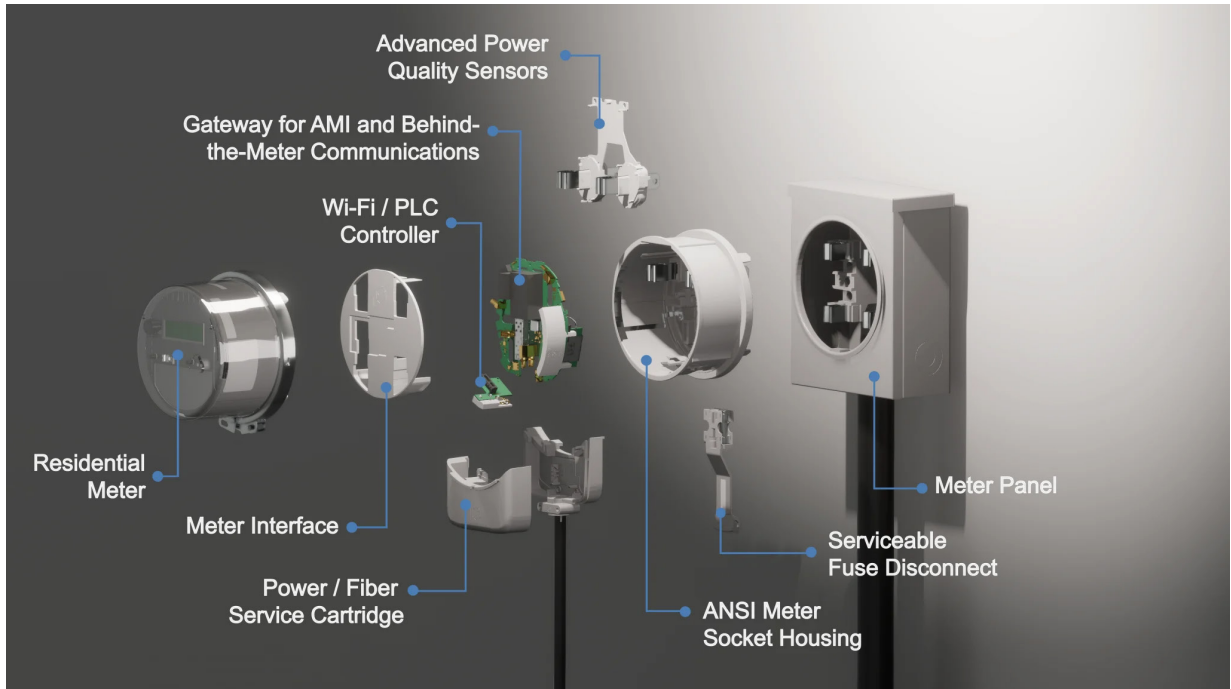


TRUSense Ethernet Gateway:
Supports an outdoor ONT deployment (providing power to the ONT and connecting via an ethernet cable)



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

TRUSense Gateway™



Benefits

- Deploy a next-generation AMI system without needlessly ripping and replacing existing meters. Specifically, Tantalus helps 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.

An Accelerated Path to Distribution Grid Modernization

The TRUSense Gateway is an important part of the **Tantalus Grid Modernization Platform™ (TGMP™)**, a data-centric technology architecture that provides a secure, flexible, and affordable path to distribution grid modernization. By accessing data from devices across the entire distribution grid, including devices and appliances located behind the meter, TGMP provides unprecedented levels of visibility, command and control.

© Copyright 2009 - 2026 Tantalus Systems Corp. TRUSense™ and the Tantalus Grid Modernization Platform (TGMP™) are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

Harness The Power of Data and Modernize Your Distribution Grid

Tantalus is a technology company dedicated to helping utilities modernize their distribution grids by leveraging a data-centric technology architecture that delivers Unified Intelligence. Our modular, interoperable solutions deliver the most cost-effective and lowest-risk path to grid modernization, enabling utilities to achieve better outcomes today while preparing for the future.

Tantalus Grid Modernization Platform™

Accelerate grid modernization with the Tantalus Grid Modernization Platform

Description

The Tantalus Grid Modernization Platform (TGMP) is a technology architecture that provides a secure, flexible and 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 entire distribution grid, TGMP delivers unprecedented levels of visibility, command and control to improve a utility's operations.



The platform comprises several layers of technology, including:

Connected devices that deliver the right data at the right time to the right system – and are reverse-compatible with existing utility infrastructure. 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.

Communications, such as the TRUConnect™ Network which delivers 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 TRUSync™ Grid Data Management, our revolutionary grid data management system that automates the integration of all data across every device, system and vendor.

Software applications, such as TRUConnect™ AMI and TRUFlex™ Load+DER Management, that include an intuitive user interface and a customer portal that takes advantage of having all a utility's data in one place.

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

The TGMP is data-centric, not device-centric. While Tantalus offers a suite of cutting-edge and innovative connected devices, such as the TRUSense Gateway, a true platform must support connected devices and systems from multiple vendors through true, standards-driven interoperability.

Benefits

- Automate the integration of any grid data for visibility, command, and control across your entire grid, including from devices located behind-the-meter
- Eliminate the need for costly and complex integration projects
- Mitigate the cost of stranded assets through unparalleled reverse-compatibility across generations of edge-devices
- Provide true data interoperability across any device, protocol, data model, or vendor, which helps you avoid vendor lock-in and needless rip-and-replace costs and delays
- Generate a single version of truth that bridges OT and IT
- Delivers unparalleled scalability in terms of memory, processing power and servers

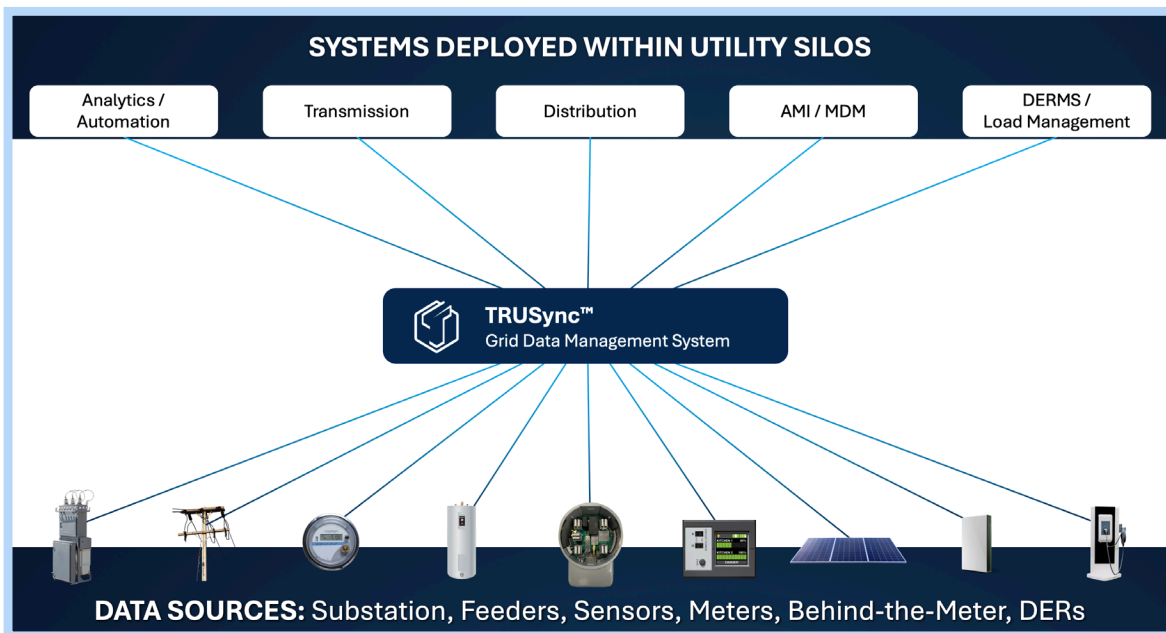
TRUSync™ Grid Data Management

TRUSync™ is a revolutionary grid data management system that facilitates the integration of utility data across any device, any system, or even any vendor. It's a critical part of the Tantalus Grid Modernization Platform™ and Tantalus' data-centric approach to distribution grid modernization and Unified Intelligence.

Description

TRUSync Grid Data Management is the foundational grid data management layer that enables a utility to operationalize a data-centric approach to distribution grid modernization. It serves as a horizontal middleware layer between connected devices, including behind the meter and across multi-vendor ecosystems, and the applications, analytics and enterprise systems that rely on that data.

TRUSync is an integrated component of the Tantalus Grid Modernization Platform (TGMP) that delivers true data interoperability. It's also available as a standalone solution that complements any existing AMI or operational system.



TRUSync provides an advanced grid data fabric that holds all the utility's grid data, whether acquired from devices or produced by applications. The solution is implemented as a data federation, a software process that allows multiple, distributed databases to function as one. The TRUSync database is distributed across a series of data nodes, with a central router 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, providing a single source of data for utility applications. TRUSync uses high performance memory-resident database technology, eliminating the latency introduced by writing to and reading from a disc-based database. The distributed memory-resident databases, plus an event-driven architecture, results in high-speed operation with no wasted CPU cycles.

In short, TRUSync facilitates true data interoperability, allowing utilities to harness the power of data, no matter where that data originates.

TRUSync™ Grid Data Management

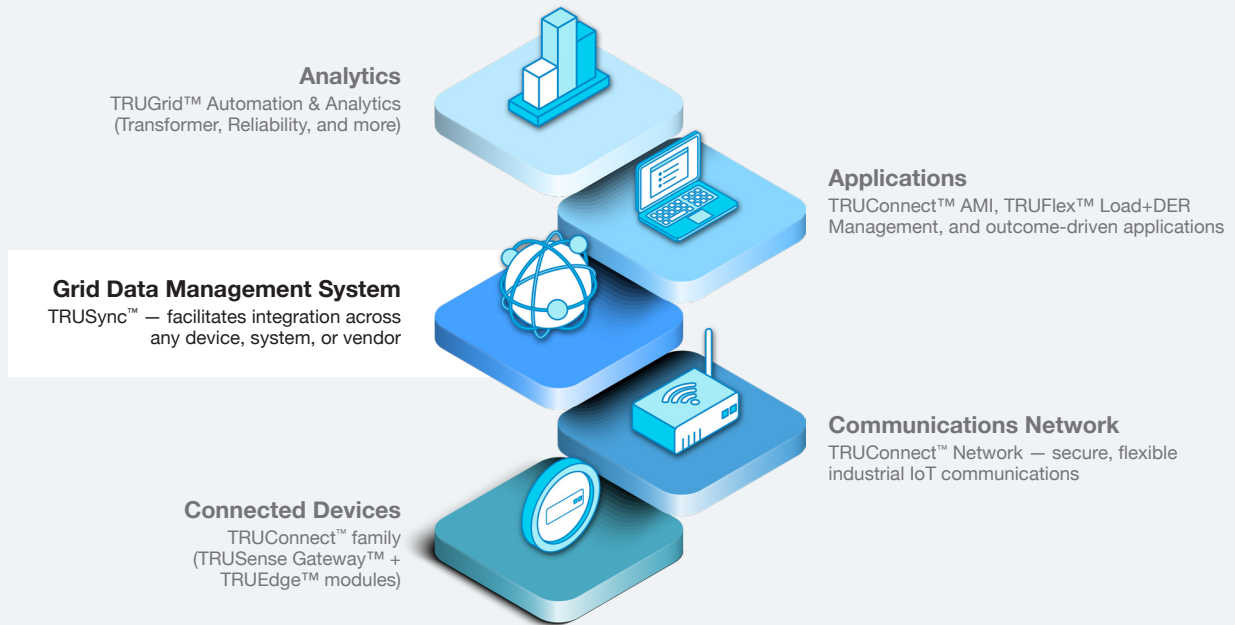
Applications

TRUSync enables utilities to leverage existing investments and systems by delivering connectivity to and from systems deployed in various silos within a utility. As an alternative to supporting one-off integrations for each system, TRUSync synthesizes and unifies data into a central database that delivers a single version of the truth and serves the right data to the right system at the right time, which is fundamental to achieving Unified Intelligence.

Benefits

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

The Tantalus Grid Modernization Platform



TRUSync is a critical component of the **Tantalus Grid Modernization Platform™ (TGMP™)**, a data-centric technology architecture that provides a secure, flexible, and affordable path to distribution grid modernization. By accessing data from devices across the entire distribution grid, including devices and appliances located behind the meter, TGMP provides unprecedented levels of visibility, command and control.

© Copyright 2009 - 2026 Tantalus Systems Corp. TRUSync™ and the Tantalus Grid Modernization Platform (TGMP™) are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

Harness The Power of Data and Modernize Your Distribution Grid

Tantalus is a technology company dedicated to helping utilities modernize their distribution grids by leveraging a data-centric technology architecture that delivers Unified Intelligence. Our modular, interoperable solutions deliver the most cost-effective and lowest-risk path to grid modernization, enabling utilities to achieve better outcomes today while preparing for the future.

TRUGrid™ Automation Suite

The TRUGrid Automation Suite includes AI-driven applications and analytics that help utilities protect assets, prioritize investments, anticipate problems and respond in real time when they arise. It's a critical part of the Tantalus Grid Modernization Platform™ and Tantalus' data-centric approach to distribution grid modernization and Unified Intelligence.

Description

The TRUGrid Automation suite of applications and analytics tools leverages artificial intelligence (AI) to pinpoint anomalies from power quality data to isolate failing assets, providing utilities with proactive insights to resolve vulnerabilities as they arise. TRUGrid Automation helps electric utilities harden their grids by avoiding unnecessary outages, reducing operational expenses and improving customer satisfaction. The TRUGrid Automation Suite includes software applications and analytics powered by data from connected devices located across the entire distribution grid.

TRUGrid Reliability™ empowers utility engineering teams with continuous insight into the health of the distribution network by correlating weather, outage, and power-quality data. It automatically surfaces hidden issues such as failing transformers, loose socket and overhead connections, cracked insulators, or deteriorating underground lines, before they lead to outages. Proactive alerts support timely intervention for vegetation management, sagging conductors, poor grounding, and flicker complaints. With clear visualizations of historical and real-time conditions, TRUGrid Reliability supports data-driven maintenance, justifies capital improvements, and quantifies the impact of grid investments over time.

TRUGrid Transformer™ equips utility engineering teams with actionable visibility into distribution transformer loading, enabling smarter decisions around sizing, maintenance, and lifecycle planning. Integrated weather and hourly load data enhance aging assessments, helping prioritize replacements and optimize asset performance. Multi-year historical load profiles reveal evolving demand trends, including the growing impact of EV charging. Scenario simulation tools allow staking engineers to plan confidently for new service connections and system expansions. With these insights, TRUGrid Transformer can deliver measurable value, often realizing a return on investment in just a few months.



TRUGrid SCADA™ is a distributed client/server supervisory control and data acquisition (SCADA) system that supports multiple front-end processors, servers, and operator workstations. It offers real-time distribution grid monitoring and control of field area network devices.

TRUGrid Restore™ is a software application that works to restore power to electric customers using connectivity models and feeder conditions to automatically locate and isolate faults to reduce the duration of power outages.

TRUGrid Mitigate™ is a software application that allows electric utilities to manage distribution systems and assets effectively, safely and rapidly to mitigate the risks of wildfires, extreme weather events, or natural disasters by automating the control schema of distribution reclosers. Integrating TRUGrid Mitigate with existing reclosers, local climate information and wildfire severity forecasts allows the utility to be ready for challenging conditions at a moment's notice.

TRUGrid Stabilize™ is a software application that responds to the real-time requirements of the ever-changing grid environment, providing round-the-clock voltage conservation to save power and money. The application controls load tap changers, capacitor banks, and line voltage regulators to flatten the voltage profile along distribution lines. It also improves the power factor through intelligent VAR management.

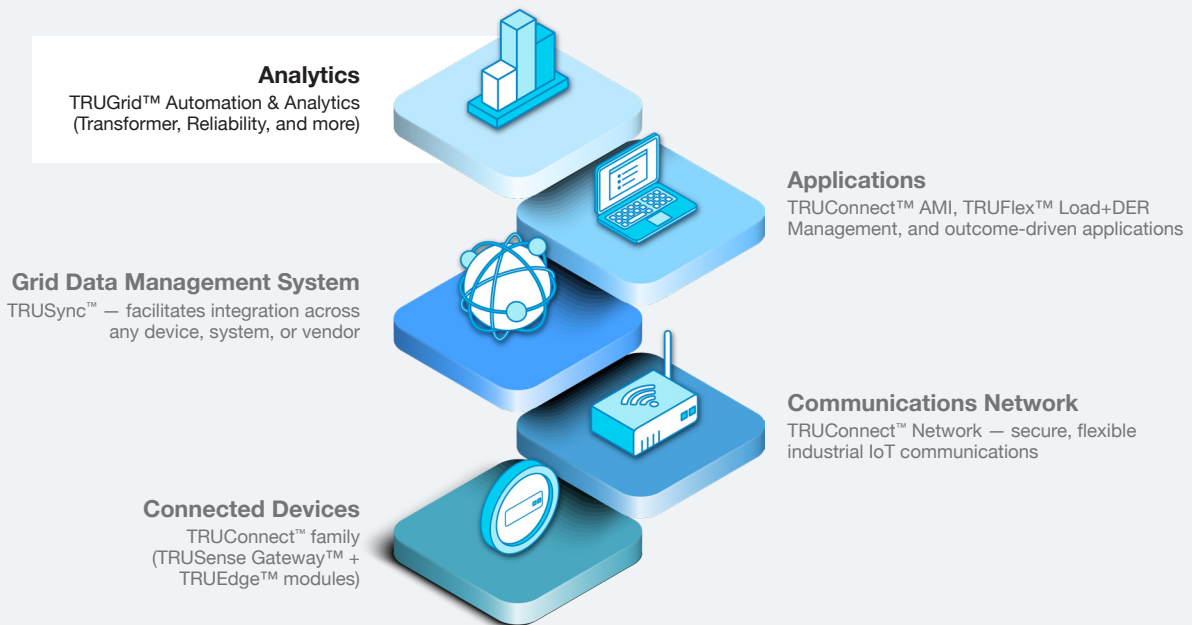
Continued on reverse side

TRUGrid™ Automation Suite

Benefits

- Real-time visibility, command and control across the entire grid
- Voltage reduction/monitoring, including peak shaving cost reduction
- Reduced outage times and increased system uptime for customer satisfaction
- Proactive maintenance, including right-of-way vegetation management
- More effective crew management
- Easy integration of renewable resources
- Enhanced safety for communities and utility workers

The Tantalus Grid Modernization Platform



As part of the **Tantalus Grid Modernization Platform™ (TGMP™)**, TRUGrid Automation solutions work seamlessly with TRUSense™ Gateway devices and TRUSync™ Grid Data Management, providing a unified view of grid performance from the substation to behind-the-meter. By taking advantage of Tantalus' data-centric technology architecture, TRUGrid solutions deliver the final piece of Unified Intelligence: actionable insights that lead to better real-world outcomes for utilities and the communities they serve.

© Copyright 2009 - 2026 Tantalus Systems Corp. TRUGrid™, TRUConnect™ and the Tantalus Grid Modernization Platform (TGMP™) are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

Harness The Power of Data and Modernize Your Distribution Grid

Tantalus is a technology company dedicated to helping utilities modernize their distribution grids by leveraging a data-centric technology architecture that delivers Unified Intelligence. Our modular, interoperable solutions deliver the most cost-effective and lowest-risk path to grid modernization, enabling utilities to achieve better outcomes today while preparing for the future.

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	
	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 1S (Class 100) 3S (Class 20) 12S / 25S (Class 200)
C1S (240V)	<ul style="list-style-type: none"> 1S (Class 200) 2S (Class 200, 320) 3S (Class 20) 4S (Class 20)

Environmental	
	<ul style="list-style-type: none"> Operating temperature range: -40° to +158° F (-40° to +70° C) Humidity: 5% to 95% non-condensing
Approvals/ Standards	
	<ul style="list-style-type: none"> ANSI C12.1 & C12.20 FCC for CFR Title 47 Part 15b
Radio	
	<ul style="list-style-type: none"> Frequency range: 902 - 928 MHz Unlicensed TRUConnect Network TRUPush Technology Vectored Channels: 64,000 Transmit power: 1.0 watt
Ordering Information	
TC-1116	<ul style="list-style-type: none"> TRUConnect Edge for Itron C1S 120V Meter
TC-1216	<ul style="list-style-type: none"> TRUConnect Edge for Itron C1S 240V Meter

© Copyright 2009 - 2024 Tantalus Systems Corp. TRUSense™ and Grid Data Management System™ are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

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.

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	
	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 1S (Class 200) 2S (Class 200, 320) 12S/25S (Class 200)
C2S-RD with Remote Disconnect	<ul style="list-style-type: none"> 1S (Class 200) 2S (Class 200) 12S/25S (Class 200)
Environmental	
	<ul style="list-style-type: none"> Operating temperature range: -40° to +158° F (-40° to +70° C) Humidity: 5% to 95% non-condensing

Approvals/ Standards	
	<ul style="list-style-type: none"> ANSI C12.1 & C12.20 FCC for CFR Title 47 Part 15b
Radio	
	<ul style="list-style-type: none"> Frequency range: 902 - 928 MHz Unlicensed TRUConnect Network TRUPush Technology Vectored Channels: 64,000 Transmit power: 1.0 watt
Ordering Information	
TC-1120	<ul style="list-style-type: none"> TRUConnect Edge for Itron C2S 120V Meter
TC-1220	<ul style="list-style-type: none"> TRUConnect Edge for Itron C2S 240V Meter
TC-1120-RD	<ul style="list-style-type: none"> TRUConnect Edge for Itron C2S-RD 120V Meter with Disconnect
TC-1220-RD	<ul style="list-style-type: none"> TRUConnect Edge for Itron C2S-RD 240V Meter with Disconnect

© Copyright 2009 - 2024 Tantalus Systems Corp. TRUSense™ and Grid Data Management System™ are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

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.

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	
	<ul style="list-style-type: none"> 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	
	<ul style="list-style-type: none"> 120-480VAC, 50/60Hz
Meter Forms Supported	
Self-contained	<ul style="list-style-type: none"> 1S (CL100) 2S (CL200, CL320) 12S (CL200, CL320), 16S (CL200,CL320)
Transformer-rated	<ul style="list-style-type: none"> 3S 4S 9S 9/36S 45S (CL20)

Environmental	
	<ul style="list-style-type: none"> Operating temperature range: -40° to +158° F (-40° to +70° C) Humidity: 5% to 95% non-condensing
Standards	
	<ul style="list-style-type: none"> ANSI C12.1 & C12.20, Class 0.2 accuracy FCC for CFR Title 47 P art 15b Measurement Canada AE-2576
Radio	
	<ul style="list-style-type: none"> Frequency range: 902 - 928 MHz Unlicensed TRUConnect Network TRUPush Technology Vectored Channels: 64,000 Transmit power: 1.0 watt
Ordering Information	
PP-1320	<ul style="list-style-type: none"> TRUConnect Edge for Itron CENTRON Polyphase III Advanced OEM-Ready Meter
PP-1320C	<ul style="list-style-type: none"> Measurement Canada approved TRUConnect Edge for Itron CENTRON Polyphase III Advanced OEM-Ready Meter

© Copyright 2009 - 2024 Tantalus Systems Corp. TRUSense™ and Grid Data Management System™ are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

tantalus.com



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.

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	
	<ul style="list-style-type: none">• Frequency range: 902 – 928 MHz; unlicensed• Transmitter power: 0.9 watts (+29.5 dBm)• Antenna: 5 dBi external omni-directi
Power Input	
	<ul style="list-style-type: none">• Supply: 100 to 240 V at 50/60 Hz• Quiescent consumption: 4 watts
Physical	
	<ul style="list-style-type: none">• 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	
	<ul style="list-style-type: none">• Operating temperature range: -40° to +149° F (-40° to +65° C)• Humidity: 5% to 95%
Approvals/Standards	
	<ul style="list-style-type: none">• FCC for CFR Title 47 Part 15b• NEMA 3R enclosure

© Copyright 2009 - 2024 Tantalus Systems Corp. TRUSense™ and Grid Data Management System™ are trademarks of Tantalus and its subsidiaries in the U.S. and/or certain other countries. Tantalus reserves the right to change product or system specifications without notice.

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.



Glossary of Terminology

Top Level Solutions & Suites	
Trade Name	Description
Tantalus Grid Modernization Platform™ (TGMP™)	A technology architecture that provides a secure, flexible, and affordable path to grid modernization by delivering true data interoperability across new and existing systems and vendors.
TRUConnect™ AMI	Tantalus' multi-commodity, purpose-built AMI solution comprises advanced smart meters and other connected devices, the communication network, and the head end.
TRUGrid Automation™	A suite of applications and analytics tools that leverages AI to pinpoint anomalies in power quality data, isolate failing assets, and provide utilities with proactive insights to resolve vulnerabilities as they arise.
TRUSync™ Grid Data Management	A revolutionary grid data management system that automates the integration of all utility data across any device, system, or vendor.
TRUFlex™ Load+DER Management	A portfolio of software applications, connected devices, and edge applications that harness the power of grid data and establish interactive demand flexibility with behind-the-meter loads, such as EV chargers, solar and storage inverters, and smart appliances.
TRUSense Gateway™	A multi-purpose device installed in any existing ANSI meter socket creates a secure utility-communication path into the premises, providing advanced power-quality measurements and supporting broadband initiatives.
TRUConnect™ AMI	
Trade Name	Description
TRUConnect™ AMI	Tantalus' multi-commodity, purpose-built AMI solution comprises advanced smart meters and other connected devices, the communication network, and the head end.
Insight	The head end supports TRUConnect AMI.
TRUConnect™ Network Infrastructure	The field devices that collectively form the TRUConnect Network.
TRUConnect™ Network	The communication network of the TRUConnect AMI solution.
TRUScan™	A firmware-based application for reading water, gas, and electricity meters fitted with Itron ERT, Neptune R900, or Badger ORION CE modules.
VersaComms Gateway™	A flexible, high-capacity TRUConnect Network Infrastructure device that transfers messages between connected devices and the AMI head end.
LAN Repeater	A TRUConnect Network Infrastructure device that provides LAN communications into pockets of low connectivity in a small and easily deployed package. It can be attached to a utility pole or other elevated location.
Streetlight LAN Repeater	A TRUConnect Network Infrastructure device that provides LAN communications into pockets of low connectivity in a small and easily deployed package. Attach to a streetlight using an ANSI standard connection.



IP Socket Gateway	A TRUConnect Network Infrastructure device that ensures fast and reliable data communication via Ethernet for Fiber-to-the-Home/Premise (FTTH/FTTP) or cable networks.
TRUConnect™ Edge	A hardware module that adds TRUConnect Network communications and advanced computing capability to electricity meters.
TRUEdge®	Tantalus' unique processing and communications technology enables the TRUConnect Edge module.
TRUPush	The feature pushes meter readings to the head end in real time.
TRUGrid™ Automation	
Trade Name	Description
TRUGrid™ Automation	A suite of applications and analytics tools that leverages AI to pinpoint anomalies in power quality data, isolate failing assets, and provide utilities with proactive insights to resolve vulnerabilities as they arise.
TRUGrid™ Reliability	A data analytics tool that leverages power quality data accessed through Tantalus' TRUConnect™ AMI solution to help utilities identify failing assets deployed throughout an electric distribution grid that can lead to power outages or potential fires.
TRUGrid™ Transformer	A data analytics tool that visualizes real-time transformer data across the grid so utilities can identify voltage issues, sags, and swells, and how many hours a transformer has been under- or overloaded.
DA Bridge Modem	Intelligent, connected devices that utilize the TRUConnect Network to communicate serially with DNP3.0 distribution automation equipment across the distribution grid.
Closed Loop Voltage Reduction (CLVR™)	A software application that monitors voltage data from a set of monitored meters and serves that data to a SCADA system to control electrical feeder voltage.
TRUGrid™ Restore	A software application that restores power to electric customers, using connectivity models and feeder conditions to automatically locate and isolate faults and reduce the duration of power outages.
TRUGrid™ Mitigate	A software application that enables electric utilities to manage distribution systems and assets effectively, safely, and rapidly, mitigating risks from wildfires, extreme weather events, and natural disasters by automating the control schema for distribution reclosers.
TRUGrid™ Stabilize	An application that controls load tap changers, capacitor banks, and line voltage regulators to flatten the voltage profile along distribution lines.
TRUGrid™ Balance	Automatic load balancing by moving line sections from one feeder to another by moving the tie switch location.
TRUGrid™ SCADA	A distributed client/server supervisory control and data acquisition (SCADA) system that supports multiple front-end processors, servers, and operator workstations.
Grid Data Management	
Trade Name	Description
TRUSync™ Grid Data Management	A revolutionary grid data management system that automates the integration of all utility data across any device, system, or vendor.
TRUSync™ Cellular Data Node	Intelligent, flexible management of field communications to maximize throughput and speed decision-making for data acquisition and real-time control



TRUFlex™ Load+DER Management	
Trade Name	Description
TRUFlex™ Load+DER Management	A portfolio of software applications, connected devices, and edge applications that harness the power of grid data and establish interactive demand flexibility with behind-the-meter loads, such as EV chargers, solar and storage inverters, and smart appliances.
TRUFlex™ Load Controller	A field device ideal for retrofitting traditional loads, such as electric water heaters and central air conditioning systems, to unlock tremendous value through demand-side flexibility programs.
TRUFlex™ Load Champ	This is the ideal answer for retrofitting control onto large loads and Level 2 electric vehicle chargers that exceed the 30-amp capacity of a typical load control switch.
TRUFlex™ Protect	A unique and revolutionary application that makes emergency load shedding as painless as possible for utilities and the customers they serve.
TRUFlex™ Control Gateway	A field device that manages DERs within a specific zone to stay within demand limits and meet defined goals.
TRUFlex™ DER Gateway	A field device that integrates customer DERs with utility operational systems so they can be monitored and controlled to ensure grid stability.
Opticycle™	An application loaded onto Tantalus' suite of LC-2300 load-control switches delivers analytics-based adaptive cycling, providing customized control tailored to each premise's unique building envelope and site characteristics.
TRULight Intelligence™	It provides an easy-to-deploy solution with advanced features that leverage the TRUConnect Network for economical operation. It provides advanced, easy-to-deploy lighting control capabilities at an economical cost.

CONFIDENTIALITY STATEMENT

Copyright © 2026 Tantalus Systems Inc. All rights reserved.

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 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 rather should serve as a basis for guiding negotiations 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 Indianola Municipal Utilities in support of your grid modernization goals.



LoRa's worldwide footprint

LoRa®

Indianola, IA AMI



Electric, Water, Gas & Streetlights



Mike Metcalf
Indianola Municipal Utilities
210 West 2nd Avenue
Indianola, Iowa 50125

February 16 2026

RE: AMI Proposal

Dear Mike,

Vision Metering is pleased to present Indianola Municipal Utilities with a clear, comprehensive AMI solution built on LoRa technology. Founded in 1991, Vision Metering is both Veteran- and Woman-Owned. In a marketplace often dominated by larger corporations, we take pride in delivering American-made products backed by a dedicated U.S.-based support team.

Our LoRa-based system distinguishes itself through long-range performance, simplified installation, seamless integration with existing infrastructure, and proven reliability across varied industries and climates. As an open, license-free IoT platform, LoRa eliminates reliance on proprietary technologies while providing consistent, global performance.

LoRa is an ideal solution for IMU, offering the following advantages:

- **ERT compatibility** – Reads existing SCM and SCM+ ERTs, supporting up to 25 ERT reads per meter
- **Five-year warranty** on all electric meters and gateways
- **Twenty-year warranty** on water meters and modules (see warranty documentation for details)
- **Reduced maintenance costs** compared to mesh-network competitors
- **Intuitive EndSight software** designed for ease of use
- **Real-time voltage monitoring** every 15 minutes from each meter
- **Comprehensive outage management** for faster response to service interruptions
- **Customer engagement tools**, including convenient app-based communication
- **Exceptional U.S.-based support** with meters assembled in the USA
- **No-cost integration** with your Innovation Systems eLation platform (on the Vision side)

By choosing Vision Metering, IMU can realize up to **40% savings** on infrastructure and electric metering costs compared to competing solutions. These savings are driven by four key advantages:

1. **No licensing fees** – LoRa technology is royalty-free, lowering overall costs.
2. **Direct-to-customer model** – Streamlined purchasing with a single, accountable point of contact.
3. **Reduced infrastructure requirements** – Up to 90% less infrastructure, decreasing costs by 30–40%.
4. **Lower ongoing expenses** – Full functionality included at no extra charge, with reduced maintenance and backhaul needs.

We are proposing water meters from Diehl Metering paired with our LoRa water module. Our module is compatible with any water meter manufacturer that supports the Sensus UI 1203 serial output and a



NiCor ERT or push-in connector. The proposed infrastructure is designed to efficiently support both electric and water meters. While Diehl meters are included in our quote, IMU retains the flexibility to select any preferred water meter manufacturer.

Since beginning electronic meter production in 2008, Vision Metering has continually refined its engineering and manufacturing processes to deliver industry-leading reliability supported by rigorous quality control standards. With minimal monthly fees, Vision meters include advanced features such as Demand, Load Profile, Time-of-Use (TOU), and Net Metering — all at no additional cost.

With decades of industry expertise, a comprehensive product portfolio, and a highly experienced team, Vision Metering is well positioned to be a trusted partner for IMU's current initiatives and future growth.

Sincerely,

Randy H. Austin

Randy H. Austin

Cell :704-609-8801

Office: 803-628-0035

Email: randy@visionmetering.com

CITY OF INDIANOLA

Table of Contents

Pricing.....	1
References	6
Executive Summary.....	8
Pricing and Delivery	9
Locally Hosted Head End System	15
Propagation Study.....	16
Responses to Indianola’s requirements	17
AMI Experience	21
Propagation Study.....	14
Vision Response to Questions	16
Background and Experience	21
w 9	23
Warranty Information	24
Certificate of Liability Insurance	25
Customer Support info	26
Vision Corporate Information and Background	28
Key Vision Personnel	29
Organizational Chart	32
Network Diagram	33
Endsight Software Brochure	34
LoRa Meter Brochure	36
Spirit Meter Brochure	40
XT Meter Brochure	42
Tektelic Gateway Brochure	44
Gateway Installation Manual	46
Endsight Reports	54
Meter Error List	64
LoRa Error List	65
AMS Electric Meter Installation Proposal	66
HydroCorp Proposal for Water Meter Installation	69
Endsight Software as a Service Agreement	86
2020 Meter Programming Software Users Manual	92

INDIANOLA AMI PRICING

Component	Price
Electric Meters	\$1,156,800
Software, Servers, & Gateways	\$55,000
Electric meter Installation	\$147,043
Gateway Installation	\$6,500
On-Site Services for Server Installation & Training	\$5,000
Total Electric Metering Equipment and Instalaltion	\$1,370,343
Water Meter Installation	\$632,163
Water Meters, Diehl Ultrasonic	\$1,145,725
Water Meter modules	\$624,100
Alternate Water Meter Installation Quote	\$213,859

We do not have a relationship with a manufacturer of PPD water meters. Most utilities have gone to ultrasonic at this point.

However, we can connect to any meters with a serial output. Meters you currently have connected to Itron ERTs can be connected to our water modules or we can just read your existing water ERTs.

The above price are based on replacement of everything on your system. You can adjust the quantities as needed and the unit prices will not change.

Vision Metering, LLC

7 Ross Cannon Street
 York, SC 29745
 Tax ID Number 27-3960535

Phone: (803) 628-0035
 Fax: (803) 628-0282
 Web: www.visionmetering.com

Quote # 238160

Page 1 of 1
 Printed: 2/13/2026 10:15:23

SOLD TO:

Indianola Municipal Utilities
 111 South Buxton St.
 P O Box 356
 Indianola, IA 50125

SHIP TO:

@ Indianola Municipal Utilities
 111 South Buxton St.
 P O Box 356
 Indianola, IA 50125

Customer ID	Customer Reference #	Salesperson	Buyer Contact Person	Site ID	
2223	AMI RFP	Randy Austin	Mike Metcalf	MAIN	
Quote Date	Lead Time	Exp. Date	Payment Terms	Shipping Method	F.O.B.
2/10/2026			NET 30 DAYS	BEST WAY	DEST.

Line	Item ID	Quoted	U / M	Unit Price	Disc.	Extended	Tax
1	VM-1BTH2P Vision ST-AMI Meter, Form 1S, 120V, 200A,w/Dual Receive LoRa Radio, w/Remote Disconnect.	9.0	EACH	160.00		\$1,440.00	
2	VM-2ETH2P Vision ST-AMI Meter, Form 2S, 240V, 200A, w/Dual Receive LoRa Radio, w/Remote Disconnect.	6508.0	EACH	160.00		\$1,041,280.00	
3	VM-2FTH1P Vision ST-AMI Meter, Form 2S, 240V, 320A, w/Dual Receive LoRa Radio.	0.0	EACH	155.00		\$0.00	
4	VM-3N4H1P Vision XT-AMI Meter, Form 3S, 120-480V, 20A, w/Dual Receive LoRa Radio.	12.0	EACH	160.00		\$1,920.00	
5	VM-3N4H1P Vision XT-AMI Meter, Form 3S, 120-480V, 20A, w/Dual Receive LoRa Radio.	4.0	EACH	160.00		\$640.00	
6	VM-5N4H1P Vision XT-AMI Meter, Form 5S, 120-480V, 20A, w/Dual Receive LoRa Radio.	4.0	EACH	220.00		\$880.00	
7	VM-6N4H1P Vision XT-AMI Meter, Form 6S, 120-480V, 20A, w/Dual Receive LoRa Radio.	31.0	EACH	230.00		\$7,130.00	
8	VM-9N4H1P Vision XT-AMI Meter, Form 9S, 120-480V, 20A, w/Dual Receive LoRa Radio.	130.0	EACH	230.00		\$29,900.00	
9	VM-ML4H1P Vision XT-AMI Meter, Form 12S, 120-480V, 200A, w/Dual Receive LoRa Radio.	432.0	EACH	170.00		\$73,440.00	
10	VM-ZM4H1P Vision XT-AMI Meter, Form 16S, 120-480V, 320A, w/Dual Receive LoRa Radio.	1.0	EACH	250.00		\$250.00	
11	VM-ENDSIGHT-ONSITE EndSight Software, Reads data from Data on Demand, LoRa equipped meters or LTE equipped Meters. Software Requires Server Purchase	1.0	EACH	40000.00		\$40,000.00	
12	ST-VM-LORA-TK-MEGA-E-PLUS LoRa enabled Ethernet Gateway, 64 channel, Sentry 250 POE, Surge Protector, Mounting Bracket	3.0	EACH	5000.00		\$15,000.00	

Comments

Sub-Total	\$1,211,880.00
Trade Discount (-)	\$0.00
Freight	\$0.00
Miscellaneous	\$0.00
Tax	\$0.00
Total	\$1,211,880.00

Vision Metering, LLC

7 Ross Cannon Street
 York, SC 29745
 Tax ID Number 27-3960535

Phone: (803) 628-0035
 Fax: (803) 628-0282
 Web: www.visionmetering.com

Quote # 238177

Page 1 of 1
 Printed: 2/13/2026 09:41:50

SOLD TO:

Indianola Municipal Utilities
 1300 East Iowa Ave
 PO Box 356
 Indianola, IA 50125-2413
 U.S.A.

SHIP TO:

@ Indianola Municipal Utilities
 1300 East Iowa Ave
 PO Box 356
 Indianola, IA 50125-2413
 U.S.A.

Customer ID	Customer Reference #	Salesperson	Buyer Contact Person	Site ID	
2223	AMI RFQ	Randy Austin	Mike Metcalf	MAIN	
Quote Date	Lead Time	Exp. Date	Payment Terms	Shipping Method	F.O.B.
2/12/2026			NET 30 DAYS	BEST WAY	DEST-PPD&ADDEI

Line	Item ID	Quoted	U / M	Unit Price	Disc.	Extended	Tax
1	DI-HYDRUS-3120235 Diehl Water Meter, (HYDRUS 2) - 5/8" x 3/4" x 7.5 9D, Ext. Enc., 18 Nicor, GA	4204.0	EACH	155.00		\$651,620.00	
2	DI-HYDRUS-3119530 Diehl Water Meter, (HYDRUS 2) - 3/4" x 3/4" x 9" 9D, Ext. Enc., 18" Nicor	1509.0	EACH	191.00		\$288,219.00	
3	DI-HYDRUS-3119534 Diehl Water Meter, (HYDRUS 2) - 1" x 1.25" x 10.75" 9D, Ext. Enc., 18" Nicor	286.0	EACH	225.00		\$64,350.00	
4	DI-HYDRUS-3130249 Diehl Water Meter, (HYDRUS 2) 2" x 17", OV, 9D, Ext. Enc., 18" Nicor, SS	154.0	EACH	779.00		\$119,966.00	
5	DI-HYDRUS-3140036 Diehl Water Meter, (BULK) - 3" x 12", 9D, Ext. Enc., 25" Nicor	3.0	EACH	2574.00		\$7,722.00	
6	DI-HYDRUS-3140037 Diehl Water Meter, (BULK) - 4" x 14", 9D, Ext. Enc., 25" Nicor	4.0	EACH	3463.00		\$13,852.00	
7	VM-W2-2BW-SERIES-2 Lora Water Module, Serial Input, Diehl, Badger, Master Meter, Neptune Water Meter Configuration w/Out Connector (Pigtail).	6241.0	EACH	100.00		\$624,100.00	

Comments

Sub-Total	\$1,769,829.00
Trade Discount (-)	\$0.00
Freight	\$0.00
Miscellaneous	\$0.00
Tax	\$0.00
Total	\$1,769,829.00

Vision Metering, LLC

7 Ross Cannon Street
 York, SC 29745
 Tax ID Number 27-3960535

Phone: (803) 628-0035
 Fax: (803) 628-0282
 Web: www.visionmetering.com

Quote # 238220

Page 1 of 1

Printed: 2/13/2026 13:07:13

SOLD TO:

Indianola Municipal Utilities
 111 South Buxton St.
 P O Box 356
 Indianola, IA 50125

SHIP TO:

@ Indianola Municipal Utilities
 111 South Buxton St.
 P O Box 356
 Indianola, IA 50125

Customer ID	Customer Reference #	Salesperson	Buyer Contact Person	Site ID	
2223	AMI RFP	Randy Austin	Mike Metcalf	MAIN	
Quote Date	Lead Time	Exp. Date	Payment Terms	Shipping Method	F.O.B.
2/13/2026			NET 30 DAYS	CPU	DEST.

Line	Item ID	Quoted	U / M	Unit Price	Disc.	Extended	Tax
1	MI-VM-MISC Installation of all 1S & 2S Meters	6517.0	EACH	19.00		\$123,823.00	
2	MI-VM-MISC Installation of all non singlephase meters	774.0	EACH	30.00		\$23,220.00	

Comments

Sub-Total	\$147,043.00
Trade Discount (-)	\$0.00
Freight	\$0.00
Miscellaneous	\$0.00
Tax	\$0.00
Total	\$147,043.00



HYDROCORP Water Installation Proposal

5. Cost Proposal

Proposed Installation Fees: Install includes service line material ID.

- Installation of approximately (5999) 5/8" -1" inch inside set Diehl water meters.....\$95.58 per install
- Installation of approximately (219) 1.5-2" inch inside set Diehl water meters.....\$148.86 per install
- Installation of approximately (22) 3-4" inch inside set Diehl water meters.....\$474.28 per install
- Mobilization (Notice, appointment site, and weekly import file set-up) (One time fee)....\$15,745.00

TOTAL APPROXIMATE PROGRAM FEES FOR COMPLETE METER EXCHANGE.....\$632,163.92

Proposed Installation Fees Alternate Bid: Install includes service line material ID.

- Installation of approximately (2170) 5/8" -1" inch inside set Diehl water meters.....\$96.94 per install
- Mobilization (Notice, appointment site, and weekly import file set-up) (One time fee)....\$3,500.00

TOTAL APPROXIMATE PROGRAM FEES FOR COMPLETE ALTERNATE BID METER EXCHANGE.....\$213,859.80

PLEASE SEE POSSIBLE PER OCCURRENCE FEE INDICATED BELOW

<p>Customer: Jefferson County PUD Location: Port Hadlock, WA 98339 Contact: Corey Fletcher Phone: 360-301-2048 Email: cfletcher@jeffpud.org</p> <p>Service Territory: approx. 1,800 sq miles Gateways Installed: 18 Electric LoRa Meters Installed: 20,500 Jefferson Total Electric Meters: 21,000 Status: Almost Fully Deployed Highlights: Reading over 10,000 Water ERTS daily through LoRa Electric Meters.</p>	<p>Customer: City of Wrangell, AK Location: Wrangell, AK 99929 Contact: Dwight Yancee Phone: 907-470-3012 Email: dyancey@wrangell.com</p> <p>Service Territory: approx. 2,500 sq miles (only certain areas are populated) Gateways Installed: 5 (at 35ft high) Electric LoRa Meters Installed: 2,400 Wrangell Total Electric Meters: 2,400 Status: Fully Deployed Highlights: Due to challenges reaching the recommended mounting height, additional gateways were deployed to ensure full coverage. The system is performing exceptionally well, even in Alaska's harsh, cold conditions.</p>
<p>Customer: Ferry County PUD Location: Republic, WA 99166 Contact: Steve Van Slyke Phone: 509-207-8747 Email: svanslyke@fcpud.com</p> <p>Service Territory: approx. 2,000 sq miles Gateways Installed: 20 Electric LoRa Meters Installed: 3,900 Ferry Co. Total Electric Meters: 3,900 Status: Fully Deployed Highlights: Very rough terrain and service territory in the heart of the Cascade Mountains from the Canadian Border to the Columbia River. Performing great!</p>	<p>Customer: Duncan Valley Electric CoOp Location: Duncan, AZ 85534 Contact: Dan Coats Phone: 928-359-2503 x3024 Email: dan@dvec.org</p> <p>Service Territory: 450 sq miles Gateways Installed: 2 Electric LoRa Meters Installed: 306 Muscatine Total Electric Meters: 3,000 Status: In Progress Highlights: Duncan has installed all infrastructure equipment so far with internal personnel and is loving the system so far.</p>
<p>Customer: City of Lafayette Location: Lafayette, GA 30728 Contact: Thomas Ellis Phone: 423-504-5938 Email: tellis@lafga.org</p> <p>Service Territory: 12 sq miles Gateways Installed: 1 Electric LoRa Meters Installed: 311 Lafayette Total Electric Meters: 4,300 Status: In Progress Highlights: BABA Grant Customer like HES in the process of reimbursement using our Official BABA Non-Availability and Public Interest Waivers.</p>	<p>Customer: Athens Utilities Board Location: Athens, TN 37303 Contact: David St John Phone: 423-453-8374 Email: dstjohn@aub.org</p> <p>Service Territory: 50 sq miles Gateways Installed: 8 Electric LoRa Meters Installed: 5,400 Athens Total Electric Meters: 15,000 Status: In Progress Highlights: Another CSA Customer in which we have completed the Integration. This is one of the best reference comparisons possible. Athens has a more</p>

	difficult service territory and similar number of endpoints utilizing the same billing platform.
<p>Customer: City of Ellinwood, KS Location: Ellinwood, KS 67526 Contact: Jon Perron Phone: 620-388-5365 Email: electric@cityofellinwood.com</p> <p>Service Territory: 2 sq miles Gateways Installed: 2 Electric LoRa Meters Installed: 1,300 Ellinwood Total Electric Meters: 1,300 Status: Fully Deployed Highlights: Have been fully deployed running smoothly for many years.</p>	<p>Customer: City of Newton Location: Newton, IL 62448 Contact: Matt Tarr Phone: 501-680-3553 Email: electdept@cityofnewtonil.com</p> <p>Service Territory: 2.5 sq miles Gateways Installed: 2 Electric LoRa Meters Installed: 1,100 Newton Total Electric Meters: 1,800 Status: In Progress Highlights: Their billing clerk Amy was adamant about not moving to AMI due to having to use a new software. Within days after implementation, she was an expert with EndSight and loves the system.</p>

EXECUTIVE SUMMARY

By selecting a LoRaWAN system, Indianola Municipal Utilities (IMU) will have obtained the absolute best and most cost effective system available anywhere in the world. Vision Metering is pleased to present a comprehensive AMI solution leveraging LoRaWAN® Technology covering your Electric and Water Systems. LoRa is an open and free technology with no royalties or licenses required and provides extraordinary coverage for devices up to 20 miles from the gateway. It operates on the free license ISM Band from 902 Mhz to 928 Mhz. LoRa is a Star of Stars configuration (point-to-multipoint), enabling direct communication between every device and the gateways (no intermediate devices).

Originally developed by Semtech, LoRa technology was entrusted to the LoRa Alliance in 2012 for global IoT applications. Its introduction in the U.S. circa 2014 began with propane tanks, followed by our adoption in 2017 and the deployment of our first electric system in 2018. Continuous enhancements, including network software, end device firmware, and hardware improvements has made LoRa and LoRaWAN the most affordable and robust IoT communication system in the world. It is currently used by 5 US water meter manufacturers with millions of water modules deployed in the US. The system is designed for communication with EVERY electric meter, facilitated by multiple gateways. LoRa's robustness, openness, and interoperability make it unparalleled in the market, offering freedom in device selection and future-proofing. The LoRaWAN system is comprised of End Devices, Gateways mounted 100 feet in the air, LoRa Network, and Head End System. Governed by the LoRa Alliance, it stands as an open and future-proof system, backed by over 600 contributing companies worldwide. .

Our network is powered by 64 channel Tektelic Gateways headquartered in Calgary, Alberta, Canada. There are also other manufacturers of LoRa Gateways like Multitech and Kerlink, however, we opt for Tektelic due to their superior performance. These gateways allocate 56 channels for device-to-gateway communication and use 8 channels for gateway-to-end device communication. This setup enables the handling of up to 12,000,000 messages from end devices to the gateway daily. Tektelic provides a one-year warranty for their equipment, with an option to extend it by two years. Vision will provide a five year warranty on all network equipment. The gateways offer versatile connectivity options including fiber, hardwired TCP/IP ethernet, cellular, or StarLink. Functioning as passthrough devices, gateways do not process data internally; data enters via radio and exits through an ethernet connection.

INFRASTRUCTURE REQUIRED

Your utility will need two to three depending on actual propagation versus virtual propagation. The propagation study, included for reference, illustrates eight overlapping 5-mile rings, showcasing the extensive coverage capabilities of LoRa. When gateways are actually installed, a clearer picture will develop on the actual number of gateways required.

These gateways can be strategically mounted on water towers, public safety towers, or cellular towers for optimal coverage. In scenarios where elevated structures are unavailable, the city has the option to install either a 110-foot steel pole or a Rohn Tower. The Rohn Towers are priced at approximately \$7000 and installation is usually \$1300. Another option is to use a retractable steel pole which are also available from Vision.

AMI 2.0 with LoRa®



Gas Meter



Electric Meter



Water Meter



Asset Tracker



64 Channel Gateways



Smart Street Light

Connect via



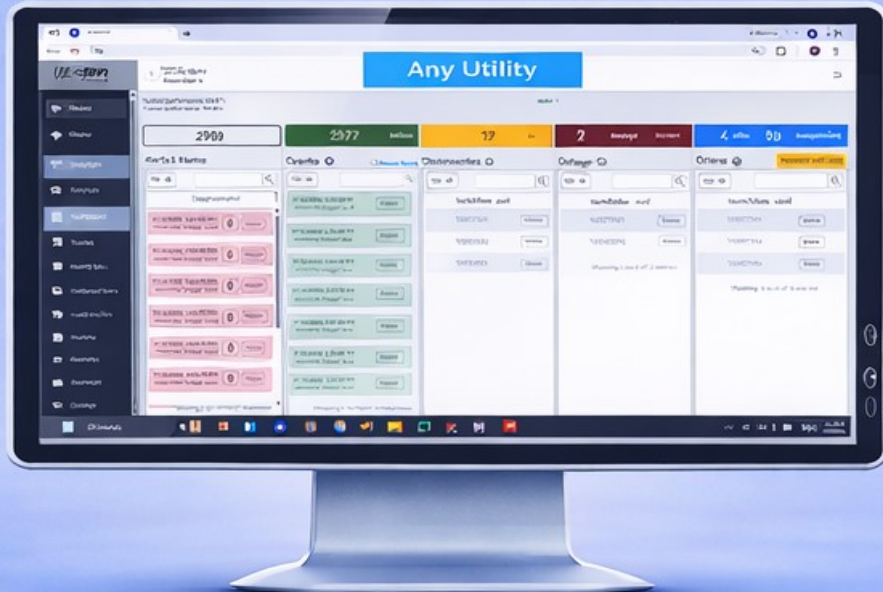
Fiber



Ethernet



Cellular



Assembled in
USA



UTILITY SUPPORT OF GATEWAYS

After installation, the gateways require minimal maintenance unless unforeseen circumstances occur, such as lightning strikes, internet (fiber) loss, or power outages. In the event of a power failure, each gateway is equipped with a large battery within the POE (Power over Ethernet) system, providing up to 24 hours of backup power. The system is designed to be easily managed and operated by personnel with basic technical skills, making it accessible to even the least skilled lineman or technician.

Once connected to the network, gateways can be accessed via their domain names (which are connected to IP addresses) and troubleshooting tools within the gateway to facilitate fault detection. Firmware upgrades can be performed remotely. Additional tools are available to monitor chirpstack traffic from end devices, all of which will be provided to end-users. There is no on-site daily, weekly or monthly maintenance since the gateways are continually monitored,. In case of internet connectivity loss, direct connection to the gateway via ethernet is possible using a laptop, facilitated by the POE connection near the ground. All necessary software for gateway management is conveniently located within the gateway.

ELECTRIC METERS

At present, Vision is the sole manufacturer of ANSI LoRa-capable electric meters. All Vision meters are fully equipped with features including Demand, Time of Use, 12 Channels of Load Profile, reactive and net metering functionalities. Every 15 minutes, data is provided on KWh delivered and received, KVARh delivered and received, KW and KVAR demand, Volts and Amps across all three phases, Power Factor, Meter Temperature, RSSI, and SNR. Additionally, every 20 minutes, you'll receive Load Profile data consisting of KWH delivered and received, and KVARh delivered and received. Midnight readings are also provided from each meter.

For meters of Form 1S, 2S, and 12S with 120 or 240 volt class 200, disconnect switches are included. Although 16S meters do not come with switches, they can be connected to a contactor by integrating a LoRa module to facilitate service control.

Every Vision Meter Includes:

- KW, KVAR, & KVA hours and demand
- Better than 0.2% accuracy
- 12 Channels of Load Profile
- Time of Use
- Four Quadrant Metering
- Net Metering
- Voltage Power Quality
- Voltage Sag and Swell
- 400 Event Log
- Meets or exceeds ANSI C-12.1, C-12.18, C-12.19 & C-12.22
- Some models are UL approved
- Optionally available with magnetically shielded CT's



Vision
Metering

ERT READING

Vision Electric Meters have the capability of reading Itron ERTs both SCM and SCM+ and Landis + Gyr Airpoints. Each meter can read up to 25 ERTs. They can be Electric, Water or Gas ERTs. Your utility can use the Ert reading capability of Vision Electric meters to read the ERTs while installation of LoRa meters is underway. Each meter is limited to reading any individual ERT once per day, meaning you will get a reading every day from all of your ERTed meters.

SYSTEMS CONNECTIVITY

Vision Metering possesses extensive expertise in integrating with various systems and software solutions. We seamlessly connect systems through MultiSpeak and/or utilize REST APIs for integration purposes. Our commitment is to connect to your existing systems without any additional charges, employing the methods commonly utilized by your current software.

We are fully integrated with NISC and others via Multispeak 4.1. It should be a minimal effort to connect with your billing and other systems. We will do the integration work with them immediately at no charge to your utility. We have integrated with over 30 systems and have established a commendable track record with third party vendors.

OPEN STANDARDS AND LoRa ALLIANCE

Vision Metering adheres to a comprehensive range of standards to ensure the quality and reliability of our electric meters. We comply with ANSI, NEMA, LoRa and UL standards, among others, to meet regulatory requirements. While our electric meters are not all UL approved due to cost considerations, we prioritize adherence to these standards for optimal performance.

In addition, we conform to the Sensus UI-1203 standard for water meters and connectivity, ensuring compatibility and reliability in water metering applications. Our commitment to quality extends to our compliance with the LoRa Open Standard governed by the LoRa Alliance. With over 600 member companies worldwide, the LoRa Alliance fosters collaboration and expertise in developing LoRa communication standards.

LoRa technology spans various industries and applications, from Advanced Metering Infrastructure (AMI) to healthcare, smart cities, smart homes, agriculture, and pet monitoring. As a leading player in the IoT space, the LoRa Alliance provides a unified platform for innovation and standardization, making it an invaluable resource for the IoT ecosystem.

THIRD PARTY DEVICES

LoRa boasts a vast ecosystem comprising thousands of companies worldwide that have developed and continue to develop devices compatible with any LoRaWAN system. As the premier IoT communications system, LoRa currently connects over 22 billion devices globally, making it the largest network of its kind. One of the distinctive features of LoRa is its openness, allowing third-party developers to create products that seamlessly integrate with any LoRa system.

Our product lineup includes electric meters, water MIUs, Gas MIUs, streetlight controllers, and asset trackers, with plans to introduce load control later in 2024. Additionally, we collaborate with leading manufacturers like TE Connectivity and Waison to offer Faulted Circuit Indicators and water pressure modules. These partnerships ensure a diverse range of devices tailored to your specific needs.

Furthermore, the versatility of LoRa extends beyond utility applications to encompass various IoT devices such as pet monitors, life alerts, garbage can monitors, and more. With LoRa's robust network infrastructure, you can leverage a wide array of devices to enhance efficiency and address diverse use cases within your LoRa system.

TRAINING

Describing our EndSight Software, LoRa System, and Network as easy to use would be an understatement. Once the network is set up, there's no maintenance required—it's truly plug and play. The EndSight software is incredibly intuitive, and most customers grasp its usage before any formal training is necessary. We offer both onsite and virtual training options. Virtual training comes at no extra cost, while a full day of onsite training is priced at \$2500. Moreover, additional training sessions can be arranged with our Customer Support team at your convenience. The costs associated with training and support are included in your monthly operating fee.

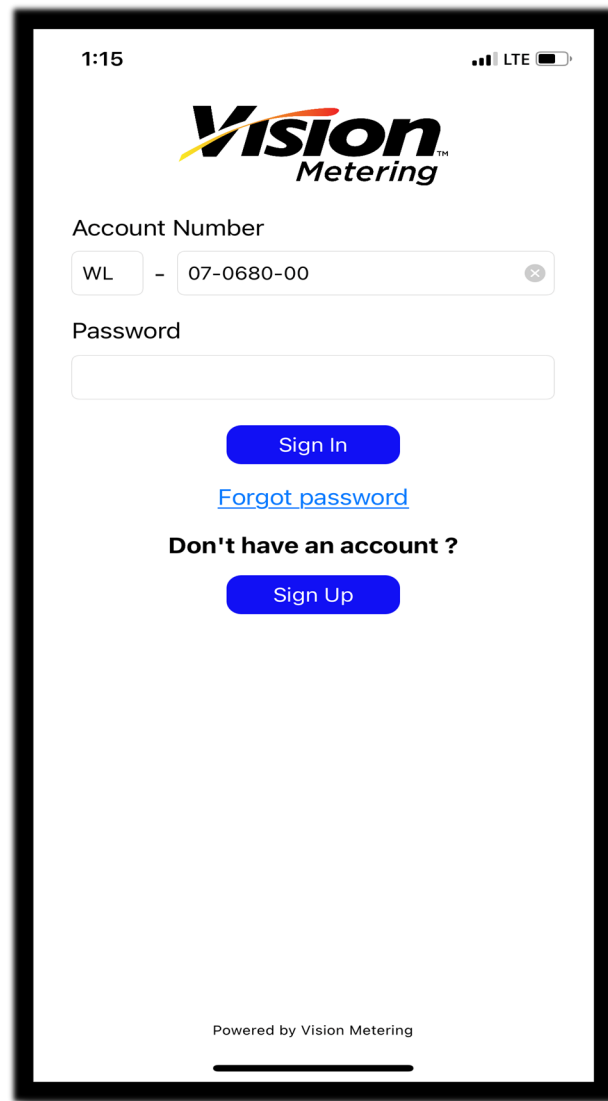
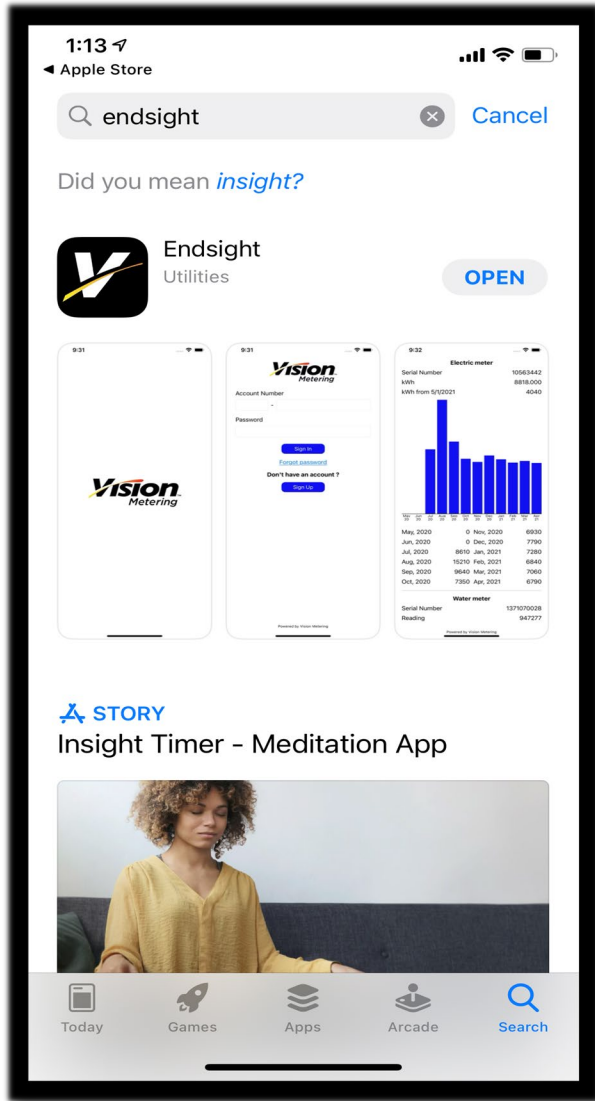
INSTALLATION SERVICES

Vision Metering uses third party installers to ensure the most competitive offer. We typically partner with Advanced Metering Systems for the installation of Electric Meters. We will use Jeff's Tower Service for installation of gateways and Hydro One for water meter installation.

VISION APPS CUSTOMER ENGAGEMENT PORTAL (CEP)

Vision Metering offers dedicated apps for both Apple and Android devices. There is a one-time fee of \$2500 for each app, which can be configured to meet the specific needs of your system, whether

it's for water, gas, or electric services. Your customer service team will manage these apps, and we will design them according to your requirements. While these apps are typically provided by the CIS system provider, we offer tailored solutions to suit your needs.



PREPAID METERING

Vision has implemented a Pre-Paid system as an integral part of EndSight. It allows customers to prepay for their electricity based on KWh. The system provides for customers to see their usage on the EndSight App and be warned if their available KWh is close to running out and the customer can also get a text message indicating that their available KWh is expiring. This system does not have the capability to collect money but can integrate to the billing system allowing control from the billing system.

If you need the ability to collect money, we have integrated with Exceleron who has a prepaid system that does collect money. Exceleron's MyUsage Prepay Solution in coordination with our EndSight Software. MyUsage will provide customers with a flexible billing and payment option that

increases customer choices, provides a prepay service that will empower customers to take control and proactively manage and pay for their utility consumption while also offering opportunities to conserve energy, and provide customers with the ability to stay current and manage the debt recovery process efficiently, resulting in reduced bad debt for the utility and the customer. Excleron's pricing and detailed proposal has been included with our Proposal.

LOAD LIMITING

Every Vision Meter has load limiting capability. You can restrict how much energy a customer can consume based on amperage. You can limit the customer to as little as 5 amps or as much as 50 amps. All programmable from EndSight. In situation where you can not turn off customers because of extreme heat or cold, you can limit how much the customer can use without paying their bill.

If a customer is on Load Limiting, the meter will turn off when the current draw exceeds the limit set. When the power goes off, it will stay off for five minutes and then turn back on. If the load has not been reduced, the meter will turn off again.

LOAD CONTROL

There are two main methods of Load Control. The traditional approach involves installing a controller with wiring spread throughout the premises to manage various devices. Alternatively, there's load limiting, which is integral to every Vision meter's functionality. Load Limiting enables users to set limits for individual meters, regulating the amount of current each can consume. For instance, if a limit of 30 amps is set, devices exceeding this threshold will be disconnected for 5 minutes before reconnection, prompting users to reduce their load. This cycle continues until either the load decreases or the limit is deactivated.

The conventional method typically involves controlling individual appliances like water heaters and air conditioners/heat pumps, necessitating extensive wiring and often requiring local permits due to its complexity and cost.

Vision's innovative load control system, currently in development, takes a distinct approach. Instead of relying on separate communication devices, it employs LoRa radios within the control devices to establish an independent LoRa network within the household. This network enables the meter to directly oversee all load control operations, eliminating the need for additional infrastructure. Rather than conventional relays,

Deployment of Load Control is slated for 4th quarter of 2026.

LOCALLY HOSTED ENDSIGHT HEAD END SYSTEM SYSTEM

Vision offers a fully standalone, locally hosted AMI solution designed for utilities that prefer to maintain complete ownership, visibility, and control of their infrastructure and data. This deployment model does not rely on cloud hosting and is installed entirely within the customer's secured environment, allowing your organization to manage access, security policies, and data governance according to internal standards and regulatory requirements.

A Vision Locally Hosted System utilizes two dedicated Dell rack-mounted enterprise-class servers, purpose-built and sized specifically for your utility's operational needs. Server specifications are determined based on the total number of deployed devices, anticipated data throughput, system performance expectations, and desired data retention period. Systems are typically configured to retain approximately two years of historical data; however, storage capacity and retention policies are fully scalable and configurable to align with customer preferences.

Network Server

The Network Server operates on a hardened Linux-based operating system and manages all LoRaWAN network operations. This server runs ChirpStack, an open-source LoRaWAN network server that has been enhanced and configured by Vision to meet our performance, reliability, and operational standards.

The Network Server oversees all device authentication and join procedures, ensuring that only authorized endpoints are permitted on the network. Each device must present the correct DevEUI, AppKey, and session credentials before being granted access. This multi-layered authentication framework provides strong security controls and safeguards the network against unauthorized intrusion.

ChirpStack utilizes a PostgreSQL database to manage network data, device information, and system operations, providing a reliable and scalable foundation for network management.

EndSight Server

The second server hosts Vision's EndSight Head-End System and all associated metering databases. This server operates on Windows Server 2025 and interfaces directly with the Network Server to collect, process, and present meter data.

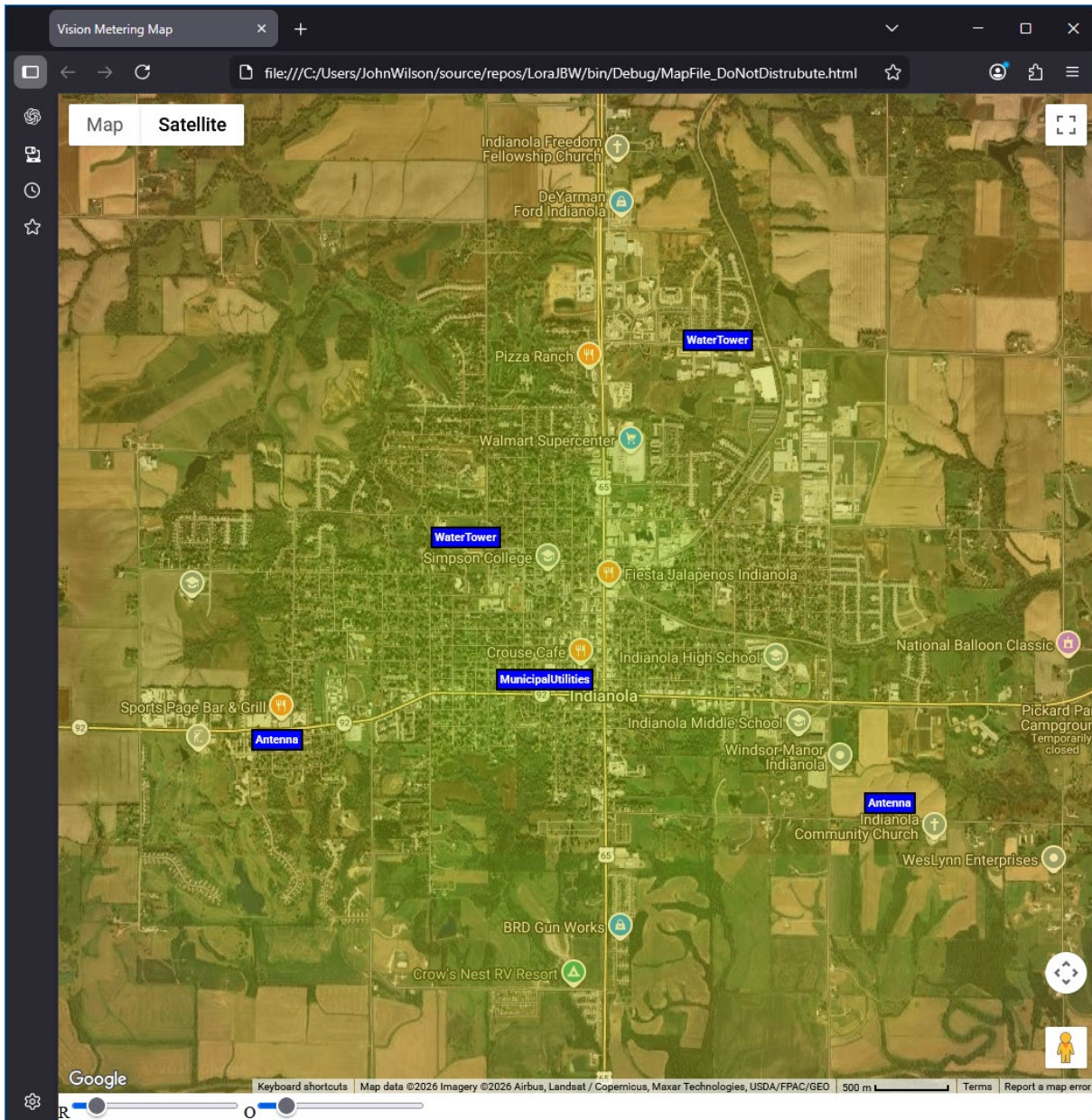
EndSight manages customer records, meter data, system events, and reporting databases within a structured Microsoft SQL Server environment. The platform transforms raw network data into actionable, user-friendly information accessible to authorized utility personnel.

INDIANOLA PROPAGATION STUDY

After reviewing Indianola's territory, we find five potential locations for placement of gateways. We only need two for the electric system, but three may be required to get adequate coverage for the water. Our proposal suggests three gateways be installed.

The five potential locations are:

#	name	lat	lng
1	WaterTower	41.379619753256435	-93.54896647851005
2	WaterTower	41.36742530983849	-93.56976172069535
3	MunicipalUtilities	41.35860445751297	-93.5632624097646
4	Antenna	41.354842036873855	-93.58536999251095
5	Antenna	41.35090797216071	-93.53464611048074



INDIANOLA MUNICIPAL UTILITIES SPECIFICATIONS

The successful vendor must clearly state and demonstrate its ability to implement an AMI system that includes electric and water meters. Vendor bids need to clearly state all costs and detailed information. IMU reserves the right to reject any proposals that cannot meet these requirements.

Minimum Requirements of the AMI Provider/Vendor:

- Demonstrate its commitment to the municipal utility market.- **We have systems operating at 75 municipalities throughout the US so we are very committed to the municipal market.**
- Provide information on the number of AMI deployments and the number of endpoints- **We have 75 systems operating at municipals throughout the US.**
- Provide information on the percentage that AMI is of their portfolio. Minimum Requirements of the AMI System- **AMI represents about 76% of our total sales.**
- Must be able to reuse Itron AMR electric and water meters on their AMI system without full replacement of all devices to allow IMU to complete the deployment over an anticipated three-year period- **Each meter is capable of reading up to 25 Itron ERT's that are used for electric, water and gas meters. The deployment of 1500 meters strategically placed on your system should get all of the electric and water ERT's.**
- Vendor must provide an RF Mesh system so all AMI devices can read and retransmit all Itron ERT meters remaining in the system- **Our AMI solution does not use a traditional RF mesh architecture. Vision's LoRa system operates on a point to point system. A point to point system is more reliable and robust than a mesh system because it requires network equipment and no reliance on other meters or relays to complete the communications path.**
- Be an approved vendor of Itron that is allowed to read and integrate their devices- **We do not need Itron's permission to read their ERT's. According to our lawyers, if the utility owns the transmitting equipment and the collecting equipment, any data captured by that system for any purpose belongs to the utility. We have been successful at 40 municipalities in collecting Ert data with no repercussions from Itron. In addition, we Indemnify all of our customers in the case that Itron would file a law suit. Additionally their patents on the SCM messages expired in 2024.**
- Have an agreement with Itron that allows for reading and integration of their technology into the AMI vendors solution- **See Answer above.**
- Read and report the Itron NIM messaging protocol- **No need. We will communicated directly with your billing system using MultiSpeak 4.1. We will transmit all data directly to your billing system.**
- AMI vendor's system must be able to reuse the current Itron interface to the utility's billing system- **This is possible, but we would prefer to interface directly with your**

billing system. We do not charge for the integration to your billing system but most likely our billing company will charge you.

- Must have experience working with IMU's billing system which is eLation- We have spoken with eLation and will interface using MultiSpeak 4.1. There is no charge on our end for this integration.
- System shall not require licensed communication frequencies-**comply**
- Must be able to deliver internal data from the meter to the head end and be able to do batched delivery at set interval- **Normally, we do not do batched delivery. As data is received it is placed in the database and Multispeak and llation will get the data into the billing system. However, if you want to do batched delivery, we can.**
- Must have intelligent endpoints with distributed computing capabilities. – Our normal meters do not do distributed computing as the network has tremendous bandwidth which allows all decision making to be done at our EndSight head end system. We do have meters that can run apps but they are much more expensive and your system would never use that capability.
- The system shall use LANs- **We use a LoRaWan WAN which is comprised of three gateways all connected to the internet.**
- The LANs shall be self-building and self-healing with the electric meters acting as the LAN repeater for other meters- **With a LoRa system, there is no self building or self healing requirements. Everything is point to point.**
- Must maintain time synchronization for all meters, nodes and other devices within the network- **Time synchronization is accomplished via the GPS which is located inside the gateway. This time synchronization is shared with all devices on the system so all devices have the correct time.**
- Shall provide time-stamp capabilities- **Every packet transmitted from each meter or module is timestamped.**
- All AMI meters must be uniquely identified in the network- **All radio modules in the meters have their own DEVEUI (mac address) which is a 16 character hex value which is very difficult to interpret. Each module also has an APP key which is used for security.**
- Residential electric meters shall provide a minimum of 60-minute meter reads that are pushed to the head-end hourly- **ALL meters transmit the register reads every 15 minutes, load provide every 20 minutes and a midnight read every midnight. In total the meter transmits data 169 times per day. The register reads provide KWh delivered and received, KVAR delivered, KW, KVAR, Volts and Amps on all three phases. Power Factor, Meter Temperature, RSSI and SNR.**
- System must be able to provide on-demand readings as needed by IMU staff- **comply**
- Electric meters need to be able to monitor and report voltage at every interval and report the data in a manner that allows IMU to react to the information- **You will get voltage every 15 minutes. You can also assign load profile channels to voltage.**

- The system shall support two-way communication- **comply**
- Must be able to demonstrate the ability to report outages within 2 minutes- **comply**
- Must be able to demonstrate the ability to restore 90%-meter communication within 5 minutes- **comply but that will depend on power actually being restored.**
- Must be able to support remote disconnecting and reconnecting on a 200 and 320 amp residential electric meters – **We put disconnect switches in all Class 200 Form 1S, 2S and 12S meters. We have access to a 320 amp switch but have not delivered any to this point.**
- Communication module must be based on an industry standard computing platform- **LoRa is a standards based system. Standards are developed by the LoRa Alliance to which all entities developing and deploying LoRa devices must adhere. Meters follow ANSI C-12.1, C-12.18 & C-12.19.**
- Polyphase AMI electric meters shall deliver power quality information to the head-end at least once per hour. • Meters must be able to report outages and restorations in real time- **comply**
- System shall support the transmission of DNP3 protocol messages over the network- There is a DNP-3 to LoRa converter available within the LoRa Standards. We know how to deploy it, but haven't done it to this point.
- Endpoint hardware must have at least 3-years of proven performance in the field- **7 years since deploying our first system.**
- Quoted communication hardware must be currently deployed at municipal utilities with under 100,000 customers- **We do not have any customers that big.**
- Vendor shall provide ongoing system support, which would include an on-call account manager- **comply see our support section in this document.**
- The system must enable the collection of data from every device, every protocol and distribution of that data to applications as required - **comply**
- The network shall provide hardware for socket-based collection of data, including power quality and meter data- **comply**
- The network shall provide socket-based hardware, that where required, provides the ability to reach behind the meter with a utility-managed standard communication protocol to DERs such as EV chargers, solar inverters, etc- **We do not currently have this available, however it is on our roadmap.**
- The network shall provide the ability, where required, to collect hourly or daily reads from multiple manufacturers' endpoints over multiple protocols leveraging the same fixed network - **We can collect data from any device using LoRa**
- Ability to mount collectors on existing IMU infrastructures that are eye appealing to the utility and public- **comply see our propagation study.**
- All transmission from collectors to the head-end will be done over IMU owned fiber facilities- **comply**

- Head-end hardware would be at IMU facilities and not cloud based- **comply**

IMU's responsibilities:

- Obtain access to mount AMI network equipment as needed.
- Installation of AMI meters.
- Provide backhaul communications from the collector through IMU's fiber system.
- Assist in identifying locations to mount network equipment in the field.

Vendor Responsibilities:

- Train IMU staff and/or contractor on retrofitting water meters - **comply**
- Train IMU staff on installation of network elements- **comply**
- Conduct system acceptance testing - **comply**
- Design AMI network to meet outlined requirements - **comply**
- Provide smart meters and AMI modules for retrofit as applicable- **We do not provide retrofits.**
- Provide secure communications within the AMI communications network, including local and wide area networks, for AMI functionalities- **comply**
- Be able to upload readings into Itron MVRS for billing- **We can do this, but it would be more efficient to connect directly to your billing system via MultiSpeak 4.1.**
- Provide and provision the AMI network management system- **No provisioning required.**
- Provide training on the AMI network management system- **comply**
- Provide implementation support (troubleshooting, network provisioning, other) - **comply**
- Secure delivery of meter reading data into an appropriate database(s) - **comply**
- Support interfaces to other utility applications- **comply**
- Perform propagation studies as required- **Our propagation study is included.**
- Complete installation of network elements as outlined by the respondents' design - **comply**
- Have support staff available to be at IMU to support the installation before, during & after- **We are willing to do whatever you wan to pay for, however, our system is so simple to install and manage that on site support is rarely needed.**

BACKGROUND and EXPERIENCE

- 1) Provide Vendor Name, address, contact, phone, and web page:

Name: Vision Metering
Address: 7 Ross Cannon Street
York, SC 29745
Contact: Shane Jewell, M.S.
cell: 704-576-4001
email: shane.jewell@visionmetering.com
Office Phone: 803-628-0035
Web Page: www.visionmetering.com

- 2) Provide Product Name(s):

Vision Metering LoRa AMI System and supporting products

- 3) Provide Experience:

VISION METERING AMI EXPERIENCE

Vision Metering has been building and deploying AMI systems since 2013. We pioneered a system in the Philippines that reduced theft of energy from 27% to 1%. This system is called HawkEye and is still expanding today. We have used many forms of communications in our systems including Long Rang IP radio, FSK 900 Mhz radio's, 3G, 4G and Cat M1 Modem Meters and LoRa.

In all, we have deployed more than 550,000 AMI meters with more than 290,000 being LoRa. Like all new technology, we hit bumps in the road upon initial deployment, but at this point, those bumps have been smoothed out and our systems are working very well. We deployed our first LoRa system in the US in 2018 and are very confident with the experience we have developed.

Now, we are deploying Amazon Sidewalk as a dual network with LoRa. Amazon Sidewalk uses Ring Doorbells, Echo and Dot devices to create a mesh network. Our new radios will first look for the Sidewalk and then revert to LoRa if it cannot see the Sidewalk. Sidewalk works best in urban areas but can also work in rural areas where the customer uses Amazon Devices. Since the radio is dual use, it can find a way to get to the network.

We have LoRa systems in the following countries:

95 in the US represented in 26 states

6 in the Philippines

2 in Guatemala

1 in Ecuador

1 in Honduras

1 in the Dominican Republic

1 in Canada

In addition we have many AMI providers using LoRa that use our meters as part of their systems.

Our meters and radio's are deployed in Alaska under extreme cold and in the Philippines with extreme heat and humidity. We have produced more than 2,000,000 meters since 2008, and while we are not on the same scale as our competitors, we are very proficient with what we produce and our quality control is excellent.

Our Head End System (EndSight) is getting more robust every day. Our system now connects to 27 different billing systems along with NISC using MultiSpeak. We have 7 systems deployed with Multispeak. We are interfaced to all NISC modules along with MilSoft and other systems. We will interface to any system using Flat Files, MultiSpeak and any Rest API free of charge.

Our Customer Service team does an excellent job of supporting our customers. Some of our systems are so solid that we never hear from those customers. They treat our system as just another tool. Our LoRa system is extremely simple to install and maintain. Some of our customers are very small and they installed the system without any support from us. It truly is a plug and play system.

Request for Taxpayer Identification Number and Certification

Go to www.irs.gov/FormW9 for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See <i>Specific Instructions</i> on page 3.	1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.) <div style="text-align: center; border: 1px solid black; padding: 2px;">Vision Metering, LLC</div>		
	2 Business name/disregarded entity name, if different from above.		
	3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only one of the following seven boxes.		4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any) _____ <i>(Applies to accounts maintained outside the United States.)</i>
	<input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C corporation <input type="checkbox"/> S corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input checked="" type="checkbox"/> LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) <u>S</u> Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.		
	<input type="checkbox"/> Other (see instructions) _____		
	3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions <input type="checkbox"/>		
	5 Address (number, street, and apt. or suite no.). See instructions. <div style="text-align: center; border: 1px solid black; padding: 2px;">7 Ross Cannon Street</div>		Requester's name and address (optional)
6 City, state, and ZIP code <div style="text-align: center; border: 1px solid black; padding: 2px;">York, SC 29745</div>			
7 List account number(s) here (optional)			

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number											
or											
Employer identification number											
2	7		-	3	9	6	0	5	3	5	

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person 	Date <u>8-9-24</u>
------------------	------------------------------	-----------------------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

Warranty Policy

Thank you for choosing Vision Metering's products and services. We take great pride in manufacturing and/or assembling our products in the United States, where our dedicated employees work diligently to ensure exceptional quality. Should an issue arise during the warranty period, you can be confident that it will be resolved promptly and professionally to minimize any disruption to your operations.

Warranty Coverage

Vision Metering, LLC warrants its products to be free from defects in materials and workmanship for a period of five (5) years from the invoice date. During this period, Vision Metering will repair or replace any defective equipment resulting from such defects. Warranty does not cover mishandling, Acts of God or line surges.

Exclusions

This warranty does not cover expenses related to removal or reinstallation of products, nor does it cover incidental, consequential, or punitive damages incurred by the purchaser or end user. The warranty is void if the product has been subjected to misuse, abuse, neglect, accident, improper application, unauthorized repairs, substantial alterations, or acts of God.

Shipping & Handling

Customers are responsible for inbound shipping, transportation, and insurance charges, as well as compliance with laws and ordinances applicable to inbound transit. Vision Metering will cover outbound shipping, transportation, and insurance costs for items under warranty, but is not liable for any loss or damage occurring during outbound transit. If a returned shipment appears damaged, please retain all original packaging materials and contact the carrier immediately for inspection.

Limited Warranty

This limited warranty is the sole warranty provided by Vision Metering, LLC and supersedes all other expressed or implied warranties, including warranties of merchantability or fitness for a particular purpose. It does not cover third-party communication modules, firmware, or other components installed within Vision Electric meters. No statement or representation by Vision Metering, LLC or its representatives shall constitute a warranty beyond the terms of this limited warranty.

Return Material Authorization (RMA)

Before returning any product for repair or replacement, customers must contact Vision Metering at **803-628-0035** to obtain a Return Material Authorization (RMA). The RMA number must be clearly marked on the outside of the shipping package. Upon receipt, Vision Metering will evaluate the product and determine the appropriate resolution to ensure customer satisfaction.



Vision Metering – LoRa AMI

Welcome:

Thank you for choosing Vision Metering as your preferred AMI Solution utilizing the LoRa Technology we have pioneered in the US. We will support and help implement Orangeburg DPU AMI Project with ease and will be available to assist every step of the way.

Who? - Key Contacts/Roles

Vision Metering:

- **Main Contacts:**
 - **Maria Pearson - Regional Sales Manager & Project Manager**
 - **Cell: (803) 558-1000; Office: (803) 628-0035**
 - **Email: Maria@visionmetering.com**
- **Supporting Contacts if Maria Pearson is Unavailable**
 - Jesse Danielewicz - Regional Sales Manager & Project Manager
 - Cell: (803) 558-5633; Office: (803) 628-0035
 - Email: jesse@visionmetering.com
 - Courtney Mansfield: Regional Sales Manager
 - Cell: (803) 558-5632; Office: (803) 628-0035
 - Email: courtney@visionmetering.com
 - Randy Austin: Owner/President
 - Cell: (704) 609-8801; Office: (803) 628-0035
 - Email: randy@visionmetering.com
- **LoRa Support Group - Main Contacts: For EndSight Software Related Questions**
 - John Wilson – Team Lead
 - Beth Evans
 - Fern Howell
 - Caela Goins
 - Office: (803) 628-0035 (ask for LoRa Support)
 - **GROUP EMAIL: lorasupportgroup@visionmetering.com (Best Way)**
 - **Please copy Maria Pearson on all emails to support**
- **Contact for all Integrations:**
 - Caela Goins
 - **Email: caela@visionmetering.com**
- After Hours Support Email (Shouldn't ever be needed)
 - VMP@visionmetering.com (Philippines Support)

How/What needs to be accessed?

- **EndSight Software Access:**
 - URL: orangeburg.Endsight.us
 - Link to URL: https://orangeburg.endsight.us
- **Generic Credentials for First Login:**
 1. User: Wwearing
Password: Vision2020*
 - These credentials can be changed in the “Users” tab after logging in.
 - Two-Factor Authentication can be enabled here if desired.
 - Add as many Users as you want.
 2. User:
 3. Password:

EndSight User Roles and Access:

- Admin – Full Access.
- User1 – Full Access but Customer Names/Billing Report Options are hidden.
- Demand Reset Only – Full Access but Open/Close Switch Commands are disabled.

*If a new defined role needs to be added? just let me know and I'll see what we can do;

- Vision 20/20 Programming Software Access:
 - Dropbox Link:
<https://www.dropbox.com/scl/fo/a7c21xbkxvvdrepcyn2ed/AFa8JP6T6qfmzPL2ljL0B3A?rlkey=xpybptuimcbiidrkp091zpen1&dl=0>
 - User: Supervisor (capital “S”)
 - Password: 2020
 - All you need is a Computer and Optical Probe.
 - For Physically interrogating or changing meter settings.



Corporate Information & Background

May 2024

Vision Metering, LLC was founded in June of 1991 as Austin International, Inc. On January 1, 2011 Austin International, Inc was re-branded to Vision Metering, LLC to better reflect what the Company had become, a Metering Company.. The Company has run continuously from June 1991 to present under the same management and has been profitable every year. Austin International was officially closed in December 2017.

The Company is housed in a 240,000 square foot building with 813 KW of solar on the roof. There are three division operating within the facility: New Electronic Meters, Automated Test Equipment, Selling and refurbishing other vendors electric meters. The Company is compliant and in good standing with City, County, State and Federal taxes and regulations. Financial's are reviewed annually by Burkett, Burkett, and Burkett CPA of Rock Hill, SC. Neither the Company nor any of its divisions are ISO Certified. All products sold in the U.S. And Canada are manufactured at the York, SC facility. Most products sold in the Philippines and other some developing countries are made in the Philippines.

Vision Metering is a Veteran and Woman Owned business. According to the SBA, we are considered a small business. The Company Exports it's products to 11 countries and operates a manufacturing plant in the Philippines. This factory mainly manufactures for the Philippines.

Corporate Headquarters: 7 Ross Cannon St., York, SC 29745 803-628-0035 vision metering.com



Vision Metering, LLC

Tax ID Number: 27-3960535

Duns Number: 966517406

Employees: Ranges between 70 to 90

President: Randy H. Austin

Executive Vice President: Debbie D. Ruth

Comptroller: Darren Campbell

Vice President Production: Tony Recinella

Vision Metering, is a privately held LLC with two Members, Randy H. Austin and Debbie D. Ruth.

Other pertinent information:

1. There are no current lawsuits, judgements or claims against Vision Metering
2. Vision Metering has never failed to complete a project.
3. Approximately 70% of the Company's business comes from new metering.
4. Financial information can be provided if short listed and an NDA is in place.
5. Vision Metering is financially stable.

Vision Key Personnel



Randy H. Austin -Chief Executive Officer - Started his career in Electricity as an Electricians Mate in the US Navy. After 8 years he was discharge and joined Ekstrom Industries as a Product Manager in 1981. He continued his career in the Electric Utility Industry with Process Systems (Siemens) and formed Aptech (a metering electronics company) with two partners. In 1991 he formed Austin International Inc. which eventually became Vision Metering in 2011. Throughout his career, he has fostered professional growth for all of his employees. Randy has utilized his skills to build Vision Metering into a multi-national company engaged in developing hih quality products and services for the Electric Utility Industry. He has also guided the development of communications products for the water and gas industries through his work with LoRa.



Anthony Recinella - President - Joined Austin International as a Mechanical Designer and managed projects within multiple departments. Led engineering team to implement mechanical design aspects for new electrical devices while maintaining support for legacy products. With more than 12 years of experience, as the current Product Manager he covers an array of tasks such as but no limited to: manage and improve all aspects of the Vesta test board with focus on maximizing profitability and market share. Creating and implementing ECN procedures and supplemental controls to add traceability, transparency, and accountability. Most recently he has worked with engineering to create the LoRa gas and water module for Vision Metering's AMI solution.



Debra Ruth, Executive Vice President - Joined Austin International, now Vision Metering in 1992 to manage and oversee all aspects of the office. The role progressed into direct sales and maintaining customer accounts, in conjunction to coordinating the shipments to ensure all orders were processed in a timely manner. Now with over 28 years of experience in the metering industry my daily role continues to cover a wide array of different tasks such as but not limited to: manage personal and payroll, oversee daily activities in the front office, maintaining domestic & international shipping, supporting sales team, ensuring inventory is accurately recorded & replenished, as well as various other projects necessary to ensure that Vision Metering operates efficiently and successfully.



Jesse Danielewicz, Vice President Sales - Joined Vision Metering in 2020 with experience as a Financial Analyst/Asset manager which I have been able to utilize in my current role as a Regional Sales Manager. My daily tasks in this role are the following but not limited to: visiting Electrical Coops and Municipals, creating relationships with the utilities and ensuring customer satisfaction, presenting our AMI solution using LoRa, demonstrating our Endsight software, attending conferences and displaying our various products, constructing proposals for utilities based on their needs, accurately recording orders and programming specifications, as well training utilities on functionalities of our software.



Thomas Neebling, VP of Operations - Joined Austin International in 2011 as a supervisor in the electric meter shop. When Vision expanded to refurbishing gas meters, he became the Manager of the Gas Laboratory. In 2013 he began overseeing the operations of Vision Electric Meters. With over 13 years of Metering Experience his role expanded to oversee many aspects of the Company's Operations. As the VP of Operations, he has his fingers in all aspects of the Company to coordinate various aspects of Purchasing, Consulting with Engineering and the various manufacturing centers within Vision Metering. He works closely with the President and CEO to ensure all departments are properly communicating to achieve a cohesive outcome.



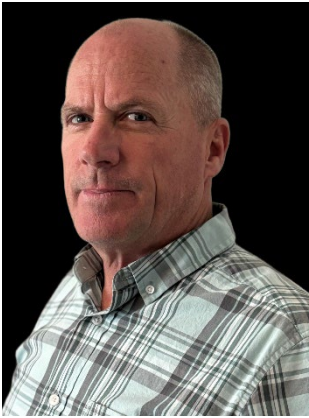
Ryan Spillman, Chief Technology Officer – Joined Vision Metering in 2016 and is Involved with every engineering project. He write's firmware in C. He also writes software primarily in C# .net. Ryan also oversees and defines test procedures based on industry standards. For the Vesta testboard he has worked on Embedded C Firmware Development On Bare Metal, Self-Tunning PI Control, Serial and SPI drivers, Calibration Algorithms, Digital and Analog circuit development and debugging. For the CatM1 Meter he works on Embedded C Firmware Development on FreeRTOS, Serial and SPI Drivers, Developed Communication Protocol for Reading Meters OTA, FOTA for Both Meter and Modem, Board Level Testing Firmware and Software (C# .net), Digital and Analog circuit development and debugging..



Alexandre Sachinski, Senior Software Engineer – Joined Vision Metering in 2011 to design firmware for smart electrical meters in conformity with ANSI standards. He esigns firmware for communication modules CatM1, Lora and Modbus and bootloader firmware for utilized devices. He also directs a team of technicians on testing methodology, priorities, and deadlines, allocating resources as needed. Alex also collaborates with marketing to identify new products and features. He develops and maintains firmware for Teridian/Maxim metering chips, STM32L4 and PIC18 controllers and peripheral chips: Flash, EEPROMs, ADC/DAC, modems, and power amplifiers; Designed and supports C++/C# applications to read meters data. He uses IDEs: Eclipse based, Visual Studio, MPLab, and source control systems: git, Mercurial, CVS, bug tracking systems Bitbucket and Redmine.



Sergey Malechko, Software Engineer - Joined Austin International in 2010 with a background in database design, and desktop/web applications. Experience with OOP, C#, XML, JSON, JS, JQuery, AJAX, HTML, CSS, MS SQL, MQTT, Git. In his position as the Software Engineer for Vision Metering, he has worked on various projects including but not limited to: software for operating electrical meters, interfacing software with hardware of the complex using MQTT, Modbus, usb, comport connection, API server development, web access to the data, and building reports. He developed the Endsight software used for Vision Metering's LoRa AMI system and continues to implement new features on a regular basis to meet the specific needs of our customers.

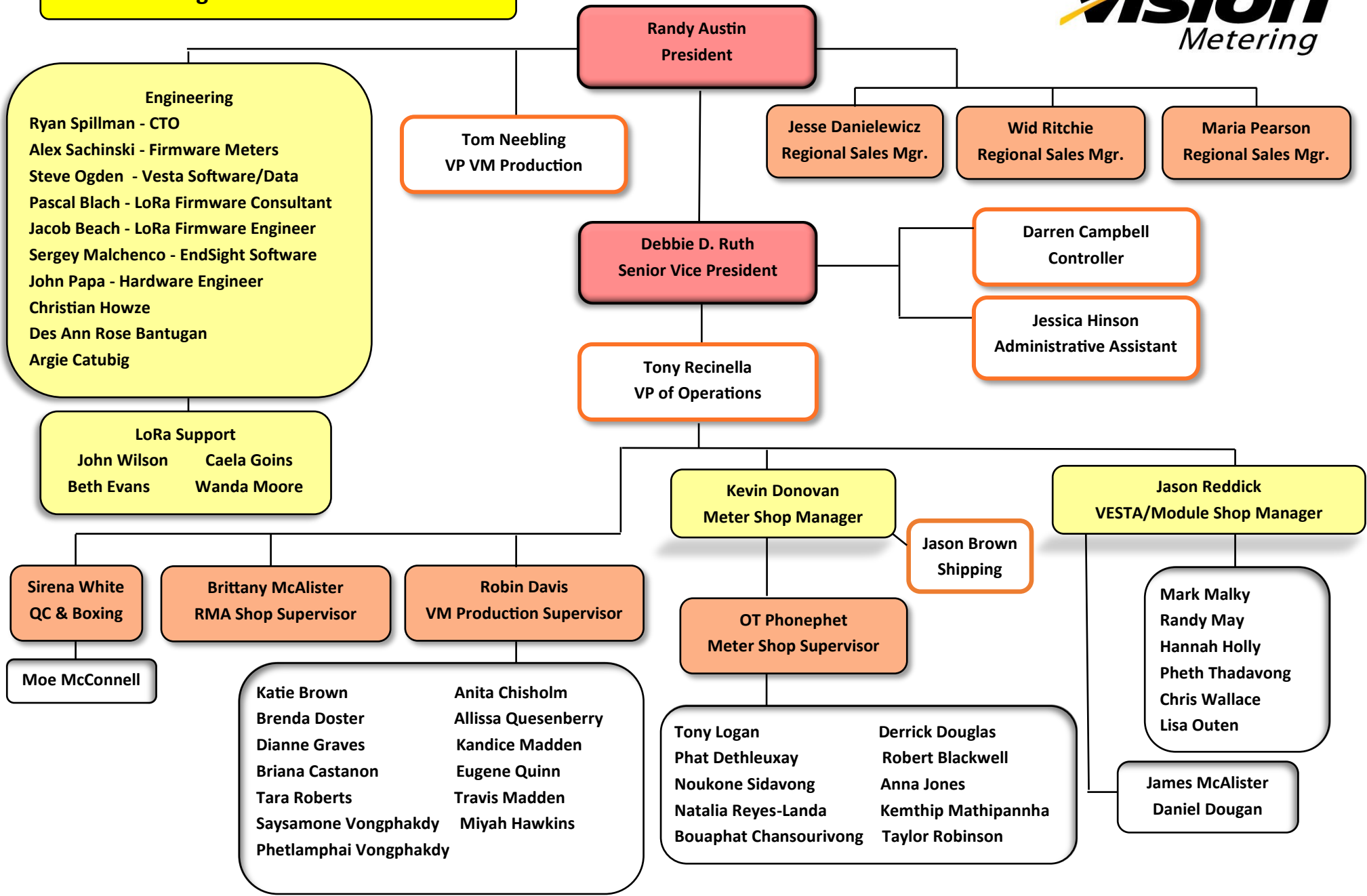


Wid Ritchie, Regional Sales Manager Wid is a utility industry professional with more than 30 years of experience spanning electric and gas operations. Over the course of his career, he has developed deep expertise in utility processes, customer relations, and operational support. For 10 years, Wid served in customer service management, where he successfully led teams, improved service delivery, and strengthened customer satisfaction. In May 2025, he transitioned into sales with Vision Metering, where he applies his industry knowledge and customer-focused approach to deliver innovative metering solutions that help utilities achieve their goals.

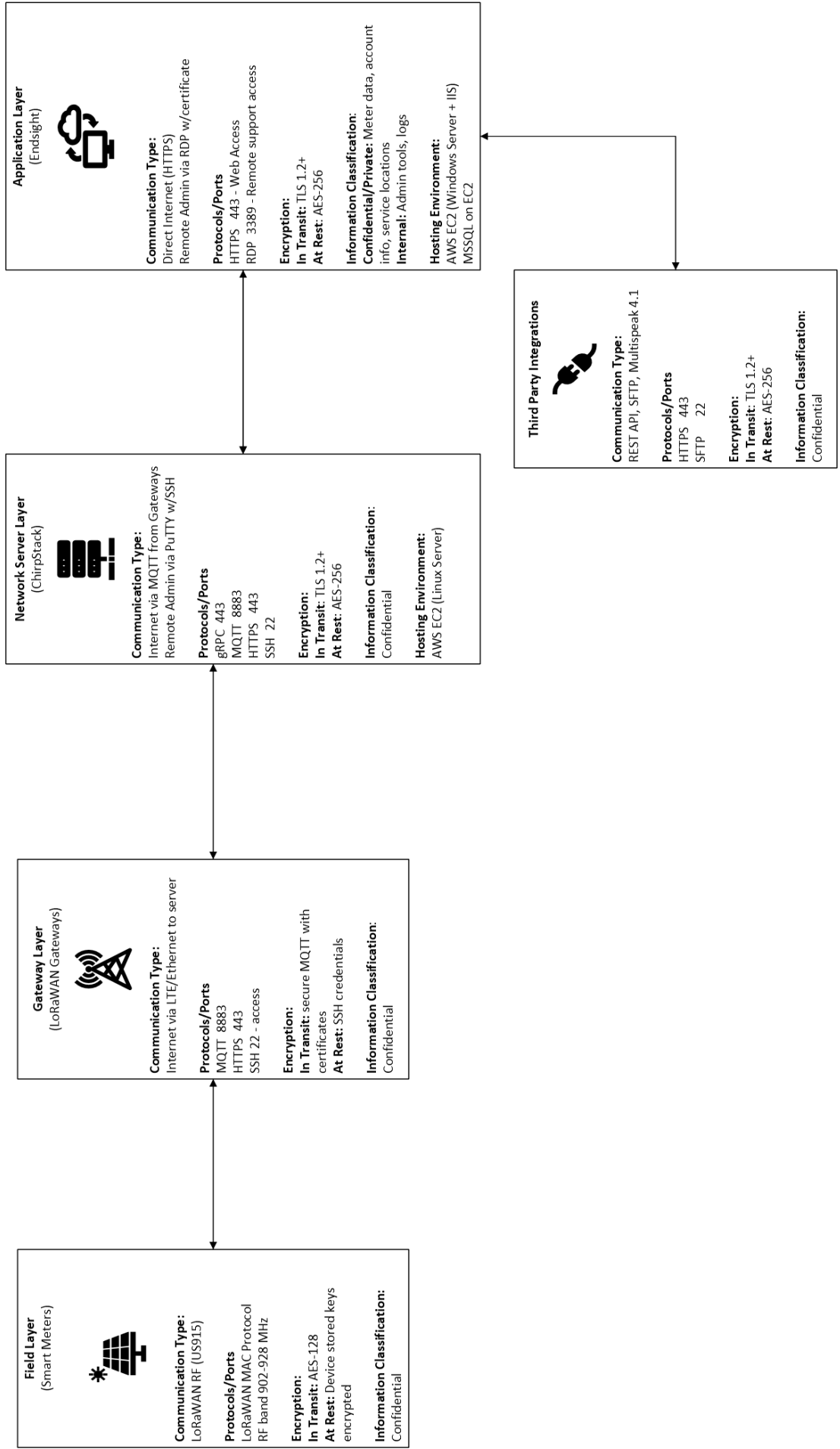


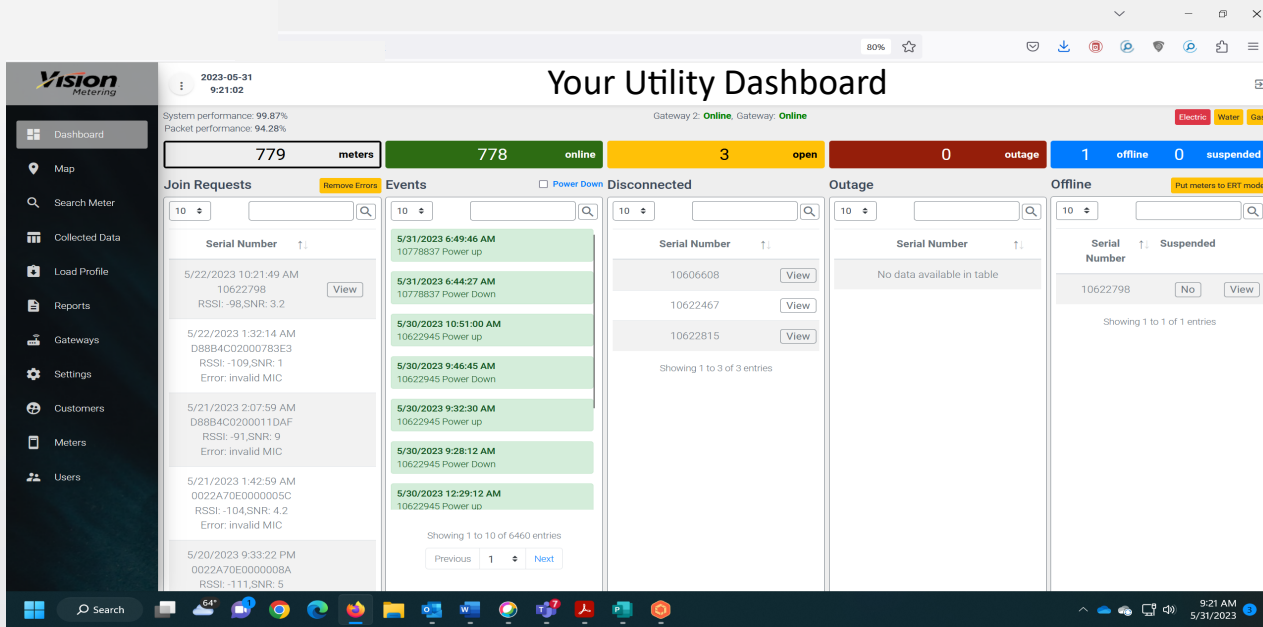
Maria Pearson, Regional Sales Manager – Maria Joined Vision Metering in 2017 as Inside Sales Support both International and US Customers. With a background of Customer service, and Photography, Maria brings a unique and diverse skills to our Vision Team. As a Regional Sales Manager, she excels in giving our customers the best support possible. As she continues to build relationships with the utilities and ensures customer satisfaction, she presents our AMI solution using LoRa, demonstrates our EndSight software, attends conferences and displays our various products, constructs proposals for utilities based on their needs, accurately records orders and programming specifications, and trains utilities on functionality of our software.

Organizational Chart



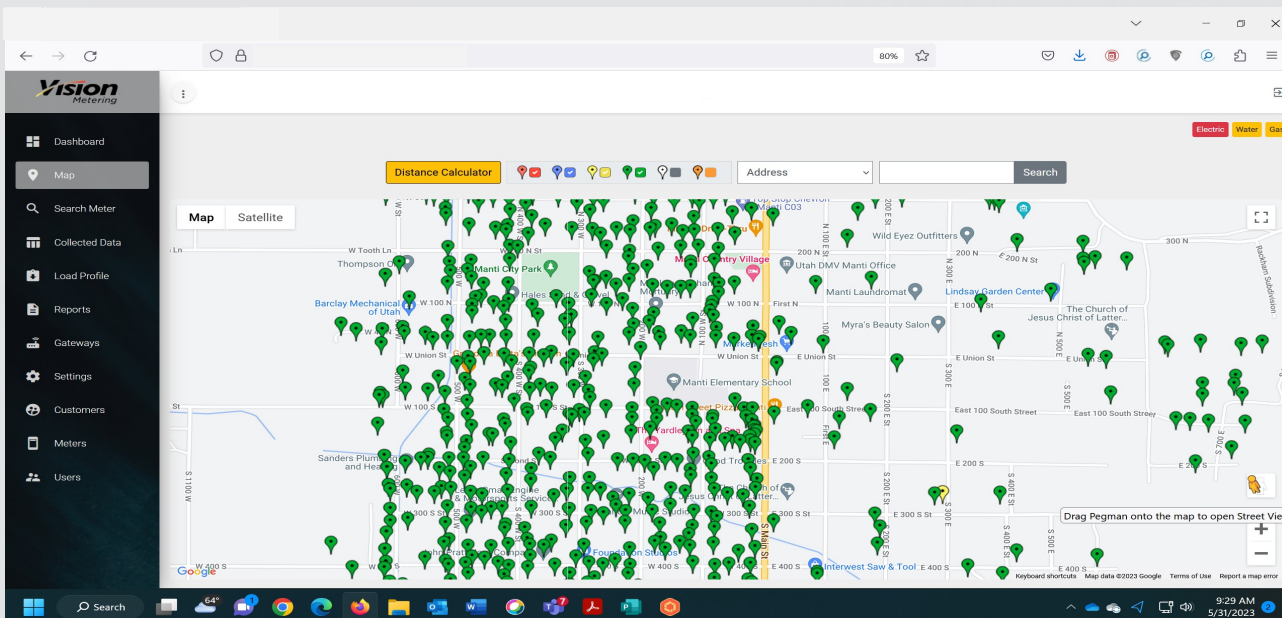
LoRa System Network Diagram

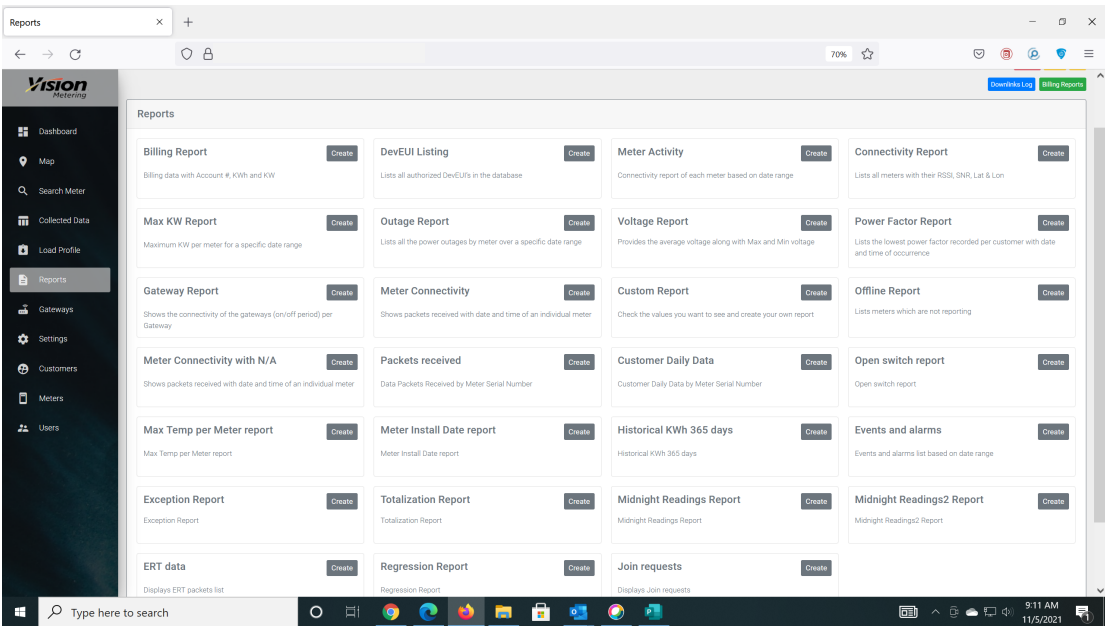




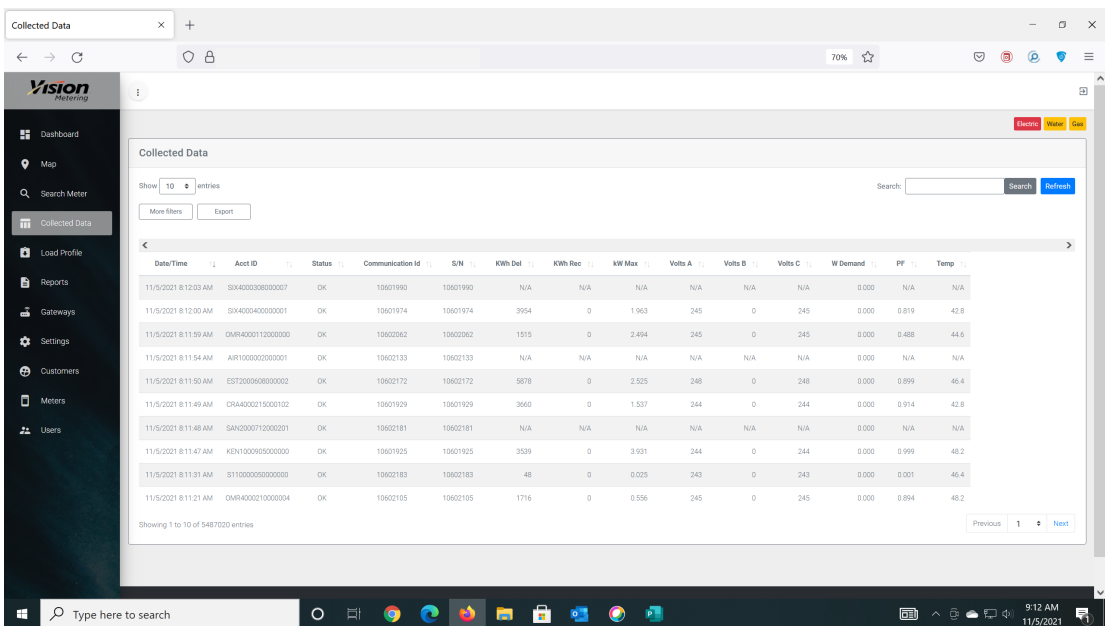
Endsight Cloud is provided as a Software as a Service (SaaS) Platform and hosted in the AWS cloud. The Dashboard above gives a visual indication of the system’s health at a glance. It performs as an Electric, Gas, Water and Streetlight platform. The system uses a MS SQL Server database and is hosted in three different server locations throughout the AWS system. With Endsight Cloud, you can monitor every device on your system with 5 or 15 minute data, open and close switches, poll meter data, perform Demand Resets and put meters into Load Limiting mode. The system is very easy to use and is intuitive for the user to follow. Endsight is integrated into many Billing Systems like NISC, SEDC, TylerTech and many others. Endsight can be integrated into any billing system.

The map below shows all meters on the system. If green, they are communicating regularly. If yellow the switch is open. If Blue the meter is not communicating, and if red there is a power outage. It serves as a visual Outage Management System. You can click on any pin and get the meter’s location and move directly to the meter details page.

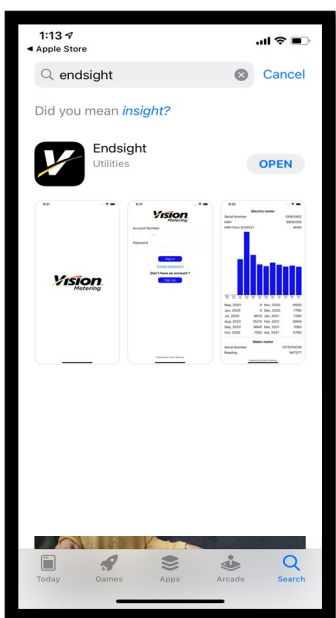




There are many canned reports that allow the presentation of data. Reports can be added as requested and data presented in a way for customers to easily follow. There are reports that allow you to present data to a customer complaining of a high bill that shows how much energy is being used every day.



The Collected Data screen shows data as it is being collected from each individual meter. You can sort this data based on individual meters and see the history of collected data for the last six months.



Utility Apps are available for Apple and Android via their app stores that can be given to individual customers to show consumption history and almost real time consumption. The data can be delayed by as much as 15 minutes as the meters only report every 15 minutes. The Apps will be configured with the utility's logo and pricing information can be displayed if desired by the utility. Data can be displayed for Electric, Gas & Water.



LoRa's worldwide footprint

LoRa®

AMI 2.0 is Here!

Vision Metering



Electric, Water, Gas & Streetlights

Simplify Smart Metering

LoRa AMI System



A very robust and flexible solid state meter with all functionality included at no extra charge. Assembled in the US with production since 2008.

- ◆ Forms 1S, 2S, 12/25S available with 200 amp switch
- ◆ All meter forms are available
- ◆ Switches for Class 320 available in 2024
- ◆ Accuracy better than 0.2%
- ◆ Last Gasp capacitors good for 20+ seconds
- ◆ 400 Event Log
- ◆ Time of Use
- ◆ 12 Channels of Load Profile
- ◆ Net Metering
- ◆ 4 Quadrant Metering
- ◆ Reactive & Demand
- ◆ All LoRa meters are time synced at midnight and immediately after a power outage
- ◆ Alerts and Alarms
- ◆ 32 digit security key
- ◆ Available with Cat M1 Modems on Verizon AT&T & T-Mobile
- ◆ Vision 2020 programming software available with purchase of meters
- ◆ 2 Year warranty on all meters
- ◆ ANSI C12.1 (2022), C12.18 & C12.19 Compliant

LoRa is the most Flexible AMI System Available

LoRa is a long range Internet of Things (IoT) system designed for the ever expanding IoT. It is an open system that allows anyone to manufacture devices which can communicate over a LoRaWAN® network. The openness removes the hand-cuffs that restrict companies to a dedicated vendor.

With LoRa, utilities can design their system to facilitate communicating with Electric, Water, Gas, Streetlights, Asset Tracking and any other monitoring and control system all on the same network. Transformer temperature monitoring, load control devices and demand management systems can all coexist within LoRa.

LoRa is designed for low power, long range applications which are well suited for AMI. It operates in the 900 Mhz ISM bands but the technology allows its signals to transmit above the noise in these bands. Vision's system transmits a maximum of 42 bytes at just under 400 ms using one watt of power (30dbm) radios. LoRa allows meters and other devices to communicate up to 20 miles.

The LoRa Alliance is comprised of over 500 companies all working in concert to develop the absolute best IoT system in the World. The technology deployed by LoRa is second to none and creates independence for its users. There are no fees to the LoRa Alliance or Semtech associated with the use of the technology.

LoRa is scalable to the size of your requirement. The 64 channel gateways can receive up to 12,000,000 messages per day. Gateways are available from multiple manufacturers. Any system other than LoRa will handcuff you to a single vendor for 15 to 20 years.

The Vision LoRa AMI System has been stress tested to 500,000 devices with ample room to grow. Throughout the world, 25 Billion devices are expected to use LoRa in 2025. New manufacturers with new ideas of how to use the technology are emerging daily.

Join the LoRa revolution and expand your horizon!

AMI 2.0 with LoRa®



Gas Meter



Electric Meter



Water Meter



Asset Tracker



64 Channel Gateways



Smart Street Light

Connect via



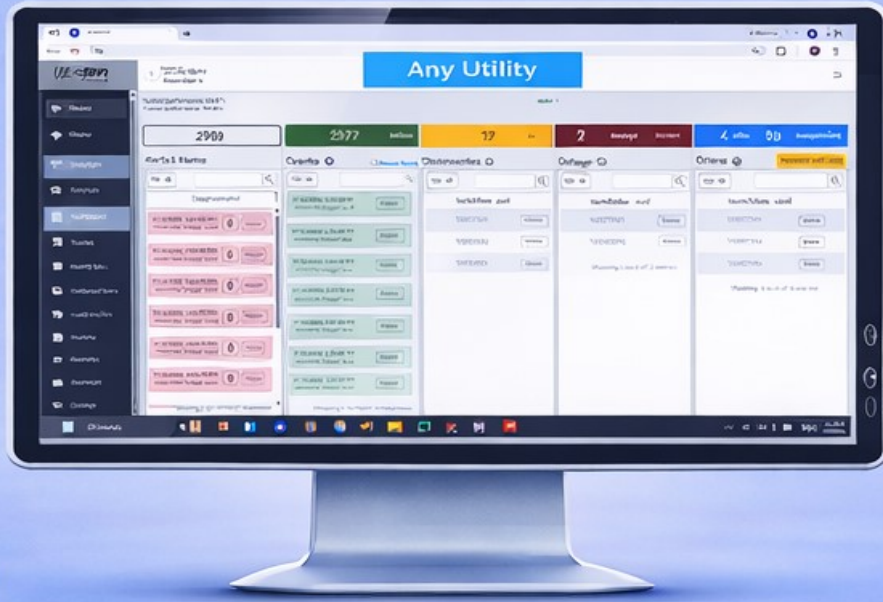
Fiber



Ethernet



Cellular



Assembled in
USA



ENDSIGHT CAPABILITIES

- ◆ Simple Dashboard providing system health and operation at a glance
- ◆ Open and Close switches
- ◆ Programmable Load Limiting
- ◆ Location map showing all meters and their current state, online, offline, power outage and switch status
- ◆ Outage Management System by distribution transformer and feeder
- ◆ Reporting Capabilities with more than 16 reports as well as the ability to custom design a report
- ◆ Custom API for interfacing with billing software including MultiSpeak connectivity
- ◆ California Electric Metering Protocol available
- ◆ Transformer Loading Tools
- ◆ Dashboards for Electric, Water, Gas, Streetlights and Asset Tracking
- ◆ View collected data as received
- ◆ Outage and Alarm Notification sent by email or text as they occur
- ◆ Load Profile available on all meters and included at no additional charge
- ◆ Search database for devices by Account Number, Meter Serial Number, Address and Customer Name
- ◆ Power over Ethernet (PoE) with Battery Backup
- ◆ Every packet delivered to the system includes KWh delivered and received, KW, KVARh, KVAR, volts and amps on all three phases, power factor, frequency and meter temperature.

The screenshot displays the Vision Metering dashboard interface. At the top, it shows the date and time (2024-07-11 12:48:35) and the title "Your Utility". Below this, system performance metrics are shown: System performance: 100.00% and Packet performance: 94.45%. The main dashboard area is divided into several sections:

- Status Summary:** Shows 1237 meters, all online. It also displays 2 open switches, 0 outages, 0 suspended, 0 offline, and 0 suspended.
- Alerts & Alarms:** A list of tamper alerts from 7/4/2024, including entries for meters 10763222, 10763210, 10763286, 10763201, 10763289, and 10763183.
- Events:** A list of power quality errors from 7/11/2024, including entries for meters 10762555 and 10762555.
- Disconnected:** A table showing serial numbers 10762106 and 10763025.
- Outage:** A table with no data available.
- Offline:** A table with no data available.

The dashboard includes a sidebar with navigation options: Electric, Water, Gas, Streetlight Controller, Dashboard, Tools, Map, Search Meter, Collected Data, Load Profile, Reports, Gateways, Settings, and Customers. The bottom of the screen shows a Windows taskbar with various application icons and the system clock (12:48 PM 7/11/2024).

Metering for AMI

Available Communications

Cat M1 Modems

LoRaWAN®

Ethernet/WiFi

Bluetooth

Modbus



The Spirit Meter by Vision is a powerhouse of capabilities that provides the ultimate information utilities want to properly manage their system. It all starts with a PIC 32 Dual Core Cortex M4 Arm microcontroller which has an extremely high sampling rate. The sampling rate provides measurement up to the 31th harmonic with a very accurate voltage and current measurement. This gives the meter an accuracy greater than 0.1%. 19,900 baud optical port communications.

With a significantly faster processor and increased memory, the meter can achieve greater storage of data. This allows for 32 channels of Load Profile along with capturing metering data more frequently. The increased sampling rate will provide precise accuracy and an abundance of data along with an increase of measurable quantities.

Every appliance has a unique harmonic signature when it starts and runs. Signature analysis of appliances, water heaters, air conditioners and other significant loads are all possible. This will give the utility a much improved glimpse of when customers are using certain loads. The meter will be able to determine when an appliance starts and stops and also record energy usage in load profile. This will provide an accurate recording of appliance usage and energy consumption of loads and time of use within a residence or other establishment. This will be especially helpful with EV chargers and solar arrays.

Grid-Edge intelligence is also possible through an expansion connector that will provide a Linux operating system to improve Distributed Intelligence. With a surplus of inputs and outputs, the Spirit meter will be able to handle Distribution Automation initiatives.

32 Load Profile Channels

Time of Use

Power Quality

4 Quadrant Metering

Reactive (KVARh)

KVAh & KVA

Net Metering

KW, KVAR & KVA Demand

Harmonics Detection

Harmonics Graphing

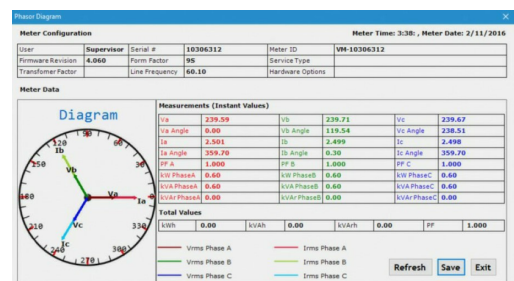
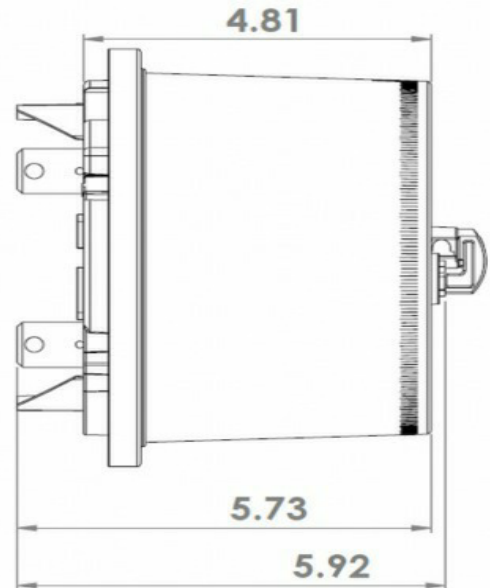
Event Log

Phasor Diagrams

Spirit Meter is not quoted as a part of this bid

SPECIFICATIONS

- Conforms to ANSI C-12.1 C12.18, C12.19, & C37.90.1, C-12.22 & DLMS
- 120-600 VAC Input Voltage
- 32 Channels of Load Profile 1, 5, 15, 30 & 60 minute intervals
- Time of Use
- Demand, KW, KVAR & KVA
- Reactive Metering
- Four Quadrant Metering
- Event Log
- Delivered, Received and Net Metering
- Alternate Mode with programmable display values
- Accuracy Class +/- 0.1%
- Measures Harmonics to the 31 harmonic
- Designed for 20 Year Life
- Battery options for Display, Ram, and Clock
- Continuous Instantaneous KW
- 50/60 Hz +/- 5%
- Powered by PIC 32CX Dual Core M4 Meter microcontroller
- 200 Amp disconnect Switch Option for Forms 1S, 2S, & 12S
- 30 Digit User Defined Security Key
- -40 to +85 Degree C Operation
- 5 to 95% Relative Humidity
- Functions with Itron's MV90 System.
- Code Numbers assignable to Display Values
- All plastic materials meet or exceeds UL Requirements
- Optical port communications at 19,900 Baud, very fast
- Magnetically Shielded current transformers are optionally available



XT Meters

TIME TESTED UTILITY PROVEN



INCLUDED FUNCTIONS

- Time of Use
- KW & KVAR Demand
- Continuously Cumulative Demand
- 12 Channels of Load Profile
- Net Metering
- Reactive Metering
- Four Quadrant Metering
- 400 Entry Event Log
- Voltage Power Quality



The Vision XT meter platform is a robust, feature-rich solution that includes all functions at no additional cost. This meter has been in production since 2012 and supports all meter forms from 1S to 45S. The electronics is the same for all forms with the primary difference being the meter's base configuration. This meter is designed to withstand 20 years in the field while maintaining great accuracy. The XT meter is deployed in very adverse locations like Alaska -40 degrees C and the Philippines at +85 degrees C.

All XT meters are programmable using Vision's 2020 software, which is provided free of charge with meter purchases. The user is capable of programming all configurable functions in the meter. The XT platform supports various communication modules, including Landis + Gyr's Airpoint (comparable with Itron ERT's), Vision's Data on Demand, LoRa, Cat M1 & 4G modem meters, Satellite and also works with Amazon Sidewalk. Other third-party modules can also be installed.

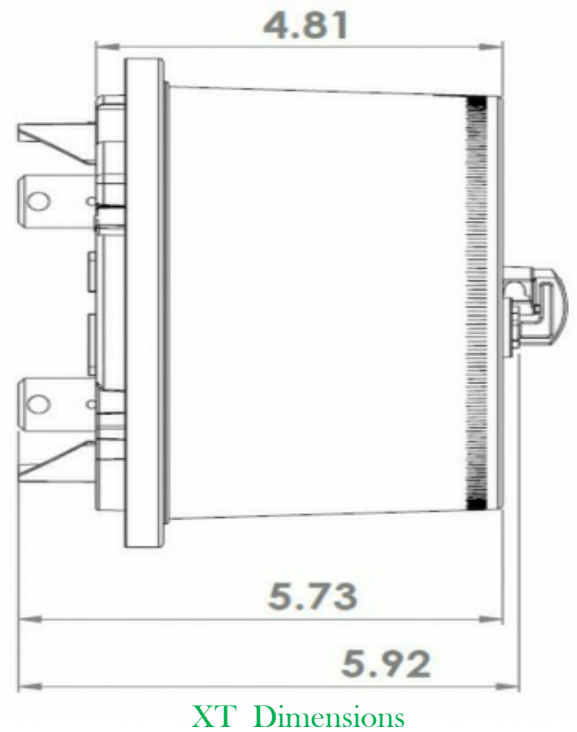
Vision meters adhere to ANSI standards, including C12.1, C12.18, C12.19, C12.22 and C37.90. Additionally, Forms 2S, 12S, and 16S are available in UL-listed versions. Regardless of the form, all XT meters operate on the same firmware version.

Meters equipped with Cat M1 or 4G modems can be read and programmed using Primestone's Primeread, Itron's MV-90, Vision's 2020, and Endsight software. Select meter forms (1S, 2S, and 12S) are also available with a 200-amp disconnect switch. For enhanced safety, meters with this switch monitor secondary voltage to prevent closing the switch when voltage is present on the secondary side.

The XT meters are constructed using high-quality UV stabilized Polycarbonate plastics for the base, cover and bezel. The bezel is transitioning from grey to white to reduce internal heat. While batteries are not used in modem or LoRa meters, they are available if desired.

GENERAL XT SPECIFICATIONS

- ANSI C-12.1 C12.18, C12.19, C12.22 & C37.90.1 Compliant
- Utilizes Magnetically Shielded Current Transformers for Current Measurement
- 120-480 VAC Input Voltage
- LCD Display is soldered to the board
- 12 Channels of Load Profile
- Time of Use
- Demand, KW & KVAR
- Reactive Metering
- Four Quadrant Metering
- 400 Event Log
- Delivered, Received and Net Metering
- Alternate Mode with programmable display values
- Accuracy Class 0.2%
- Shipped with Accuracy better than +/- 0.15%
- Designed for 20 Year Life
- Battery options for Display, Ram and Clock
- Continuous Instantaneous KW
- Uses Vision 20/20 Software for Programming (included with the purchase of meters)
- 50/60 Hz +/- 5%
- Utilizes Maxim Teridian Technology
- 100 & 200 Amp Disconnect Switch Option
- 30 Digit User Defined Security Key
- -40 to +85 Degree C Operation
- -5 to 95% Relative Humidity
- Functions with Itron's MV90 System.
- Code Numbers assignable to Display Values
- All plastic materials meet or exceeds UL Requirements



LCD Display Layout



Vision 2020 Programming Software

Phasor Diagram

Meter Configuration Meter Time: 3:38, Meter Date: 2/11/2016

User	Supervisor	Serial #	10306312	Meter ID	VH-10306312
Firmware Revision	4.060	Form Factor	95	Service Type	
Transformer Factor		Line Frequency	60.10	Hardware Options	

Meter Data

Diagram

Measurements (Instant Values)

Va	239.59	Vb	239.71	Vc	239.67
Va Angle	0.00	Vb Angle	119.54	Vc Angle	238.51
Ia	2.501	Ib	2.499	Ic	2.498
Ia Angle	359.70	Ib Angle	0.30	Ic Angle	359.70
PF A	1.000	PF B	1.000	PF C	1.000
kW PhaseA	0.60	kW PhaseB	0.60	kW PhaseC	0.60
kVA PhaseA	0.60	kVA PhaseB	0.60	kVA PhaseC	0.60
kVArPhaseA	0.00	kVArPhaseB	0.00	kVArPhaseC	0.00

Total Values

kWh	0.00	kVAh	0.00	kVArh	0.00	PF	1.000
-----	------	------	------	-------	------	----	-------

Refresh Save Exit

File Phasor Diagram Meter Error List Application Settings Help

Configuration Settings Display AMR/AMI Keys TOU Load Profile Event Log Manage Users

Meter Date: 3/15/2016 Meter Settings # 0 Serial Number: 10133000

Meter Time: 3:53:09 PM DST ON Firmware Version: 4.051 ERT Number: 0

Meter Temp: 23.5°C Update Firmware Meter Form: 25

TOU OFF Resets: 161 Battery - Not Installed

Cumulative Values

Cumulative Demand: 0.000 kWh Switch - Not Installed

Cont. Cumulative Demand: 0.000 kWh Enable

Demand Values Maximum Current 1 Set

Max kW : 0 Summation Values

Max kVA : 0 kWh del : 0.000

Max kVAr : 0 kVAh del : 0.000

kVArh del : 0.000

Read Meter Meter ID NX 10133000 Validate Reset Meter

Include Self-Read Data Program Meter ID Reset Values Program Meter

Vision Complete!

KONA Mega IoT Gateway

High Capacity LoRaWAN™ Gateway for Wide Area Deployments

TEKTELIC's KONA Mega IoT Gateway provides network operators with a carrier grade product for the deployment of LoRaWAN™ Internet of Things networks. The Gateway enables massive scalability in a compact form factor by supporting up to 12 million messages per day.

It is ideal for public and private network operators that require Full Duplex, multiple Rx and Tx Channels, cost effective and reliable LoRaWAN™ gateways to maximise their network investment for years to come.

Product Differentiators:

- High availability carrier grade design with support of in-service configuration and software updates.
- Environmentally hardened aluminium enclosure fully tested to withstand extreme temperature conditions.
- Full duplex operation making all receive and transmit channels available simultaneously.
- Excellent isolation between the Tx and Rx bands as well as out of band rejection of Cellular and Paging networks.
- Day-One scalability with support of up to 12 million received messages per day.
- Easy to deploy supporting different backhaul and power options.
- Fully integrated with the broader eco-system of LoRa™ network servers and sensors.



Key Features

Frequency Duplex 72 Rx / 4 Tx

Dual Antenna Support for Rx Diversity

Double Simultaneous Tx Channels

High Linearity LNA/Receiver

Integrated Bandpass Filter

Precise Network Synchronization (GPS)

Integrated GPS Holdover

1 Watt (30 dBm) Tx Power

Geolocation Support

Hardened Carrier Grade Enclosure

Integrated Cellular 3G/4G Modem

Copper and Optical Ethernet Backhaul

Rated IP67 Enclosure

NA 915 ISM Band



TEKTELIC
communications

KONA Mega IoT Gateway

High Capacity LoRaWAN Gateway for Wide Area Deployments

Technical and Functional System Specifications

Mechanical Parameters

MTBF	450,000 hours
DC Power Consumption	< 40 W
Operational Temperature	-40°C to +55°C
Operational Humidity	10% to 100% Condensing
Ingress Protection	IP67
Size	222.2 x 267.6 x 101 mm
Weight	5 kg
Volume	5.5 L

Interfaces

Ethernet Backhaul	RJ-45
GPS	N-Type
Cellular Backhaul (3G/4G)	N-Type (Optional)
Hybrid Optical and DC Power	Harting Hybrid (Optional)
LoRa Antenna (2 ports)	N-Type (2nd Port Optional)
Power	-48VDC or PoE++ (802.3bt)

Regulatory Compliance

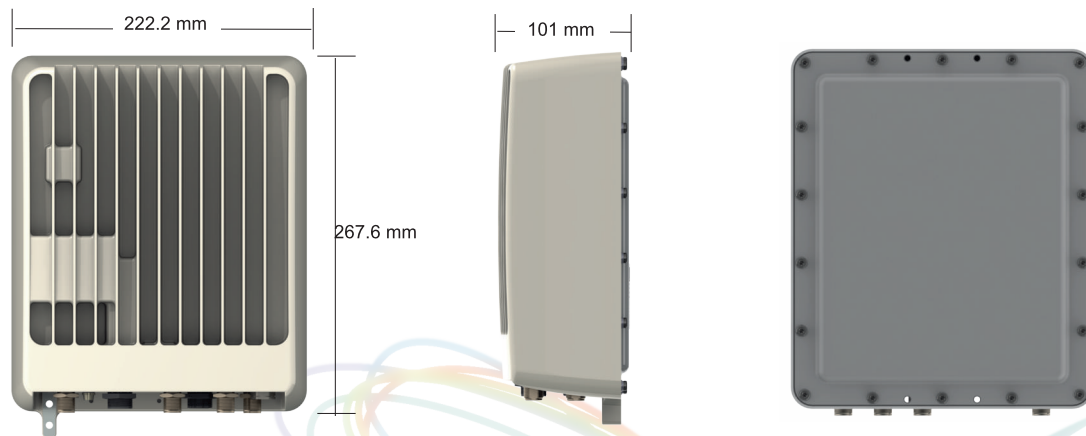
Safety	UL 60950-1 (US/C)
Environmental	ETSI EN 300 019-2-1, 300 019-2-2 ETSI EN 300 019-2-3, 300 019-2-4
Regulatory	FCC Part 15.247, 109, 209

LoRa Radio Parameters

ISM NA Band	902 - 915 MHz (Rx) 923 - 928 MHz (Tx)
Tx Power	2 x 1W (2 x 30 dBm)
Rx Sensitivity	-142 dBm (SF12, 293 bits/sec)
Rx Noise Figure	3.5 dB
Rx Linearity	-10 dBm
Rx Dynamic Range	70 dB Analog, 100+ dB Digital
Tx to Rx Isolation	75 dB

Software and Management

Tools	Access Control List management 3G/4G Parameter Configuration System Health Monitor Flight Recorder Radio Configuration and Control Remote Software Upgrade Active and Passive image management Factory image provisioning
Networking	DHCPv4 client TFTP server HTTP server Firewall and Access Lists



Specifications subject to change without notice.

TEKTELIC Communications is a premier supplier of best-in-class LoRaWAN™ IoT Gateways, Sensors, and custom applications. These elements combined provide a powerful end-to-end solution that can be easily, quickly, and cost effectively deployed to address the most demanding IoT challenges.

For more information please visit www.tektelic.com

TEKTELIC
communications

LoRa Alliance Page 180 of 311
45

LoRa Gateway and Sentry 250 Installation Guide



Kona Mega Gateway Installation

The Kona Mega Gateway is designed to be mounted to a vertical pole or wall using a mounting bracket. The mounting bracket is a single part that bolts to the back surface of the Gateway using supplied hardware. The Gateway module must be oriented with the connector bulkhead facing down. Ensure that the structure to which the Gateway is being mounted is secure and able to support a dead load of at least 300lbs (136kg). The area below must be free of any obstructions to allow for proper cable placement.

Attaching the Mounting Bracket:

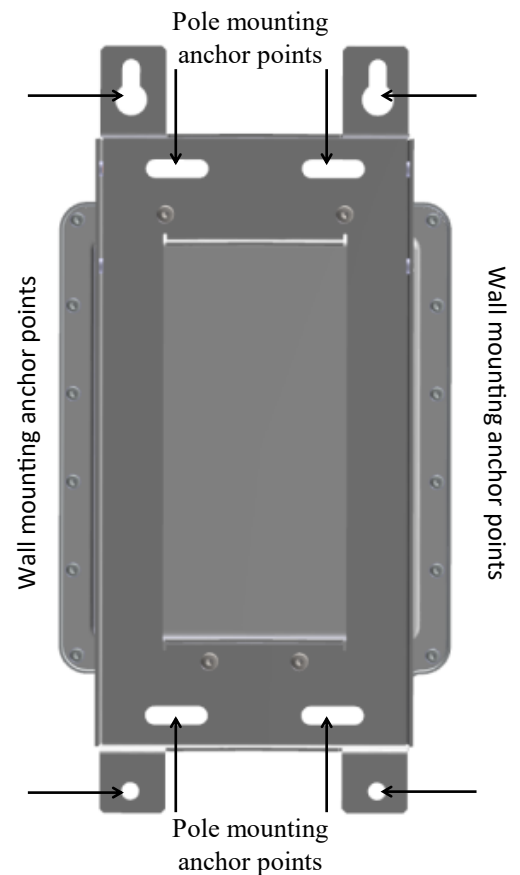
1. The mounting bracket has 4 protrusions to allow it to only attach to the Gateway in one orientation. Insert those into the Gateway module.
2. Bolt the mounting bracket to the Gateway module using the supplied bolts and washers.

Wall Mounting Procedure:

1. Install 2 site supplied M8 bolts into the wall at 139.7 mm (5.5") center spacing, leaving the bolt heads protruding with a 2mm gap from the wall surface
2. Hang the Kona Mega Gateway with bracket from the two bolts by inserting the keyhole slots at the top of the bracket onto the 2 bolts and tightening the bolts
3. Insert and tighten two additional site supplied M8 bolts through the holes at the bottom of the bracket.

Pole Mounting Procedure:

While temporarily supporting the Gateway with bracket, install the two site supplied pipe clamps, one through each of the upper and lower slotted clamp mounting points.



Kona Mega Gateway Installation

The Kona Mega Gateway is designed to be mounted to a vertical pole or wall using a mounting bracket. The mounting bracket is a single part that bolts to the back surface of the Gateway using supplied hardware. The Gateway module must be oriented with the connector bulkhead facing down. Ensure that the structure to which the Gateway is being mounted is secure and able to support a dead load of at least 300lbs (136kg). The area below must be free of any obstructions to allow for proper cable placement.

Attaching the Mounting Bracket:

1. The mounting bracket has 4 protrusions to allow it to only attach to the Gateway in one orientation. Insert those into the Gateway module.
2. Bolt the mounting bracket to the Gateway module using the supplied bolts and washers.

Wall Mounting Procedure:

1. Install 2 site supplied M8 bolts into the wall at 139.7 mm (5.5") center spacing, leaving the bolt heads protruding with a 2mm gap from the wall surface
2. Hang the Kona Mega Gateway with bracket from the two bolts by inserting the key-hole slots at the top of the bracket onto the 2 bolts and tightening the bolts
3. Insert and tighten two additional site supplied M8 bolts through the holes at the bottom of the bracket.

Intended wall mounted anchor points are circled in red.

Pole Mounting Procedure:

While temporarily supporting the Gateway with bracket, install the two site supplied pipe clamps, one through each of the upper and lower slotted clamp mounting points.

Intended pole mounted anchor points are circled in blue.



Kona Mega Ground Cable Installation:

1. Lightly abrade the surface of the casting ground area with a fine wire brush to remove the oxide layer.
2. Use a clean cloth to remove any debris from this surface.
3. Immediately coat the contact surface with a thin layer of anti-oxidant compound.
4. Install the ground cable through its 2-hole lug onto the chassis ground point using the two supplied 1/4 - 20 x 1/2" bolts with flat and star lock washers, torqued to 92 lbf in (10.4 Nm)



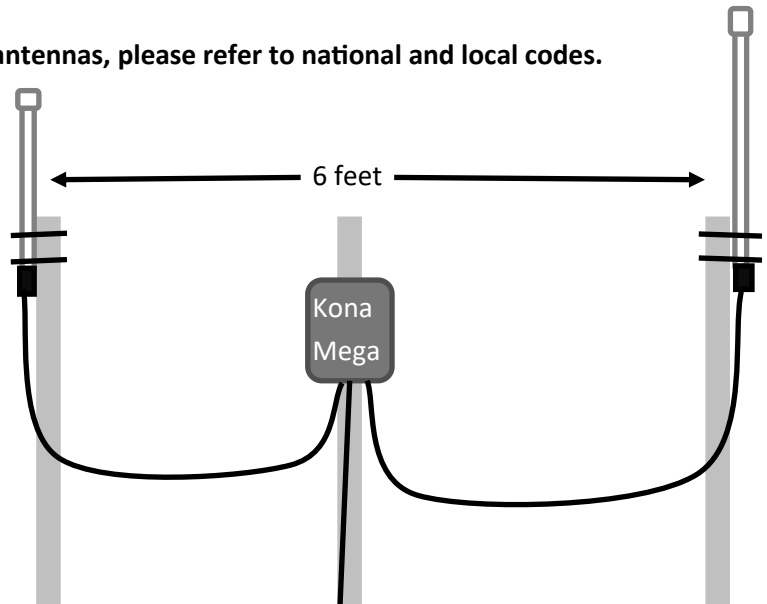
Ensure the Gateway's Earth Ground connection is properly terminated prior to the connection of any other interfaces

Antenna Installation

For proper installation and grounding of the antennas, please refer to national and local codes.

Determine where the antennas will be mounted.
Antenna mountings need to be at least 6ft apart but not more than 20ft apart.

The longer antenna connects to Antenna Port 0 and the shorter antenna connects to Antenna Port 1.



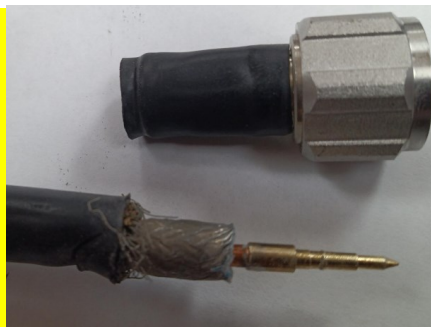
To Sentry 250 at base of mounting location

Weatherproofing the Antenna Connections

1. After connecting the cable to the gateway, wrap the connection with one layer of 3/4in (19mm) vinyl tape starting 1in (25mm) beyond the connector and wrap past the clamping nut but short of the base.
2. Cut a length of butyl mastic tape that will allow the tape to extend 2in (51mm) from the first layer of vinyl tape to the base of the antenna when applied lengthwise. Multiple pieces of lengthwise tape may be needed to ensure complete coverage of the connection.
3. Wrap one half-lapped layer of 2in vinyl tape starting 1in below the butyl mastic tape wrapping to the base. Repeat to apply a second layer.



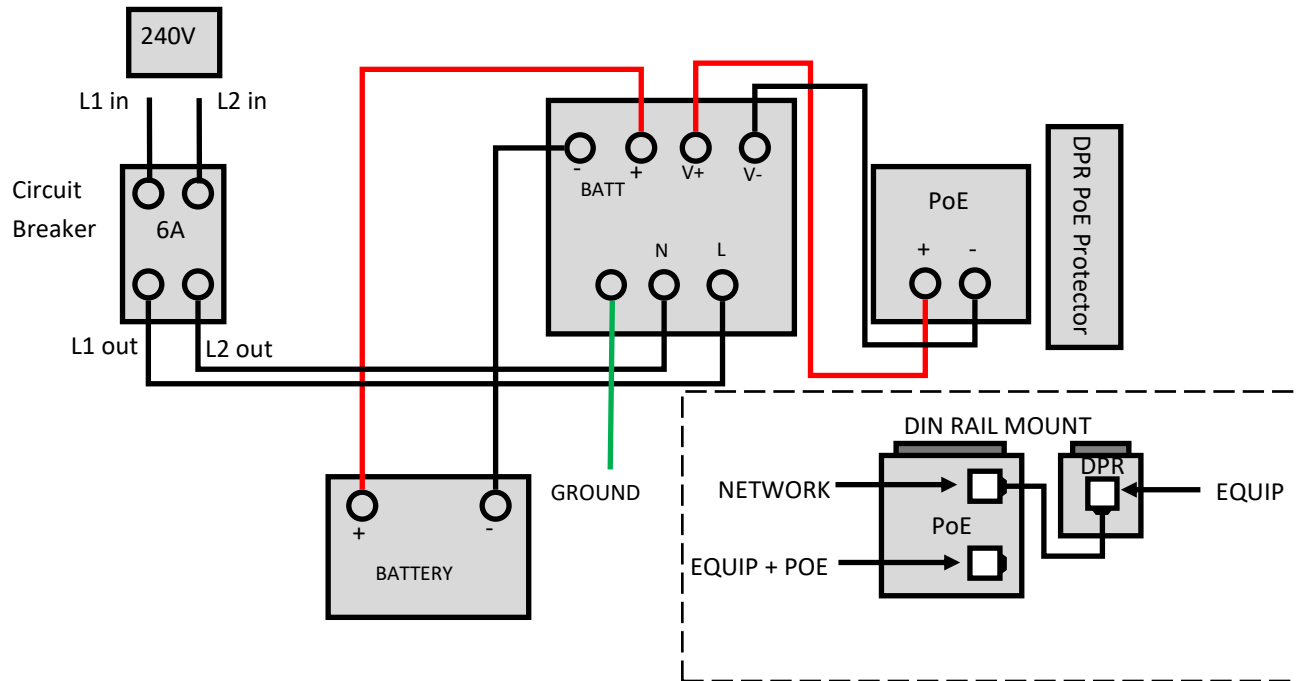
Antenna cable connections should consist of gentle bends. Bending the cables at sharp angles can result in breaking the cable causing corrosion and deteriorated reception.



Noticeable crimping along the insulation is an easy indication of too sharp of a bend and replacing the cable is recommended. The ability to remove the nut from the cable is a more dire indication that the cable was bent too far and replacing the cable is recommended.

Sentry 250 Installation

Wiring Schematic Diagram



Mounting the Sentry 250

1. Install a site supplied M5 (or 10-32) bolt into the determined anchor point, leaving the bolt head protruding with a 2mm gap from the surface
2. Hang the Sentry 250 from the bolt by inserting the keyhole slot at the top onto the bolt and tighten the bolt.
3. Insert and tighten four additional site supplied M5 (or 10-32) bolts through the holes on the top and bottom of the box. Additionally, insert and tighten an M6 (or 1/4-28) bolt through the lower keyhole slot.

Routing Power Through the Sentry 250

1. The Sentry 250 provides three bottom ports for input power, input network, and output PoE. Determine how to best utilize these ports for the site
2. Connect the site power supply to the circuit breaker inside the Sentry 250.
3. Connect the site network ethernet cable to the DPR Shielded PoE Protector PoE jack labeled, "Line"
4. Insert an ethernet cable into the Procet PoE jack labeled, "Equip + PoE"
5. If including a battery back-up, place the battery in the housing and connect the battery to the DRC-100A
6. Connect the "Equip + PoE" ethernet cable to the ALPUFit Data Surge Protector beneath the Gateway

Safety:

- Installation, operation, and maintenance of the Gateway must only be performed by a professionally trained service technician who is aware of all hazards involved.
- The Gateway must be installed in a restricted access location (such that touching of the Gateway by non-service persons is not likely).
- All installation practices must be in accordance with the local and national electrical codes.
- Do not work on the system during periods of lightning activity.
- Ensure the ground connection of each piece of equipment is properly terminated prior to the connection of any other interfaces.
- The Gateway may become hot to the touch during normal operation at elevated ambient temperatures. The surface temperature of the Gateway may reach 90°C.
- Ensure that the Gateway, its antennas and supporting structures are properly secured to eliminate any physical hazard to people or property. The Gateway must be securely mounted according to the mounting instructions prior to any cable connection and operation.
- Do not locate antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, because they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes
- The Kona Mega Gateway is considered permanently connected equipment. The Protective Earth Ground connection (that is, the two-hole lug to chassis ground) is always required.
- The Kona Mega Gateway contains primary lightning surge suppression on the Direct DC power port, the Copper Ethernet port, the GPS antenna port and the LoRa RF antenna ports. The primary lightning protectors have the ability to bridge the interface isolation boundary during over-voltages. Ensure that the Protective Earth Ground connection is always in place.

References and Product Datasheets:

Kona Mega Gateway User Guide Version 2.14 available at support.tektelic.com

L-com AL-NMNFB Datasheet: https://www.l-com.com/Images/Downloadables/Datasheets/ds_AL-NMNFB-9.pdf

Meanwell DRC-100A Datasheet: <https://www.meanwell.com/Upload/PDF/DRC-100/DRC-100-SPEC.PDF>

DPR Shielded PoE Protector Datasheet: https://www.transtector.com/Images/Downloadables/Datasheets/DPR-F140_datasheets_US.pdf

SigmatTek SP12-55IT Spec Sheet: <https://securservercdn.net/72.167.241.46/zzu.fb0.myftpupload.com/wp-content/uploads/Spec-Sheet/SP-Series/SP12-55IT.pdf>

SigmatTek SP12-55IT Safety Data Sheet: https://securservercdn.net/72.167.241.46/zzu.fb0.myftpupload.com/wp-content/uploads/2020/02/SDS_2.pdf

Scotch Wireless Weatherproofing Kit WK-101 Instructions: <https://multimedia.3m.com/mws/media/6590280/scotch-wireless-weatherproofing-kit-wk-101.pdf?&fn=78-8129-9298-6.pdf>

Revision History

Version	Date	Editor	Comments
1.0	11/21/2021	S. Runde	First Release
2.0	8/29/2022	S. Runde	Updated Surge Suppressors
3.0	11/16/2022	S. Runde	Updated Surge Suppressors Removed Meter Socket from Diagram



Current Reports Available in EndSight.

We have written reports for most anything a customer can desire. Below is a list of these reports and some samples included.

Error Codes

Error Codes

Billing Report

Billing data with Account #, KWh and KW

Custom Billing Report

Sum of all kWh for all meters in a set period of time.

Zero Usage Report

Zero usage data with Account #, KWh and KW

DevEUI Listing

Lists all authorized DevEUI's in the database

Meter Activity

Connectivity report of each meter based on date range

Connectivity Report

Lists all meters with their RSSI, SNR, Lat & Lon

Max KW Report

Maximum KW per meter for a specific date range

Outage Report

Lists all the power outages by meter over a specific date range

Voltage Report

Provides the average voltage along with Max and Min voltage

Power Factor Report

Lists the lowest power factor recorded per customer with date and time of occurrence

Gateway Report

Shows the connectivity of the gateways (on/off period) per Gateway

Meter Connectivity

Shows packets received with date and time of an individual meter

Custom Report

Check the values you want to see and create your own report

Offline Report

Lists meters which are not reporting

Meter Connectivity with N/A

Shows packets received with date and time of an individual meter

Packets received

Data Packets Received by Meter Serial Number

Customer Daily Data

Customer Daily Data by Meter Serial Number

Open switch report

Open switch report

Max Temp per Meter report

Max Temp per Meter report

Meter Install Date report

Meter Install Date report

Historical KWh 365 days

Historical KWh 365 days

Events and alarms

Events and alarms list based on date range

Exception Report

Exception Report

Totalization Report

Totalization Report

Midnight Readings Report

Midnight Readings Report

Midnight Readings2 Report

Midnight Readings2 Report

Midnight Readings3 Report

Midnight Readings3 Report

ERT data

Displays ERT packets list

Regression Report

Regression Report

Join requests

Displays Join requests

Historical data report2

Historical Voltage and Current Data Report for 7 days or less

Hourly Packets Number Report

Hourly Packets Number Report

Not Assigned Meters Report

Not Assigned Meters Report

Meters by Cycle Day

Meters by Cycle Day

Downlinks Report

Downlinks Report

Demand Per Cycle Day Report

Demand Per Cycle Day Report

Last Valid Data Report

Last Valid Data Report

Power Outage Report

Power Outage Report

Billing Report with PF

Billing Report with PF

ERT Statistics Report

ERT Statistics Report

Billing Report with kVA

Billing Report with kVA

GPS Coordinates by Account

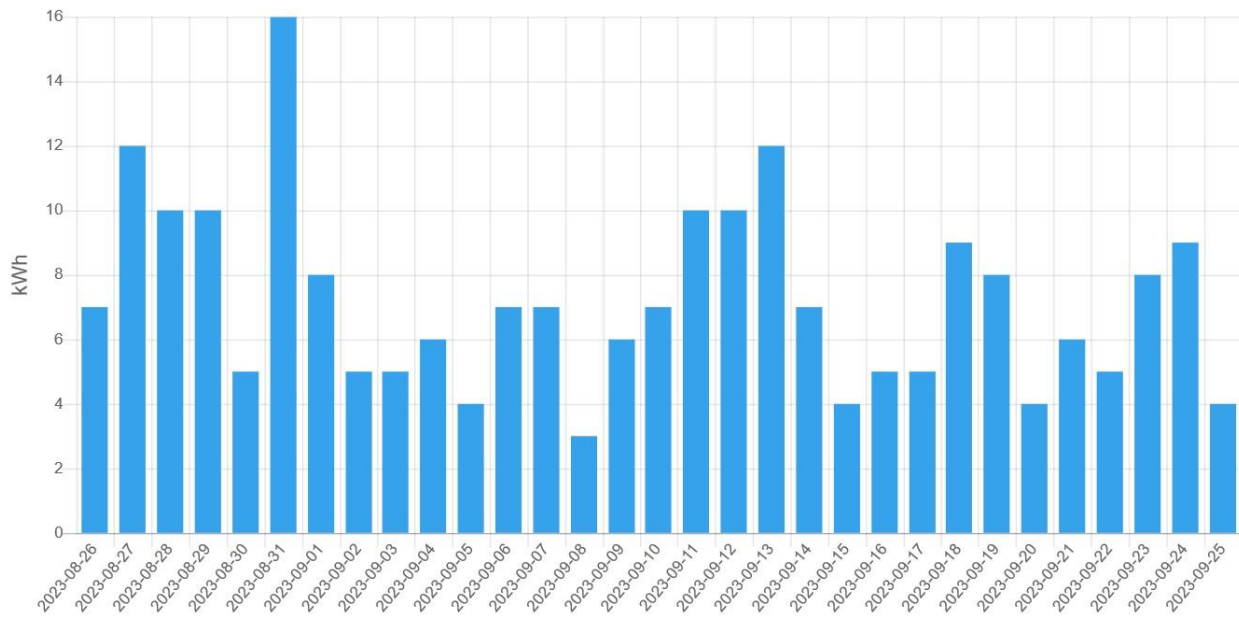
Firmware Versions Report

Firmware Versions report

©2019 Vision Metering. All Rights Reserved.

v 4.5

30 Day Customer Usage



This report is obtained from the Meter Data / Customer Information Screen. This allows customer service representative to show them their consumption for the past day, 30 days or 6 months. All other reports are generated from the Reports Tab in EndSight. This report was done specifically for the Customer Service Reps dealing with customers.

City of *****

Billing Report

	Account Id	Address	Meter Serial	Date/Time	kWh Del	kWh Rec	kW Max
1							
2	13062-3	5 Front St Unit	10797134	9/25/2023 6:36	32	0	1.305
3	13116-1	Pump Sta A ANI	10797135	9/25/2023 6:40	82	0	0.861
4	11583-1	Grid Iron,Wrang	10797136	9/25/2023 6:45	8	0	1.123
5	11646-1	730 Case Ave Fl	10797137	9/25/2023 6:43	2105	0	5.804
6	12803-1	Industrial Park,	10797138	9/25/2023 6:41	11	0	0.61
7	10616-2	304 1st Ave,Wr	10797139	9/25/2023 6:40	142	0	1.662
8	10188-2	404 Evergreen /	10797140	9/25/2023 6:44	3424	0	12.981
9	10034-3	916 Highfield St	10797141	9/25/2023 6:50	1318	0	8.491
10	10890-3	4 Mile Zimovia,	10797142	9/25/2023 6:34	4353	0	25.314
11	13052-1	SMB S End Grin	10797143	9/25/2023 6:36	125	0	1.338
12	11535-2	6 Mile Zimovia,	10797144	9/25/2023 6:39	1921	0	5.196
13	11455-2	7 1/4 Mile Zimo	10797145	9/25/2023 6:43	2573	0	10.318
14	10031-5	Airport,Wrange	10797146	9/25/2023 6:43	904	0	6.904
15	14304-1	107 3rd Avenue	10797147	9/25/2023 6:44	132	0	0.651
16	10115-5	650 Evergreen I	10797148	9/25/2023 6:41	1357	0	9.458
17	10078-1	711 Evergreen /	10797149	9/25/2023 6:44	1085	0	7.407
18	12012-16	404 Alaska Ave	10797150	9/25/2023 6:36	215	0	3.223
19	12295-1	1027 Zimovia H	10797151	9/25/2023 6:47	1630	0	8.7
20	11983-6	531 Etolin,Wrar	10797152	9/25/2023 6:43	2049	0	12.783
21	12119-6	820 Lemeiux,W	10797153	9/25/2023 6:42	1704	0	7.961
22	14303-1	2.6 Mile Zimovi	10797154	9/25/2023 6:44	2	0	0.655
23	10941-13	Nugget #7,Wrar	10797155	9/25/2023 6:28	814	0	9.454
24	10415-1	321 Front St St	10797156	9/25/2023 6:25	297	0	0.595
25	11011-7	Bloom's #14,Wr	10797157	9/25/2023 6:39	2045	0	9.916
26	12458-5	Inner Harbor 13	10797620	9/25/2023 6:49	0	0	0
27	12457-8	Inner Harbor 12	10797621	9/25/2023 6:40	0	0	0
28	12459-3	Inner Harbor 14	10797622	9/25/2023 6:41	11	0	0.022
29	12458-5	Inner Harbor 13	10797620	9/25/2023 6:49	0	0	0

Connectivity Report

This report shows which meters are connected to which gateways, the RSSI and SNR of each meter along with the Lat and Long of the meter

City of *****

Connectivity Report

Serial Num	Gateway	RSSI	SNR	Address	Latitude	Longitude	Packets	Date/Time
10797134	GW 1	-107		5.2 5 Front St U	56.47154	-132.387	93	9/25/2023 7:52
10797135	GW 1	-103		9.2 Pump Sta A	56.4717	-132.388	91	9/25/2023 7:40
10797136	GW 1	-101		8.2 Grid Iron, V	56.46736	-132.378	89	9/25/2023 7:51
10797137	GW 1	-103		7.5 730 Case A	56.4658	-132.376	90	9/25/2023 7:49
10797138	GW 3	-92		7 Industrial F	56.47387	-132.38	93	9/25/2023 7:41
10797139	GW 1	-101		6.8 304 1st Ave	56.47369	-132.381	90	9/25/2023 7:44
10797140	GW 2	-111		-4.5 404 Evergro	56.47724	-132.391	92	9/25/2023 7:50
10797141	GW 1	-109		0.8 916 Highfie	56.47323	-132.375	91	9/25/2023 7:50
10797142	GW 3	-111		-9 4 Mile Zimo	56.43425	-132.37	92	9/25/2023 7:50
10797143	GW 2	-104		4 SMB S End	56.47003	-132.381	93	9/25/2023 7:52
10797144	GW 2	-107		4 6 Mile Zimo	56.43426	-132.37	90	9/25/2023 7:40
10797145	GW 2	-98		10 7 1/4 Mile	56.43435	-132.37	93	9/25/2023 7:52
10797146	GW 1	-79		9.5 Airport, Wr	56.48616	-132.375	91	9/25/2023 7:49
10797147	GW 1	-93		12.5 107 3rd Av	56.48356	-132.389	92	9/25/2023 7:44
10797148	GW 1	-80		11.5 650 Evergro	56.48266	-132.391	88	9/25/2023 7:45
10797149	GW 1	-111		-4.5 711 Evergro	56.48449	-132.393	96	9/25/2023 7:44
10797150	GW 3	-107		6.8 404 Alaska	56.46814	-132.377	91	9/25/2023 7:51
10797151	GW 1	-83		10.5 1027 Zimov	56.46214	-132.377	94	9/25/2023 7:47
10797152	GW 3	-104		1.2 531 Etolin,	56.46814	-132.373	93	9/25/2023 7:43
10797153	GW 3	-104		0 820 Lemeit	56.46531	-132.373	94	9/25/2023 7:47
10797154	GW 1	-111		-7.2 2.6 Mile Zir	56.43424	-132.37	81	9/25/2023 7:52
10797155	GW 2	-105		6 Nugget #7, Wrangell, AK, 99929			93	9/25/2023 7:52
10797156	GW 3	-85		9.5 321 Front S	56.47111	-132.383	93	9/25/2023 7:50
10797157	GW 3	-110		-3 Bloom's #14, Wrangell, AK, 99929			93	9/25/2023 7:40
10797620	GW 1	-91		9 Inner Harb	56.46736	-132.378	90	9/25/2023 7:50
10797621	GW 1	-114		-10.8 Inner Harb	56.32499	-132.048	93	9/25/2023 7:51
10797622	GW 2	-111		-9 Inner Harb	56.46736	-132.378	95	9/25/2023 7:41
10797623	GW 2	-111		1 Inner Harb	56.46736	-132.378	91	9/25/2023 7:50

Connectivity Report

This report shows which meters are connected to which gateways, the RSSI and SNR of each meter along with the Lat and Long of the meter

City of *****

Connectivity Report

Serial Num	Gateway	RSSI	SNR	Address	Latitude	Longitude	Packets	Date/Time
10797134	GW 1	-107		5.2 5 Front St U	56.47154	-132.387	93	9/25/2023 7:52
10797135	GW 1	-103		9.2 Pump Sta A	56.4717	-132.388	91	9/25/2023 7:40
10797136	GW 1	-101		8.2 Grid Iron, V	56.46736	-132.378	89	9/25/2023 7:51
10797137	GW 1	-103		7.5 730 Case A	56.4658	-132.376	90	9/25/2023 7:49
10797138	GW 3	-92		7 Industrial F	56.47387	-132.38	93	9/25/2023 7:41
10797139	GW 1	-101		6.8 304 1st Ave	56.47369	-132.381	90	9/25/2023 7:44
10797140	GW 2	-111		-4.5 404 Evergro	56.47724	-132.391	92	9/25/2023 7:50
10797141	GW 1	-109		0.8 916 Highfie	56.47323	-132.375	91	9/25/2023 7:50
10797142	GW 3	-111		-9 4 Mile Zimo	56.43425	-132.37	92	9/25/2023 7:50
10797143	GW 2	-104		4 SMB S End	56.47003	-132.381	93	9/25/2023 7:52
10797144	GW 2	-107		4 6 Mile Zimo	56.43426	-132.37	90	9/25/2023 7:40
10797145	GW 2	-98		10 7 1/4 Mile	56.43435	-132.37	93	9/25/2023 7:52
10797146	GW 1	-79		9.5 Airport, Wr	56.48616	-132.375	91	9/25/2023 7:49
10797147	GW 1	-93		12.5 107 3rd Av	56.48356	-132.389	92	9/25/2023 7:44
10797148	GW 1	-80		11.5 650 Evergro	56.48266	-132.391	88	9/25/2023 7:45
10797149	GW 1	-111		-4.5 711 Evergro	56.48449	-132.393	96	9/25/2023 7:44
10797150	GW 3	-107		6.8 404 Alaska	56.46814	-132.377	91	9/25/2023 7:51
10797151	GW 1	-83		10.5 1027 Zimov	56.46214	-132.377	94	9/25/2023 7:47
10797152	GW 3	-104		1.2 531 Etolin,	56.46814	-132.373	93	9/25/2023 7:43
10797153	GW 3	-104		0 820 Lemeit	56.46531	-132.373	94	9/25/2023 7:47
10797154	GW 1	-111		-7.2 2.6 Mile Zir	56.43424	-132.37	81	9/25/2023 7:52
10797155	GW 2	-105		6 Nugget #7, Wrangell, AK, 99929			93	9/25/2023 7:52
10797156	GW 3	-85		9.5 321 Front S	56.47111	-132.383	93	9/25/2023 7:50
10797157	GW 3	-110		-3 Bloom's #14, Wrangell, AK, 99929			93	9/25/2023 7:40
10797620	GW 1	-91		9 Inner Harb	56.46736	-132.378	90	9/25/2023 7:50
10797621	GW 1	-114		-10.8 Inner Harb	56.32499	-132.048	93	9/25/2023 7:51
10797622	GW 2	-111		-9 Inner Harb	56.46736	-132.378	95	9/25/2023 7:41
10797623	GW 2	-111		1 Inner Harb	56.46736	-132.378	91	9/25/2023 7:50

City of *****

Minimum and Maximum Voltage Per Phase

0/25/2023

Serial Number	Min Voltage A	Max Voltage A	Min Voltage B	Max Voltage B	Min Voltage C	Max Voltage C
10799799	279	290	280	290	280	290
10799764	274	283	275	284	275	283
10799765	275	284	275	285	275	284
10799756	274	284	274	283	274	284
10799791	272	283	273	283	272	284
10799801	273	283	273	283	273	283
10799768	271	281	272	281	271	281
10799802	273	283	272	283	272	283
10800065	273	282	272	283	273	283
10800076	273	282	272	282	273	282
10799777	269	283	269	283	268	282
10799779	269	283	269	282	268	281
10800016	268	282	269	283	268	282
10800051	237	245	237	245	414	427
10799769	235	244	235	244	406	424
10799792	233	244	233	244	407	424
10799747	120	124	120	124	120	124
10799766	119	124	120	125	119	125
10799776	118	122	119	122	119	122
10799996	119	123	119	123	199	213
10800064	119	123	119	122	119	123
10799784	118	122	118	122	118	122
10799785	119	121	118	121	119	121
10799793	117	122	118	122	117	121
10799795	118	122	118	122	117	122
10799797	118	122	118	122	118	122
10799798	117	122	118	121	118	122
10799985	118	121	118	121	118	121
10799986	118	121	118	121	118	121
10799987	118	120	118	121	118	121
10799988	118	122	118	122	118	122

Last Valid Data Report

Serial Number	Account Number	Last Valid Data Received	Last Communication
10797134	13062-3	9/25/2023 8:36	9/25/2023 8:48
10797135	13116-1	9/25/2023 8:39	9/25/2023 8:40
10797136	11583-1	9/25/2023 8:45	9/25/2023 8:45
10797137	11646-1	9/25/2023 8:43	9/25/2023 8:44
10797138	12803-1	9/25/2023 8:41	9/25/2023 8:49
10797139	10616-2	9/25/2023 8:39	9/25/2023 8:48
10797140	10188-2	9/25/2023 8:44	9/25/2023 8:45
10797141	10034-3	9/25/2023 8:35	9/25/2023 8:45
10797142	10890-3	9/25/2023 8:34	9/25/2023 8:35
10797143	13052-1	9/25/2023 8:36	9/25/2023 8:48
10797144	11535-2	9/25/2023 8:39	9/25/2023 8:40
10797145	11455-2	9/25/2023 8:28	9/25/2023 8:46
10797146	10031-5	9/25/2023 8:43	9/25/2023 8:43
10797147	14304-1	9/25/2023 8:44	9/25/2023 8:45
10797148	10115-5	9/25/2023 8:41	9/25/2023 8:46
10797149	10078-1	9/25/2023 8:43	9/25/2023 8:44
10797150	12012-16	9/25/2023 8:35	9/25/2023 8:45
10797151	12295-1	9/25/2023 8:47	9/25/2023 8:48
10797152	11983-6	9/25/2023 8:42	9/25/2023 8:43
10797153	12119-6	9/25/2023 8:42	9/25/2023 8:43
10797154	14303-1	9/25/2023 8:43	9/25/2023 8:44
10797155	10941-13	9/25/2023 8:43	9/25/2023 8:48
10797156	10415-1	9/25/2023 8:40	9/25/2023 8:41

This report shows the last valid data provided from the meter along with the last data communicated from the module. If the last valid data is more than 24 hours different from the last transmission, then the meter is considered to be off-line.



METER ERROR LIST

ERROR CONDITION	ERROR CODE	FAILURE DESCRIPTION	ACTION
ERR_UNPROGRAMMED	001	Meter is not programmed or it is in a factory default state.	Program meter.
ERR_CONFIG	002	Configuration not correct or meter not configured.	Verify meter configuration, or send new configuration to the meter.
ERR_SELFCHK	003	Meter tried to recover reading data from backup memory after power was up and did not find any good records.	Reset the meter.
ERR_RAMFAILURE	004	RAM memory failed.	Reset the meter. If failure continues, replace meter.
ERR_ROMFAILURE	005	ROM memory failed.	Reset the meter. If failure continues, replace meter.
ERR_NONVOLMEMFAILURE	006	Meter tried to save reading data in the EEPROM memory unsuccessfully.	If error code persists longer than 5 minutes, contact Vision Metering.
ERR_CLOCK	007	Meter could not determine internal clock state.	Reset the meter. If failure continues, replace meter.
ERR_MEASUREMENT	008	Meter could not determine a measurement element or condition.	Reset the meter. Verify meter configuration and programming. If failure continues, replace meter.
ERR_LOWBATTERY	009	Battery no longer holds charge.	Replace battery.
ERR_LOWLOSSPOTENTIAL	010	Meter detected a device potential below a predetermined value.	Verify meter connection to the network. Verify meter form-factor settings in 20/20 matches meter label.
ERR_DEMANDOVERLOAD	011	Demand threshold overload was detected.	Utility user was consuming more energy than the preset limit. If error persists, temporarily replace meter to verify energy consumption. If consumption is within limits, verify meter configuration.
ERR_POWERFAILURE	012	Meter detected a power failure or the power consumption register is corrupt.	Reset meter. If failure continues replace meter and contact Vision.
ERR_REVERSEROTATION	013	A reverse rotation condition was detected.	Reset the meter. If failure continues correct socket wiring or replace meter.
ERR_RADIO	101	Radio is not configured or is not present in the meter.	Verify if meter has radio. If so, verify radio configuration. Reset meter. If failure continues, replace meter and contact Vision.
ERR_POWERSWITCH	102	Utility disconnect switch has malfunctioned.	Replace switch board and/or power switch.
ERR_NOTCALIBRATED	103	Meter is uncalibrated.	Calibrate meter.
EMERGENCY_DISCONNECTED	104	Remote disconnect switch was opened. Measured current exceeded limit.	Reduce current load.
ERR_TILT_SENSOR	105	An attempt to displace meter from the socket. Meter must be equipped with a tilt sensor.	Manually reset the tamper flag.

LoRa ERROR LIST

Dev-Nonce:

The Dev-Nonce error tells us that there has been a duplicate Dev-Nonce number being used by the join process. Chirpstack keeps track of this number to make sure it is not used again to prevent replay attacks. If a device is within the range of 2 or more gateways, you will always get a Dev-Nonce error because you are getting duplicate packets coming from different gateways going to the same Chirpstack network. This is not an error but a feature of the design to prevent duplication and to prevent using an old Dev-Nonce for retransmission. The problem is when the Dev-Nonce history is full and no new Dev-Nonce can be issued because no new join sessions can be created. The main issue is the drift in the timing for the meter to accept the Join Accept token from Chirpstack. So that is why it takes some time for the meter to join during the join process. This drift in timing can be caused by the internal clock of the lora module, the delay in signal propagation, the internal drift on the gateway timing, or delay in processing.

Invalid-MIC:

An Invalid-MIC (Invalid Message Integrity Check) error means that either the App key or the network session keys are wrong or missing. If it is the former than the meter will never join the network and will continue to send requests until the correct key is given to the meter. In the case of the later the meter has joined the network before but either the gateway or the meter lost the keys, the primary course of action is to delete the meters current session to force it to rejoin the network and re-acquire its session keys.

Frame-counter did not Increment:

The frame counter is a counter that is incremented by the value 1 with each transmission. The current value is stored both in the end device and on the LoRaWAN server. The uplink frame counter counts those packets that are sent from the node to the LoRaWAN network. The downlink frame counter counts those packets that are sent from the LoRaWAN network to the node. In principle, it is not possible to decrypt a data packet if you do not know the app session key. Nevertheless, it is possible to record a data packet with a receiver binary (via the modulation) and send it again. The LoRaWAN network cannot determine whether the data packet comes from the same sender or was copied from a different system and sent again. The Frame Counter prevents this. The frame counter is calculated directly into the encryption, which means that physically every data packet looks different. It is therefore not possible that a recorded data packet cannot be sent again.

Join-Server-Returned-Error:

This means that the meter in question could not join the network due to a Dev-Nonce error, MIC error, or both simultaneously. However if this error is being displayed it is most likely both.



26JAN2026

Pricing prepared for:

Indianola, IA

1. Business contact Information

Advanced Meter Services LLC
PO Box 430
Cynthiana, KY 41031
Jeff Marsh
859-983-3374
jmarsh@advancedmeterservices.com

2. Company Description

Advanced Meter Services LLC is a Veteran/privately owned meter services company that has been in business for over 15 years. The company has several team members working at multiple geographic locations at any one time. Advanced Meter Services has worked for most of the meter and equipment manufacturers as well as individual utilities. The company provides meter changeout services as well as current transformer testing. The company also provides communication installation services including rf and plc systems.

3 Management

Jeff Marsh (Manager/Owner) is an experienced utility service professional with more than 35 years of experience that started as a lineman for a cooperative in central Kentucky. He has been involved with several projects and has provided solutions to complicated meter and communication issues for multiple customers.

4 Project Plan

Depending on factors beyond our control such as meter delivery and weather, we will work with all parties involved to ensure timelines are maintained. Our team consists of seasoned veterans with the experience to recognize and deal with issues that arise while on site. If new hires are employed, they are thoroughly vetted and trained before they are allowed to work on their own.

5 Pricing for Installation Services

SEE PRICING IN BID.

6. Pricing Assumptions

This Pricing assumes that the utility will provide warehousing and disposal.

It is also assumed that the utility will provide seals, rings and required keys.

7 Meter installation services

Contact with the customer is attempted upon arrival on property.

Initial visual observations include enclosure condition, meter condition and external hazards.

All meter serial numbers and forms are verified before installation.

Remove and replace the meter.

Photos will be taken to provide old meter serial number, old meter read, new meter serial number.

If a hazard presents itself while the technician is on site, we will contact the appropriate personnel and wait on site until the site is made safe for the public.

If we find tampering, we will take a photo if possible. We will then leave the site and contact the appropriate personnel.

It is our policy not to break the load of any 480-volt service with the meter. If there is not a bypass or a disconnect in front of the meter, we will have to schedule an outage or let the utility take care of these.

Transformer rated sites will have the test switches shunted before the meter is exchanged.

Sites that have obvious situations that will prohibit installs such as owner refusal or hazardous situation: will not be revisited unless the situation is addressed.

8 Work Order Management

The pricing includes electronic exchange of data to include integration of the information into your billing system.

We will work with your personnel to develop an export file for integration into our work order system to facilitate the meter exchange

All exchange data will be made available to all parties including photos, meter readings, GPS coordinates and comments from the technician of conditions on site.

All meter exchange data will be available the following morning for upload into the billing system.

All data is exchanged using a secure FTP site.

The utility will have read only access to the database for viewing of installation pictures, running reports, tracking inventory, and tracking escalation issues.

9 Additional Services

Advanced Meter Services LLC also performs testing of CT rated sites. These tests include a full ratio and burden test as well as a wire verification. This site test also includes a multiplier verification. The results are provided in a printed report as well as electronic form. The price per site for this service is \$1

10. Safety Program

Advanced Meter Services LLC has adopted APPA's safety manual as it seems to be the most referenced at utilities we work with. However, if your safety manual is more stringent then we will adopt your policies while working on your system.

WATER METER REPLACEMENT PROPOSAL



PROPOSAL PROVIDED TO:

Randy Austin

Vision Metering

KEEPING DRINKING WATER SAFE FOR INDUSTRIES AND MUNICIPALITIES

For over 39 years, HydroCorp® has been dedicated to safe drinking water for companies and communities across North America. Fortune 500 firms, metropolitan centers, utilities, small towns and businesses – all rely on HydroCorp to protect their water systems, averting backflow contamination and the acute health risks and financial liabilities it incurs.



Cross-Connection Control / Backflow
Prevention

Water Meter Change Out & Installation
Services

Legionella Prevention & Control

Water System Surveys / Flow Diagrams

Pipe System Mapping & Labeling

Regulatory Compliance Assistance /
Documentation



CORPORATE OFFICE:

5700 CROOKS ROAD STE 100
TROY MI 48098
800.315.4305 TOLL FREE
262.264.6402 PHONE
hydrocorpinc.com

PROJECT CONSULTANT:

Craig Wolf
Cell: 612-850-8939
Email: cwolf@hydrocorpinc.com



Table of Contents

1. Qualifications	2
1.1. Company Overview/Experience/References	2
2. Technical Proposal	4
2.1. Water Customer Engagement, Technician Protocols, Data Management/Reporting ...	4
2.2. Scope of Services	10
3. Project Management	13
4. Tentative Scheduling	14
5. Cost Proposal	15



1. Qualifications

1.1. Company Overview/Experience/References

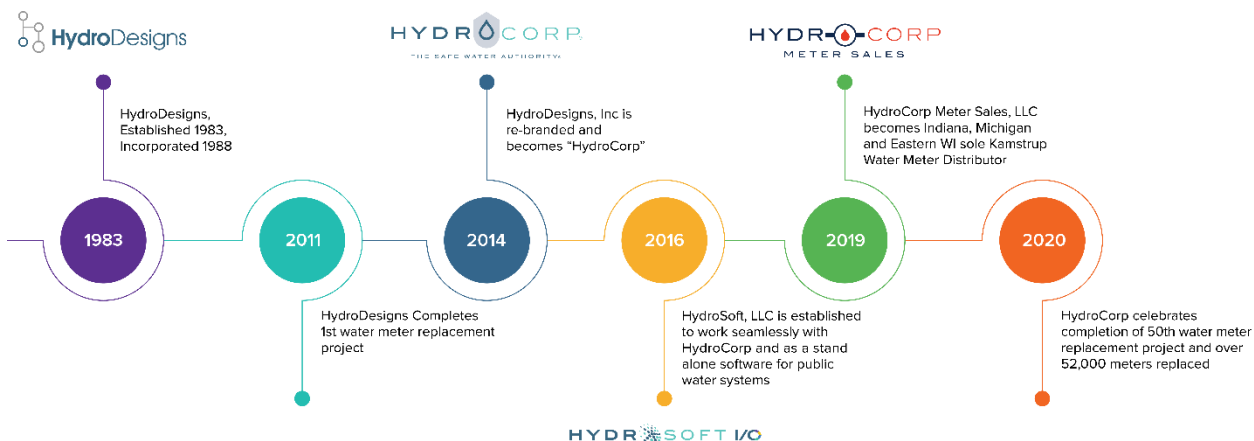
- Founded in **1983** and incorporated in 1988. HydroCorp core services are Municipal Water System Cross-Connection Control Program Management, Onsite Cross-Connection Hazard Surveys/Inspections and Water Meter Replacement Labor and Administrative Services. The firm has grown from two employees to a staff of over 85 full time associates in multiple states. We still have our first customer!
- HydroCorp maintains ongoing contracts for Cross-Connection Control Program management and Inspections for over 400 Public Water Systems in five states.
- In 2014, HydroCorp was requested by an existing Municipal Client to assist in replacement of water meters during the same site visit as the Cross-Connection Inspections being performed by HydroCorp. Over time and by additional client requests for meter replacement services, HydroCorp now employs over 25 full-time professionals assigned to Water Meter Replacement projects and water customer care communications.
- HydroCorp has replaced over **75,000 water meters** within **52 midwestern public water systems**.
- HydroCorp currently monitors cross-connections/backflow prevention of **626,000 facilities**.
- HydroCorp annually performs approximately **75,500 onsite cross-connection survey/inspections**.
- HydroCorp monitors **910,000 Backflow Preventers** at services connected to public water supplies.
- HydroCorp manages the discovery, correction and **elimination of over 49,900 cross-connections**, annually.

PROTECTING WATER.
PROTECTING PEOPLE.



- **Experience And References**

- Monona, WI from 1.1.21 – 7.31.21 installation of 2,700 Badger water meters and the scope of work included onsite Cross Connection Control surveys during meter replacement.
Contact- **Dan Stephany DPW Director** dstephany@ci.monona.wi.us 608-222-2525
- Prescott, WI from 3.1.16-12.30.16 installation of 1,750 Kamstrup water meters and the scope of work included Cross Connection Control surveys during meter replacement.
Contact- **Jayne Brand City Administrator** jbrand@prescottcity.org 715-262-5544
- Chetek, WI from 3.1.17-12.30.17 installation of 1,126 Kamstrup water meters and the scope of work included Cross Connection Control surveys during meter replacement.
Contact- **Dan Knapp Director of Public Works** dknapp@cityofchetek-wi.gov 715-924-4236
- Weston, WI from 11.1.17-6.30.18 installation of 2,800 Sensus water meters and the scope of work included Cross Connection Control surveys during meter replacement.
Contact- **Keith Donner Public Work Director** kdonner@westonwi.gov 715-241-2606
- Seymour, WI from 7.1.18-12.31.18 installation of 1,014 Kamstrup water meters and the scope of work included Cross Connection Control surveys during meter replacement.
Contact: **John Schoen Director of Public Works** jschoen@seymourutil.com 920-833-2397
- Eden Prairie MN from 3.1.22-Current installation of 17,000+ Badger water meters.
Contact: **Rick Wahlen Manager of Utility Operations** rwahlen@edenprairie.org 952-949-8530



2. Technical Proposal

2.1. Water Customer Engagement, Technician Protocols, Data Management/Reporting

Summary

The foundation of this project will be water customer service, successful field work and cloud-based, real-time data management. HydroCorp utilizes [HydroSoft I/O](#) for all field data, administrative and notification processes.

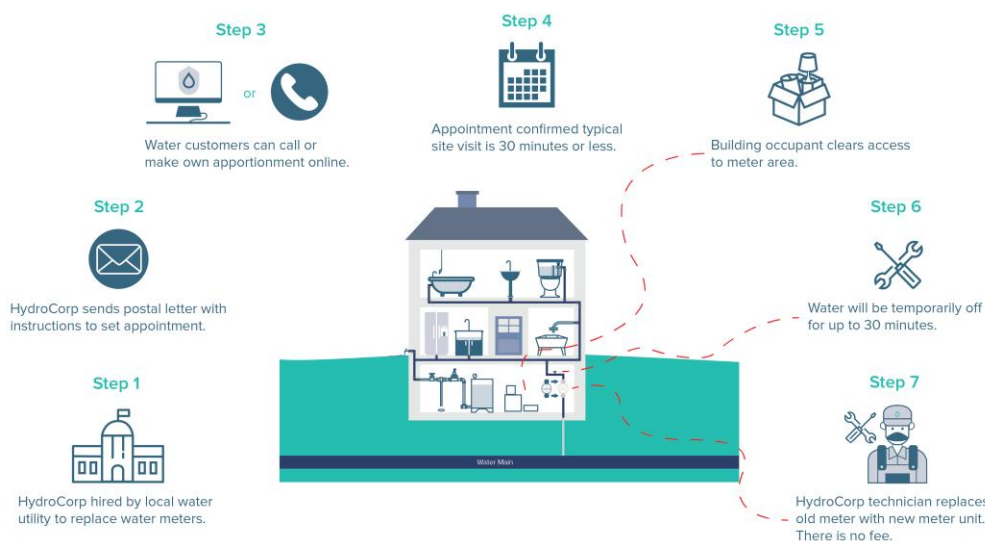
Water Customer Notification Process:

Postal notifications/letters are customizable and draft versions are presented for approval to City prior to actual mailing of notices.

Each postal notification indicates a unique nine-character reference code that is specific to the account or water customer. This allows the customers to access the HydroSoft I/O online scheduling portal and ensures appointments are set for specific customers or addresses. This unique reference code populates the customer information when input, which ensures and mitigates human error when scheduling. Examples of this would be transposed, missing and/or too many numbers within addresses house/business number or deviations between Dr., Cir., Ct., St., etc. The assigned Water Meter installer will notify the water customer via text when they are in route.



City administrative access is available to all necessary project parties. These can be created for specific individuals, departments, or projects. HydroCorp provides a demonstration of the City Online- Portal as well as a user guide with step-by-step processes, capabilities, and limitations. This user access is available through our website, which can be accessed by any device with internet connections/access.



Water Customer Notification (Continued)

Customer notifications through HydroSoft I/O, can be delivered to each customer in (2) two different forms; postal or email notifications are available if included with the provided customer data obtained from the utility/billing software. These different forms of notifications are queued based on specific intervals typically set at (14) fourteen days. Thus, (14) fourteen days from the first notices, second notices will automatically be available for distribution (same with second to third when applicable).


Water Customer Service:

HydroCorp has a full-time staff of dedicated Customer Service Representatives (CSR), who are trained and well versed, in the water meter and cross-connection control industry. This allows for rapid responses, top-notch customer/contractor interactions, and a seamless process from receipt of scheduling notice, to completed installation and anything thereafter, that the customer may need. This support phone number and hours of operation are listed within each customer notice. An online live-chat feature will also be available during business hours.

HydroCorp Field Technicians will provide each customer with a toll-free emergency business card. This card contains the phone number to our 24/7 emergency call center. The emergency call center will contact project personnel to resolve any customer issue, concern, question, or leak, after installation, that is a result of HydroCorp's workmanship. HydroCorp's response to any call or any item, is well within the 24hr response time, between first report and resolution.



Water Customer Emergency Situation Card – Provided by HydroCorp Meter Technician:

<p style="text-align: center;">HYDR CORP™ THE SAFE WATER AUTHORITY™</p> <p style="text-align: center;">WATER METER INSTALLATION EMERGENCY CALL CENTER 877-493-7691</p> <hr/> <p style="text-align: right;"></p> <p>Water Meter Installer</p> <table border="0" style="width: 100%;"><tr><td style="width: 50%;"><p>CORPORATE OFFICE 5700 Crooks Road, Suite 100 Troy, MI 48098 P 800.690.6651</p></td><td style="width: 50%;"><p>WATER METER INSTALLATION EMERGENCY CALL CENTER 877-493-7691 hydrocorpinc.com</p></td></tr></table>	<p>CORPORATE OFFICE 5700 Crooks Road, Suite 100 Troy, MI 48098 P 800.690.6651</p>	<p>WATER METER INSTALLATION EMERGENCY CALL CENTER 877-493-7691 hydrocorpinc.com</p>	<p style="text-align: center;">HOMEOWNER: IMPORTANT INFORMATION</p> <p>Your new water meter has been checked for a secure, drip-free installation. In the unlikely event that a leak develops from the water meter installation, it is important that you notify us.</p> <hr style="border-top: 1px dashed #ccc;"/> <p>Check your new water meter at the following intervals:</p> <ol style="list-style-type: none">1. Between 2 and 12 hours following installation and2. After 24 hours <p>If you experience any problems with the water meter installation, please call the Emergency Call Center at 877-493-7691 and a technician will promptly respond.</p> <p>Thank you!</p>
<p>CORPORATE OFFICE 5700 Crooks Road, Suite 100 Troy, MI 48098 P 800.690.6651</p>	<p>WATER METER INSTALLATION EMERGENCY CALL CENTER 877-493-7691 hydrocorpinc.com</p>		

Water Customer Self-Serve Appointment / Public Awareness Website (Included)

HydroCorp will devise and host a dedicated web page (at no extra charge) for water customers to set their own appointments, view detailed information and educational videos related to the project. This page will include photos of all installers, and could include other means of educational material pertaining to the project such as a what to expect during the install video, photos of a good and bad valve, and so on.



Example Public Awareness/Appointment Web Page included with scope of work:

HYDR CORP.
THE SAFE WATER AUTHORITY

LOGIN COVID-19 PPE POLICY (844) 493-7646

HOME INDUSTRIAL MUNICIPAL LEGIONELLA FEDERAL INFO CONTACT US

CITY OF MONONA
Public Works & Utilities 5211 Schluter Road, Monona, WI 53716

WATER METER REPLACEMENT PROGRAM

For the safety of our staff and the public, please contact Customer Service at 844-493-7641 should you or anyone you come into contact with become ill or if you have been exposed to COVID-19 prior to your appointment date. We will assist you in safely rescheduling at that time.

The City of Monona has contracted with HydroCorp to install new Kamstrup AMI Water Meters and perform a cross connection survey. Your cooperation is requested to help the process flow smoothly and keep Monona in compliance with WI-DNR regulations.

HydroCorp will be working in specific geographic areas at designated times. **Please wait until you receive your official notice/letter with instructions from HydroCorp before you complete your scheduling.**

Please read our PPE /COVID-19 policy before scheduling your appointment.

You may conveniently schedule your meter exchange appointment online by clicking the link below, or by calling us toll-free at:
1-844-493-7641, Monday through Friday, from 8:00 AM to 6:00 PM.

For other questions or comments, you may also reach us via email: contactus@hydrocorpinc.com

[Schedule Appointment Here](#)

IMPORTANT FACTS

WHAT TO EXPECT WHEN UPGRADING YOUR WATER METER

- ✓ Replacement Is Free
- ✓ There Will Be A Brief Interruption In Water Service During Appointment
- ✓ Expect Improved Customer Service And Better Accuracy Of Your Water Bill
- ✓ In Some Communities, A Visual Backflow Prevention Safety Survey May Be Conducted During Meter Replacement.

HydroCorp Water Meter Exchange Program

BASEMENT, CRAWLS SPACE, OR MECHANICAL ROOM.

SCHEDULE YOUR APPOINTMENT TODAY!

YouTube

Meter Technician Protocols:

All HydroCorp staff are full time employees, and have completed HydroCorp training and background checks upon their hire date. All employees will be fully uniformed and possess HydroCorp ID cards on their person.

- HydroCorp **highly recommends** the Utility issue contractor badges to HydroCorp employees, listing HydroCorp and installer name as an approved contractor for the City meter installation project. This also helps to mitigate and alleviate customer skepticism and phone calls to the City.
- HydroCorp will provide a link on the appointment site describing its COVID-19 preparedness and response plan, its Personal Protective Equipment (PPE) policy, and description of a Coronavirus safety practices while performing a water meter replacement. Example plan: www.hydrocorpinc.com/covid-19

HydroCorp's standard practice is to pick up and return new and old meters and materials daily. This is always from a designated location provided by various entities. All material is then logged and identified with our check-in / check-out process. This ensures project material is present while identifying items for procurement.



Data Management/Reporting

Utilizing HydroCorp’s proprietary software HydroSoft I/O and in-field tablet computers, HydroCorp Meter Technicians will record all required information specified within the request for proposal.

HydroCorp captures a minimum of 4 – 7 photos per account/installation. The photos can include any of the following in the specified order; 1) Old meter setting found before installation 2) Old meter serial number, 3) Old meter reading, 4) New meter # and transmitter, 5) New meter setting after installation, 6) Confirmation of activation – photo of activation screen, fob, new meter register, or any device utilized for activation, 7) House, apartment, or business address. Alternate photos can be taken in place of any of the mentioned photos above.

Data Security

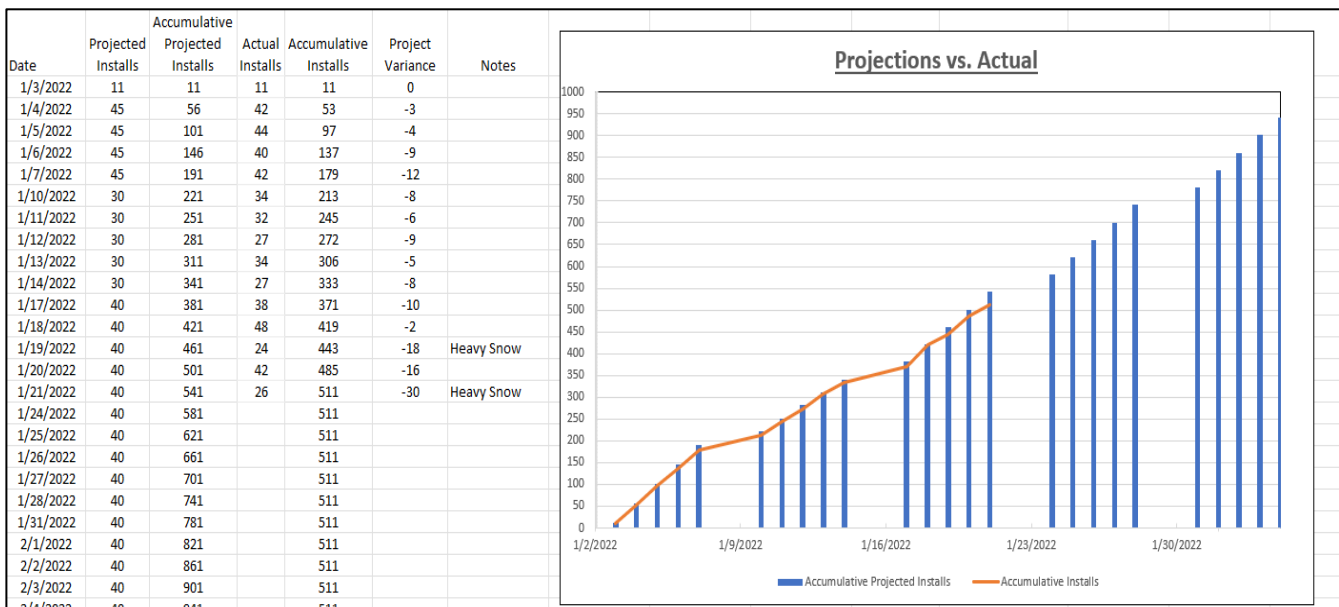
HydroSoft I/O staff follow industry standards for database and system maintenance. Virtual machine hardware is maintained and serviced by Microsoft Azure. All users will log on through the HydroSoft I/O portal at portal.hydrosoft.io.



Sample Reporting

Summary of Account Statuses by Route									
Route Number	Installed	Scheduled	Unscheduled	Non Responsive	Issue Accounts	Delayed	Hydro Follow Ups	Route Total	Route Completion %
1	0	2	560	0	0	0	1	564	0.00%
2	1	0	492	0	0	0	1	494	0.20%
3	2	3	555	0	0	0	0	560	0.36%
4	2	1	719	0	0	0	0	722	0.28%
5	65	182	325	0	3	7	3	586	11.09%
6	1	1	538	0	0	0	1	543	0.18%
7	1	8	580	0	0	0	1	590	0.17%
8	439	80	10	110	25	36	26	727	60.39%
9	0	0	46	0	0	0	0	46	0.00%
Grand Total	511	277	3825	110	28	43	33	4832	10.58%

Notification Deployment Schedule (12-day intervals between 1st -> 2nd -> 3rd notices)									
Route	1st Scheduling	Qty	2nd Scheduling	Qty	3rd Scheduling	Qty	Notices Complete?	Non Responsive Date	Total Non Responsives
8	#####	727	12/22/2021	539	1/4/2022	236	Yes	1/11/2022	110
5	1/4/2022	586	1/18/2022	486	2/1/2022			#N/A	0
7	1/20/2022	590	2/1/2022						0
TBD									0
TBD									0
TBD									0
TBD									0





3												
4	Total Accounts Provided	4,832	Owner									
5	Add-On Accounts:	0	HydroCorp									
6	Done By City - Removed:	5	SSM									
7	All Installed:	511	SSM									
8												
9	All Unfinished:	4,316										
10	Unfinished - Unscheduled:	3,825	HydroCorp									
11	Unfinished - Scheduled:	277	HydroCorp									
12	Unfinished - NonResponsive:	110	SSM									
13	Unfinished - Issues for SSM:	28	SSM									
14	Unfinished - Delayed:	43	HydroCorp									
15	FollowUp - HydroCorp:	33	HydroCorp									
16	Unfinished - Reschedules:	0	HydroCorp / SSM									
17												
18	Week Starting	Projected # of Installs per Week	Actual # of Installs per Week	Weekly Variance	Accumulative Installed or Removed	Accumulative Projected Installs by Week	Accumulative Project Variance	Appointments Scheduled	Available Unscheduled Appointments	Total Available Appointments	Blackout Routes / Sectors	
19	01/03/22	171	179	8	184	176	8	180	22	202	N/A	
20	01/10/22	170	154	16	338	346	8	150	20	170	N/A	
21	01/17/22	200	178	22	516	546	30	225	0	225	N/A	
22	01/24/22	200						182	35	217	N/A	
23	01/31/22	200						55	231	286	N/A	
24	02/07/22	200						32	234	266	N/A	
25	02/14/22	200									N/A	
26	02/21/22	200									N/A	
27	02/28/22	200									N/A	
28	03/07/22	200									N/A	
29	03/14/22	200									N/A	
30	03/21/22	200									N/A	
31	03/28/22	200									N/A	
32	Totals	2,541	511	30	N/A	N/A	N/A	824	542	1,366		
33												
34	Ready Projections and Totals Graphs All Installed Done by Utility - Removed Unfin - Unscheduled Unfin - Scheduled Unfin - No Resp											

2.2. Scope of Services

HydroCorp to provide the following services when exchanging water meters:

- A. HydroCorp will devise a postal notification letter to inform water customers of required meter replacement during a specific date range specified in the letter. Letters will be approved by the City to use by HydroCorp and include City branding. Notification letter to include advising owner/occupant of temporary water disconnection and responsibilities of owner for providing unobstructed access to within 8 cubic feet surrounding the existing water meter including operational valves for shut off.
- B. HydroCorp will send postal notification letters to designated water customers to ensure necessary water meter replacement appointments are confirmed.
- C. HydroCorp will devise and host a dedicated website page for setting appointments with water customers at specific intervals during normal business hours. Water customers will have access to schedule their own appointments via a free and secure appointment website system. Website link will be presented on postal notices and City website.
- D. HydroCorp will provide designated City staff with online access to the live appointment schedule system.



- E. HydroCorp will provide full-time Toll Free 800 number phone support for customer questions and appointment requests by HydroCorp Administration Staff. Direct phone contact to HydroCorp staff will be available during normal business hours excluding holidays. An external answering service is utilized for overflow and after-hours calls.
- F. HydroCorp will make 2 attempts to establish an appointment for meter replacement at each address. If email addresses are provided as part of the original account listing, HydroCorp will make additional attempts to contact water customers for appointment setting. Definition of attempts:
 - a. 1st Postal Notice
 - b. 2nd Postal Notice
 - c. 3rd City
- G. HydroCorp will document in electronic format; relevant identification numbers and meter readings of each existing and new meter installed by HydroCorp. Each record will include a digital image of the old meter reading for account reference.
- H. HydroCorp will provide identification to the property owner upon arrival.
- I. HydroCorp will document location of water meter as well as provide GPS coordinates.
- J. HydroCorp will install new water meter, associated fittings and gaskets as provided by the City or supplier. The City or the supplier will provide all consumables for the project.
- K. HydroCorp Technician shall verify activation of each meter installed, re-establish water supply and verify full water pressure at nearest tap for 30 seconds.
- L. HydroCorp will respond to reported leaks at meter junction or service control valve within 24 hours (Monday-Friday) after the incident has been reported to the City.
- M. HydroCorp will deliver removed (old) meters, transmitters and wiring to a designated area of the Public Works Building on a daily basis or alternate site provided by the City.
- N. HydroCorp will retrieve new meters, fittings and gaskets, and all other needed consumables as provided by the City and/or supplier on a daily basis during normal working hours. New meters will be available in a designated area at the Public Works Building, or alternate location.
- O. HydroCorp will provide ongoing progress meter replacement status reporting during the contract period on a weekly basis.
- P. HydroCorp will record and be able to report on the type of water service material and the size of service along with pictures and serial numbers of old and new water meters.



- Q. HydroCorp reserves the right to determine safe operating condition of water shutoff control valves prior to performing any meter replacement work. City to provide on call personnel to facilitate curb stop shut offs as necessary. Control valves appearing to be in questionable condition or potentially leaking/prone to failure will be required to be replaced or repaired at the cost of building owner prior to any meter upgrade work being performed by HydroCorp. It will be at HydroCorps discretion to determine if the option to freeze would work. HydroCorp will change the meter and charge a predetermined fee for the water line freeze.
- R. HydroCorp reserves the right to determine safe operating condition of electrical grounding prior to performing any meter replacement work. If an issue, the building owner will be required to correct prior to any meter upgrade work being performed by HydroCorp and we will notify City of issue. HydroCorp shall provide the installation of the grounding wire at a predetermined per installation fee.
- S. HydroCorp shall not be responsible for damages due to faulty control valves, leaks or plumbing. All necessary plumbing repairs and costs are the responsibility of homeowner.
- T. The Company disclaims any and all liability arising from or related to operating curb stops. The Company will not be responsible for any damages, claims or liabilities of any kind or nature, including but not limited to personal injury, property damage, financial loss, or any other losses (collectively, "Losses") that may arise directly or indirectly from operating curb stops. The Company takes no responsibility for any action taken during the operation of curb stops by any employee, agent, contractor, or any other persons acting on behalf of the Company. The Company is not liable for any unlawful or negligent acts that may occur during operation of curb stops. The Company urges all individuals involved in operating curb stops to act in accordance with applicable law and adhere to all applicable regulations and guidelines. Additionally, the Company shall not be held liable for any failure to comply with any applicable laws and regulations in connection with the operation of curb stops. By executing this proposal, the undersigned releases and agrees to hold HydroCorp its equity owners, affiliates, managers, officers, agents, employees, successors and assigns from any and all Losses arising out of or related to the Company's participation in operating curb stops.



3. Project Management

Key Personnel:



Dave Cardinal, Vice President Municipal Division. Dave has over twenty years' experience as a water professional and has a successful record of accomplishments in the cross-connection control industry. Experienced in program development, project management, developing and conducting employee education and training programs, developing and instructing State certified education and training classes, quality assurance, customer service, and client satisfaction. He is responsible for establishing business practices, field operation procedures, and administrative functions related to cross connection control program management. Dave is an ASSE Certified Instructor for multiple ASSE Certifications related to Cross-Connection Control and Backflow Prevention. Dave also has been a speaker at numerous Water Industry Conference.



Scott Mitchell, Director of Municipal Operations, and the project Cross Connection Control Supervisor. Scott Mitchell has over 38 years' experience as a water professional serving municipal systems and the cross-connection control industry. Scott started his employment with HydroCorp in 2012 as Field Inspector and was promoted to Midwest Director of Operations in 2018 and promoted to Municipal Director of Operations in 2024. He is experienced in customer relations, program operations, and cross-connection control field training. Responsibilities include administrative functions related new and existing contracts, overseeing scheduling and quality control. Scott's credentials are Grade 1 DNR Certification for Distribution, Groundwater, and VOC removal. ASSE Surveyors course and ASSE 5000 Series certification.



Ryan Schaeffer-Director, Meter Division, and meter project Director/Foreman. Ryan is a seasoned water professional; he began his career with HydroCorp as a meter installer and has installed thousands of meters of various sizes. He has worked diligently and proven his skills as an installer and a team leader. Ryan has successfully led and managed meter installation projects and installation teams. Ryan's duty as Project Manager is to keep a consistent communication stream between all parties, including field staff, clients, and upper management.



Craig Wolf, New CCC Program development and Water Meter Replacement Sales in the Midwest Region. Since 2009 at HydroCorp, he was responsible for identification of hazards and deficiencies and determining proper recommendations for over 130 municipal client cross-connection control programs in Wisconsin. Certified by ASSE 5120 for Cross-Connection Control Surveying, Craig applies years of field experience to offering solutions for public water systems that are cost effective.



City Staff Commitments:

1. City to send public awareness letters to water customers to provide information for the meter project and introduce HydroCorp as the “approved” meter installation contractor.
2. Water customer information for HydroCorp database and postal notice sent from HydroCorp to water customers. HydroCorp will provide template for required data. Data to be provided in Excel format.
3. Posting of the water meter replacement online appointment page link on the City website.
4. Handheld activation devices and necessary connectors for each HydroCorp Meter Technician.
5. Provide to HydroCorp, a minimum of 2 hours of in-field demonstration/training of meter activation device with City staff if needed.
6. In the event of a faulty valve at the water meter, temporary shutoff (by City personnel) of water service at curb stop. City to provide on call personnel to facilitate curb stop shut offs as necessary.
7. In the event of a failed or broken valve at meter, temporary shutoff (by City personnel) of water service at curb stop will be provided by City staff. The City shall provide an emergency contact via direct phone number during all HydroCorp personnel working hours. The emergency contact will be capable of locating the curb stop and shutting off service if needed. A City staff member will be available during all HydroCorp working hours.
8. Water customers that do not reply with appointment after 2 contact attempts by HydroCorp will be turned back into City as non-responsive for further action in hopes of getting the homeowner to schedule an appointment.
9. City to enforce local ordinance if applicable for deteriorated piping, pre-existing water leaks and/or water meter not installed in accordance with the ordinance.
10. Access to inventory of water meters, necessary fittings and gaskets on a weekly basis during normal business hours.
11. Dispose of old meters, transmitters and wiring.

4. Tentative Scheduling

1. Scheduling will be predicated on the fulfillment of supply. The creation of notices, account list, and online appointment site will be created shortly after award.



5. Cost Proposal

Proposed Installation Fees: Install includes service line material ID.

- Installation of approximately (5999) 5/8" -1" inch inside set Diehl water meters.....\$95.58 per install
- Installation of approximately (219) 1.5-2" inch inside set Diehl water meters.....\$148.86 per install
- Installation of approximately (22) 3-4" inch inside set Diehl water meters.....\$474.28 per install
- Mobilization (Notice, appointment site, and weekly import file set-up) (One time fee)....\$15,745.00

TOTAL APPROXIMATE PROGRAM FEES FOR COMPLETE METER EXCHANGE.....\$632,163.92

Proposed Installation Fees Alternate Bid: Install includes service line material ID.

- Installation of approximately (2170) 5/8" -1" inch inside set Diehl water meters.....\$96.94 per install
- Mobilization (Notice, appointment site, and weekly import file set-up) (One time fee)....\$3,500.00

TOTAL APPROXIMATE PROGRAM FEES FOR COMPLETE ALTERNATE BID METER EXCHANGE.....\$213,859.80

PLEASE SEE POSSIBLE PER OCCURRENCE FEE INDICATED BELOW

Accepted by:

X _____

City Representative (Signature)

Date

Printed Name / Title



Possible Additional Scope Per Occurrence Fees:

- Any appointment that needs to be rescheduled because of a building issue or water customer no show; the City will be charged **\$65 per appointment**.
- Any install requiring the water meter pit lid to be drilled to accommodate the radio will be assessed a **\$5.00 charge per occurrence**.
- Any service requiring the installation of an electrical jumper wire. The City will be invoiced at a charge of **\$25.00 per installation**.
- Any service requiring the use of the freeze kit will be assessed a **\$195.00 charge per occurrence**.
- Any service requiring an extra notice beyond the contracted (2) to be sent will be assessed a **\$1.40 charge per notice sent**.
- Remobilization fee **\$7500.00** Remobilization fee will apply only if the project is halted as a result out of HydroCorp control.
- Any install requiring to be installed under a Mobile Home will be assessed a **\$55.00 charge per occurrence**.
- Any install requiring the installation of a Meter Setter will be assessed a **\$65.00 charge per occurrence**.
- Any service requiring a Cross Connection Control inspection will be assessed a **\$25.00 charge per occurrence**.
- Any install requiring confined space entry will be assessed a **\$300.00 charge per occurrence**.
- **1. Confined Space Entry**
- *Confined space entry is a hazardous activity that requires specialized training and equipment. HydroCorp personnel will only enter confined spaces that have been properly evaluated and that meet all applicable safety standards.*
- *The cost of confined space entry will be determined on a case-by-case basis. The cost will be based on:*
 - *The size of meter and equipment needed to complete the replacement*
 - *The depth and condition of the confined space*
 - *Requirements for removing the old meter from the confined space, i.e., specialized vehicle or equipment rental*
 - *The cost of any permits or approvals that are required for confined space entry*
 - *The cost of any rescue or emergency response services that may be required*
- **2. Payment**
- *The Utility will pay HydroCorp the agreed-upon price for each confined space entry. The cost of confined space entry will be billed separately in addition to the quoted replacement price for the applicable size of the meter.*

SOFTWARE AS A SERVICE AGREEMENT

This SOFTWARE AS A SERVICE AGREEMENT (the "Agreement") is entered into by both parties and dated this 15th day of September 2023 by and between Vision Metering, LLC (Vendor) with principal place of business at 7 Ross Cannon St., York, SC 29745 and _____ (Licensee) with principal offices at _____.

BACKGROUND

- A. The Licensee is of the opinion that the Vendor has the necessary qualifications, experience and abilities to provide services to the Licensee.
- B. The Vendor is agreeable to providing such services to the Licensee on the terms and conditions set out in this Agreement.

SERVICES PROVIDED

1. The Licensee hereby agrees to engage the Vendor to provide the Licensee with a headend software package known as EndSight with the capability to read and control electric meters, water modules, gas modules and other devices as may become available through EndSight.
2. Vendor will provide all the necessary support functions to ensure EndSight functions as advertised and enables Licensee the ability to utilize EndSight for data collection as it relates to Electric Meter Reading and Service Disconnect, Water meter reading and Gas Meter Reading. The Services will also include any other tasks which the Parties may agree on including integrating with other software packages used by the Licensee. The Vendor hereby agrees to provide such Services to the Licensee provided monthly fees as agreed upon are paid by the Licensee.

TERM OF AGREEMENT

3. The term of this Agreement (the "Term") will begin on the date of this Agreement and will remain in full force indefinitely until terminated as provided in this Agreement.
4. In the even that either Party wished to terminate this Agreement, that Party will be required to provide 30 days written notice to the other Party.
5. In the evet that either Party breaches a material provision under this Agreement, the non-defaulting Party may terminate this Agreement immediately and require the defaulting Party to indemnify the non-defaulting Party against all reasonable damages.
6. This Agreement may be terminated at any time by mutual agreement of the Parties.
7. Except as otherwise provided in this Agreement, the obligations of the Vendor will end upon the termination of this Agreement.

PERFORMANCE

8. The Parties agree to do everything necessary to ensure that the terms of this Agreement take effect.

CURRENCY

9. Except as otherwise provided in this Agreement, all monetary amounts referred to in this Agreement are in USD (US Dollars).

COMPENSATION

10. The Vendor will charge the Licensee for the Services at the rate of \$1.20 per year per endpoint. (the "Compensation").
11. The Licensee will be invoiced on a monthly basis at a rate of \$0.10 per meter per month.
12. Invoices submitted by the Vendor to the Licensee are due within 30 days of receipt.
13. The Vendor will not be reimbursed for any expenses incurred in connection with providing the Services of this Agreement.

CONFIDENTIALITY

14. Confidential information (the "Confidential Information") refers to any data or information relating to the business of the Licensee which would reasonably be considered to be proprietary to the Licensee including, but not limited to, accounting records, business processes, customer information and energy consumption information Licensee records and that is not generally known in the industry of the Licensee and where the release of that Confidential Information could reasonably be expected to cause harm to the Licensee.
15. The Vendor agrees that they will not disclose, divulge, reveal, report or use, for any purpose, any Confidential Information which the Vendor has obtained, except as authorized by the Licensee or as required by Law. The obligations of confidentiality will apply during the Term and will survive indefinitely upon termination of this Agreement.
16. All written and oral information and material disclosed or provided by the Licensee to the Vendor under this Agreement is Confidential Information regardless of whether it was provided before or after the date of this Agreement or how it was provided to the Vendor.

OWNERSHIP OF INTELLECTUAL PROPERTY

17. All intellectual property and related material (the "Intellectual Property") that is developed or produced under this Agreement, will be the property of the Vendor. The Licensee is granted a non-exclusive limited-use license of this Intellectual Property.
18. Title, copyright, intellectual property rights and distribution rights of the Intellectual Property remain exclusively with the Vendor.

RETURN OF PROPERTY

19. Upon the expiration or termination of this Agreement, the Vendor will return to the Licensee any property, documentation, records, or Confidential Information which is the property of the Licensee.

CAPACITY/INDEPENDENT VENDOR

20. In providing the Services under this Agreement it is expressly agreed that the Vendor is acting as an independent contractor and not as an employee. The Vendor and the Licensee acknowledge that this Agreement does not create a partnership or joint venture between them and is exclusively a contract for service. The Licensee is not required to pay, or make any contributions

to, any social security, local, state or federal tax, unemployment compensation, workers' compensation, insurance premium, profit-sharing, pension or any other employee benefit for the Vendor during the Term. The Vendor is responsible for paying, and complying with reporting requirements for, all local, state and federal taxes related to payments made to the Vendor under this Agreement.

RIGHT OF SUBSTITUTION

21. Except as otherwise provided in this Agreement, the Vendor may, at the Vendor's absolute discretion, engage a third party sub-contractor to perform some or all of the obligations of the Vendor under this Agreement. The Licensee has the right to hire third parties to assist with integration processes between EndSight and other systems used by the Licensee. In no case will source code for the EndSight software be shared with third party service providers.
22. In the event that the Vendor hires as a sub-contractor:
 - the Vendor will pay the sub-contractor for its services and the Compensation will remain payable by the Licensee to the Vendor.
 - for the purposes of the indemnification clause of this Agreement, the sub-contractor is an agent of the Vendor.

AUTONOMY

23. Except as otherwise provided in this Agreement, the Vendor will have full control over working time, methods, and decision making in relation to provision of the Services in accordance with the Agreement. The Vendor will work autonomously and not at the direction of the Licensee. However, the Vendor will be responsive to the reasonable needs and concerns of the Licensee.

EQUIPMENT

24. Except as otherwise provided in this Agreement, the Vendor will provide at the Vendor's own expense, any and all tools, machinery, equipment, raw materials, supplies, workwear and any other items or parts necessary to deliver the Services in accordance with the Agreement.

NO EXCLUSIVITY

25. The Parties acknowledge that this Agreement is non-exclusive and that either Party will be free, during and after the Term, to engage or contract with third parties for the provision of services similar to the Services.

NOTICE

26. All notices, requests, demands or other communications required or permitted by the terms of this Agreement will be given in writing and delivered to the Parties at the following addresses:

Licensee

Vendor
Vision Metering, LLC
7 Ross Cannon St.
York, SC 29745

or to such other address as either Party may from time to time notify the other, and will be deemed to be properly delivered (a) immediately upon being served personally, (b) two days after being deposited with the postal service if served by registered mail, or (c) the following day after being deposited with an overnight courier.

INDEMNIFICATION

27. Except to the extent paid in settlement from any applicable insurance policies, and to the extent permitted by applicable law, each Party agrees to indemnify and hold harmless the other Party, and its respective directors, shareholders, affiliates, officers, agents, employees, and permitted successors and assigns against any and all claims, losses, damages, liabilities, penalties, punitive damages, expenses, reasonable legal fees and costs of any kind or amount whatsoever, which result from or arise out of any act or omission of the indemnifying party, its respective directors, shareholders, affiliates, officers, agents, employees, and permitted successors and assigns that occurs in connection with this Agreement. This indemnification will survive the termination of this Agreement.

MODIFICATION OF AGREEMENT

28. Any amendment or modification of this Agreement or additional obligation assumed by either Party in connection with this Agreement will only be binding if evidenced in writing signed by each Party or an authorized representative of each Party.

TIME OF THE ESSENCE

29. Time is of the essence of this Agreement. No extension or variation of this Agreement will operate as a waiver of this provision.

ASSIGNMENT

30. The Vendor will not voluntarily, or by operation of law, assign or otherwise transfer its obligations under this Agreement without the prior written consent of the Licensee.

ENTIRE AGREEMENT

31. It is agreed that there is no representation, warranty, collateral agreement or condition affecting this Agreement except as expressly provided in this Agreement.

ENUREMENT

32. This Agreement will enure to the benefit of and be binding on the Parties and their respective heirs, executors, administrators and permitted successors and assigns.

TITLES/HEADINGS

33. Headings are inserted for the convenience of the Parties only and are not to be considered when interpreting this Agreement.

GENDER

34. Words in the singular mean and include the plural and vice versa. Words in the masculine mean and include the feminine and vice versa.

GOVERNING LAW

35. This Agreement will be governed by and construed in accordance with the laws of the State of South Carolina.

SEVERABILITY

36. In the event that any of the provisions of this Agreement are held to be invalid and unenforceable in whole or in part, all other provisions will nevertheless continue to be valid and enforceable with the invalid or unenforceable parts severed from the remainder of this Agreement.

WAIVER

37. The waiver by either Party of a breach, default, delay or omission of any of the provisions of this Agreement by the other Party will not be construed as a waiver of any subsequent breach of the same or other provisions.

IN WITNESS WHEREOF the Parties have duly affixed their signatures under hand and seal on this 15th day of February, 2021.

Company Name

Per: _____ (Seal)

Officer's

Name: _____

Vision Metering, LLC

Per: _____ (Seal)

Officer's

Name: _____



7 Ross Cannon Street
York, SC 29745-1341
803.628.0035 t
803.628.0282 f
www.visionmetering.com

Warranty Policy

Vision Metering, LLC warrants Vision Meters for 2 years. We will repair or replace any defective equipment due to materials or workmanship during the warranty period. The Warranty starts from the date of Invoice.

This warranty excludes any expense for removal or reinstallation of any defective goods and any other incidental, consequential, or punitive damages incurred by the buyer or buyer's customer and shall not apply where goods have been subject to acts of God, misuse, abuse, neglect, accident, improper application or have been repaired or substantially altered by others.

Shipping and Handling: Vision Metering will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vision Metering will pay for outbound shipping, transportation, and insurance charges for all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier. If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. *Contact your carrier immediately.*

This limited warranty is the only warranty made by Vision Metering, LLC and is expressly in lieu of all other warranties expressed and implied, including any warranties of merchantability and fitness for a particular purpose. This warranty does not include any installed third party communications modules or firmware contained within the Vision Electric meter. No Statement, conduct or description by Vision Metering, LLC or its representative in addition to this Limited Warranty shall constitute a warranty.

2/6/2020

**VISION 20/20
PROGRAMMING SOFTWARE
USER'S GUIDE**



Table of Contents

Introduction.....	4
1. Program Installation.....	4
2. Login.....	5
3. Software Compatibility with firmware earlier than 4.0.....	6
4. Meter Configuration using Vision 20/20.....	6
5. Main Screen.....	8
5.1 Configuration.....	8
5.2 Enable warnings.....	11
5.3 Protocol Version.....	11
6. Settings Screen.....	12
6.1 Meter tab.....	13
6.2 Registers tab.....	15
6.3 Demand Settings tab.....	17
6.4 Date and Time.....	20
6.5 Disconnect Switch tab.....	20
6.6 Tests tab.....	21
7. Display Settings.....	23
8. AMR/AMI Settings.....	33
8.1 AMR (ERT) Protocol.....	34
8.2 Packet Information.....	35
8.3 ERT Type.....	35
8.4 Packet Structure.....	36
8.5 Multiple ERT (SCM) Transmission.....	36
9. Security Keys Setting.....	39
10. Time-Of-Use (TOU).....	40
10.1 TOU Settings.....	40
10.2 Daylight Saving Time Settings.....	44
11. Load Profile Settings.....	46
11.1 Load Profile Settings.....	46
11.2 Load Profile Read/View.....	48
12. Event Log.....	49

13. Manage Users Settings.....	54
13.1 Change Password.....	56
14. Phasor Diagram.....	57
15. Meter Error List.....	58
15.1 List of Possible Errors.....	59
Appendix A. List of Used Types of Communication.....	62
Revision History.....	63

Introduction

Vision 20/20 Programming Software is designed to program both XT & ST models and 4.XXX firmware versions of the Vision Metering product line. The low cost model is not supported by Vision 20/20 version 4 and later. Vision 20/20 is also used to program and read all operating parameters and settings of the meter, including the communication modes of Hunt AirPoint and Vision's Data on Demand RF communication circuitry, if equipped. The software communicates with the meter utilizing ANSI C12.18 and C12.19 standards.

1. Program Installation

- Start by running the “*Setup, Vision2020-<version>-win32.exe*” file provided and the installation process will begin
- Use the wizard to install Vision 20/20
- Open the executable *Optocom Driver.exe* located in the Vision 2020 folder under program folder on the hard drive

After starting 20/20 for the first time login user Supervisor and password is 2020. To run the application it is necessary to select a COM port for the attached optical probe. This is accomplished by selecting settings tab and then selecting COM settings from the main screen. After the initial selection the program will save the COM setting for future use.

2. Login

The Vision 20/20 software features the ability to create users with different access privileges. The login screen is shown in **Figure 1**. The default login user names are **Supervisor**, **Technician**, and **User**. Later these users can be deleted or their rights changed. [Refer to Section 13 for information regarding creating and managing user permissions.](#)



Figure 1

3. Software Compatibility with firmware earlier than 4.0.

Meters containing firmware earlier than 4.0 will not communicate with Vision 20/20. An error message will be displayed and a previous version of the software would be opened.

4. Meter Configuration using Vision 20/20

Before the meter can communicate with Vision 20/20 software, the selection of a **COM port** must be completed. To select a COM port, click on the **Application Settings** tab and select the desired COM port. By default, the software will select the previously used COM port. Optical probes are often changed during installation and maintenance operations, so it is necessary to ensure the correct COM port is selected before the reading of a meter is attempted. The COM Port is displayed in the main title of the Vision 20/20 software, as shown in **Figure 2**

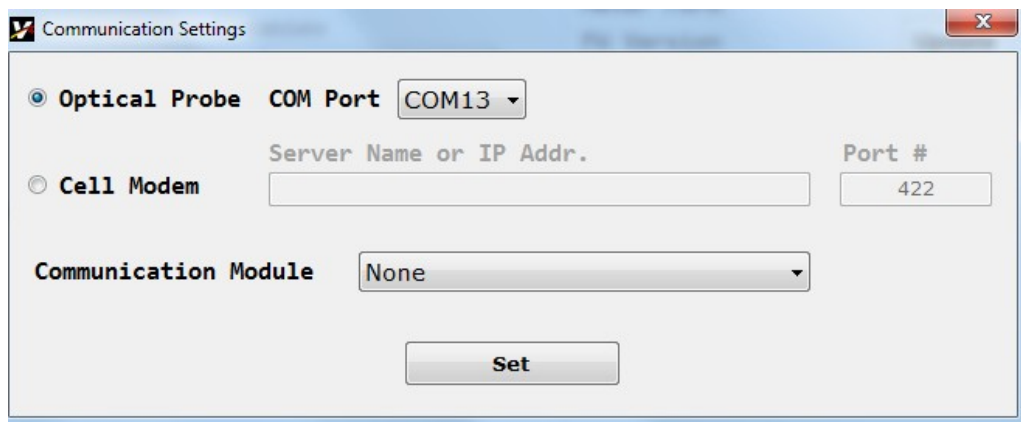


Figure 2

The **Configuration** screen is the first and main screen. The **“Read Meter”** button retrieves all configuration data present on the meter. The **Program Meter** button programs all configurable data present within the open instance of Vision 20/20 to the meter. In addition, the Configuration screen provides a multitude of useful data which can be viewed by pressing the **Read Meter** button. [Refer to Section 7 for more information about programmable meter display settings.](#)

Notes:

1. **The meter must be energized to perform any read or write functions.**
2. **Optical probe must support baud rate 9600, 8 bits, no parity serial port communication parameters.**

If communication module embedded to the meter is supporting Internet protocol, select **Cell Modem** options to interrogate a meter. Two Internet parameters are available for it: **Server Name or IP Address** and **Port #**. Usually, an Internet provider supplies IP address and module manufacturer provides used port.

Communication Module selector is reserved for future use.

5. Main Screen

5.1 Configuration

The Configuration screen is opened by default and is shown in **Figure 3**. Entire settings set can be read by clicking the **Read Meter** located on the bottom left corner.

Observe the **File**, **Edit**, **Phasor Diagram**, **Meter Error List**, **Application Settings** and **Help** drop down menus located on the upper task bar.

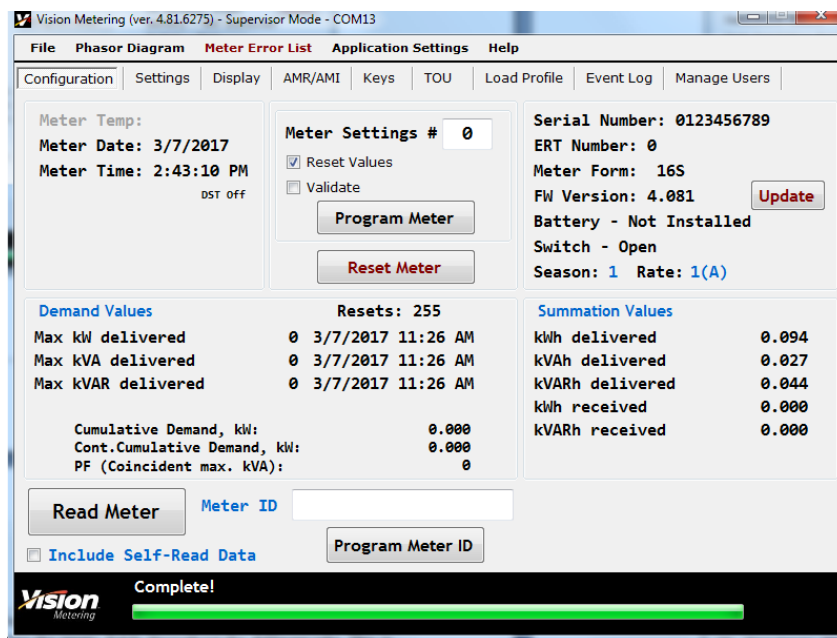


Figure 3

- The **File** tab allows the user to *open, save as, save special, and generate report, import, and export, log out, or exit*. Example on **Figure 4**.

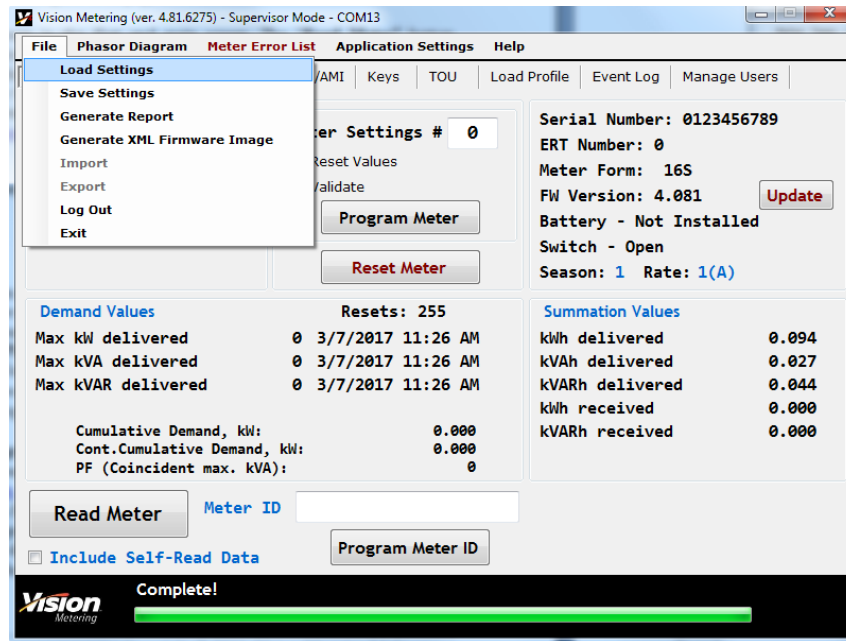


Figure 4

- The **Phasor Diagram** and **Meter Error List** tabs are not selectable until the meter has been read. [Refer to Section 14 for detailed information on the Phasor Diagram function.](#)
- The **Application Settings** tab allows the selection of *COM port*, *Enable Warnings*, *Change password*, *Radio Not Supported* or *Check Old Protocol Version*. This is shown in **Figure 5**. The Security Key selection is only available when the present key won't provide access to the meter. This selection provides the opportunity to input a different key. [Refer to Section 9 for additional information on Security Key Settings.](#)
- The **Help** tab allows user to select *About* or *Help*. By clicking on the **Help** tab, it is possible to select **Shortcut Keys**. **Shortcut Keys** are provided to help expedite routine tasks through macros bound to user selectable keys, as shown in **Figure 6**.

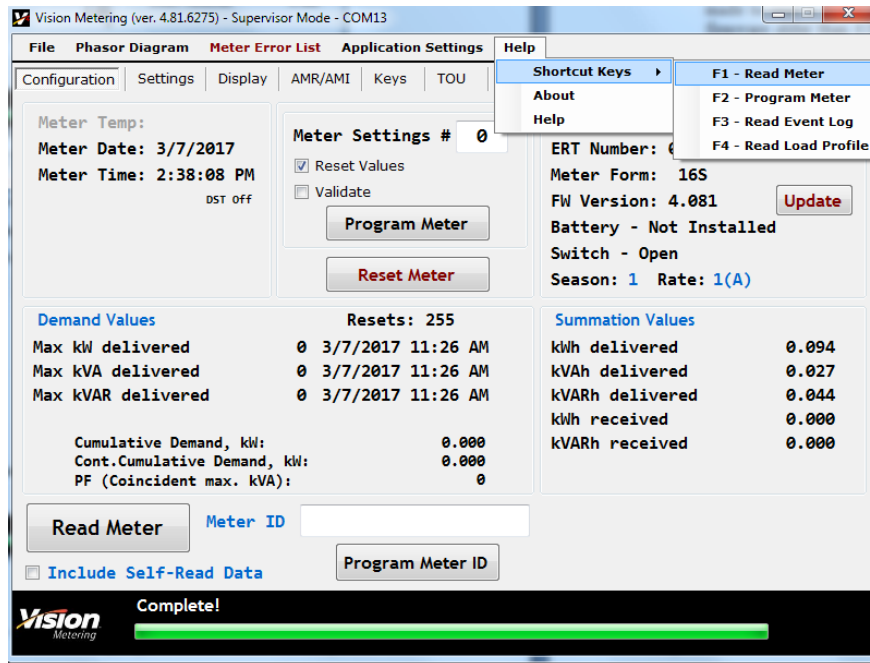


Figure 5

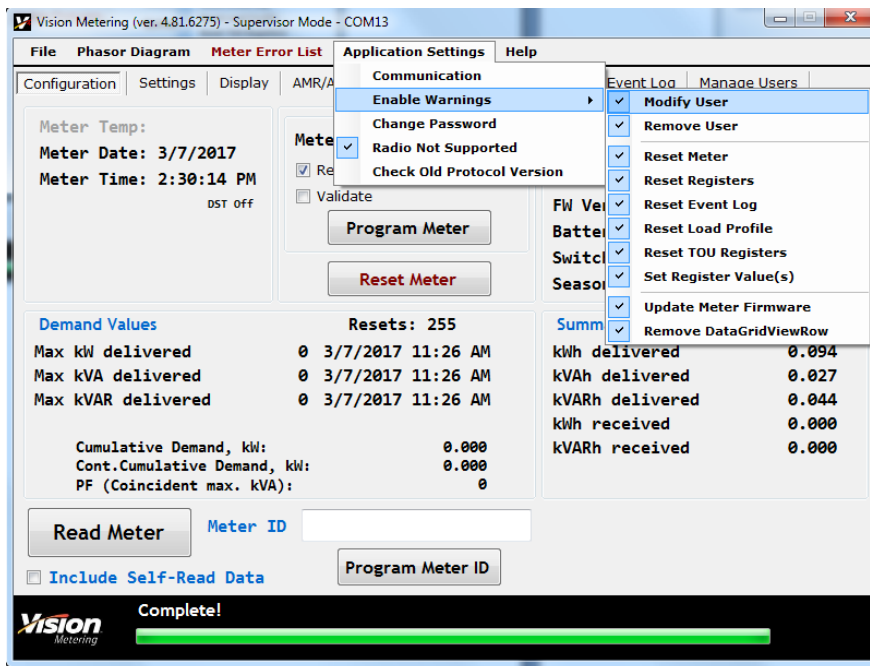


Figure 6

5.2 Enable warnings

Located in the **Application Settings** tab of the task bar as shown in **Figure 6**, it is possible to enable warning messages when performing certain functions in Vision 20/20.

- To enable or disable any individual warning message, simply click to add or remove the checkmark.

5.3 Protocol Version

Located in the **Application Settings** tab, shown in **Figure 6**, is the **Check Old Protocol Version** option. If the meter being programmed has firmware newer than version 4.0, this option may be unselected to speed up the programming process. If an attempt is made to read a meter without **Check Old Protocol Version** enabled and the meter has firmware older than 4.0, the meter will not be read and will not give any errors for read failure.

Clicking on the **Read Meter** button located on the bottom left corner, will load all of the data read from the meter and populate the empty fields throughout the different tabs. This is shown in **Figure 7**.

- The status bar is located at the bottom of the screen and shows progress of the read and write processes
- The initial reading provides basic information such as date, time, serial number, and firmware version. If the presence of a battery or switch is detected, it will be indicated on the right side of the configuration screen
- The **Reset Meter** button will reset errors and all accumulated registers.
- The **Program Meter** button located in the middle above the **Reset Meter** button will send all current settings to the meter.
- As shown in **Figure 7**, the **Update Firmware** button updates the firmware on the meter and displays the current version on the screen. If the **Update Firmware** button is inaccessible, [refer to Section 13 for assignment of privileges and user management.](#)
- Upon clicking the **Update** button a prompt will appear to select the firmware file to send to the meter
- For ease of recognition, the **Meter ID** is a customized ID number which can be assigned to each meter, limited to 20 characters. The **Meter ID** is assigned by entering the desired Meter ID followed by clicking the **Program Meter ID** button

- Observe that the switch is closed. To change the position of the switch, click on either the **Open** or **Close** buttons. The status of the switch will be displayed as either **Charging** or **Ready**. In approximately one minute, the capacitor will be charge to a level where the meter can safely change the position of the switch. When charging is complete, **Ready** will be displayed indicating that the switch position can be changed. [Refer to section 6.3 for switch recognition issues.](#)
- To validate the settings sent to the meter, check the **Validate** box and click **Program Meter** button. It is possible to verify that the settings were programmed to the meter by checking the **Meter Settings #** field
- It is possible to reset register values by checking the **Reset Values** box followed by clicking the **Program Meter** button. This will reset errors, demand and registers. This action does not reset the event logs or load profiles

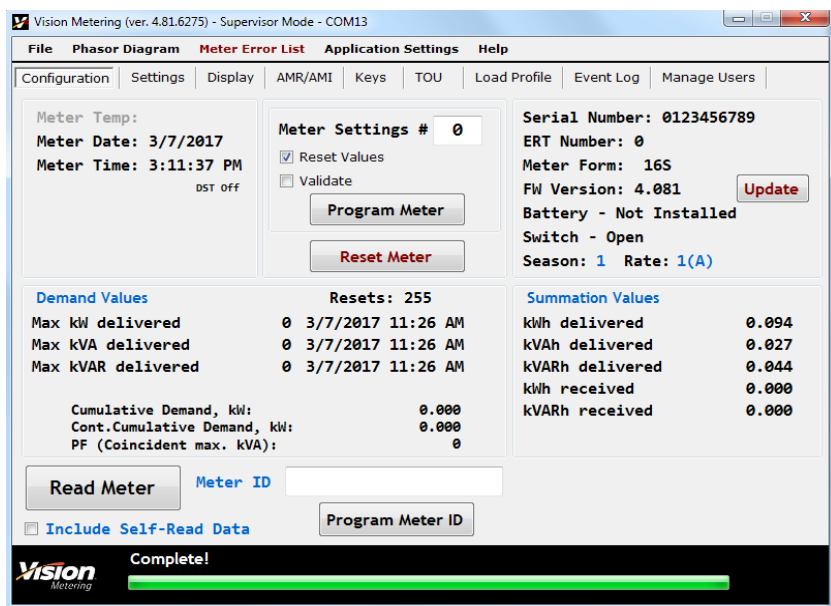


Figure 7

6. Settings Screen

The second tab is **Settings** and will open the screen shown in **Figure 8**. This screen allows seeing the following selections:

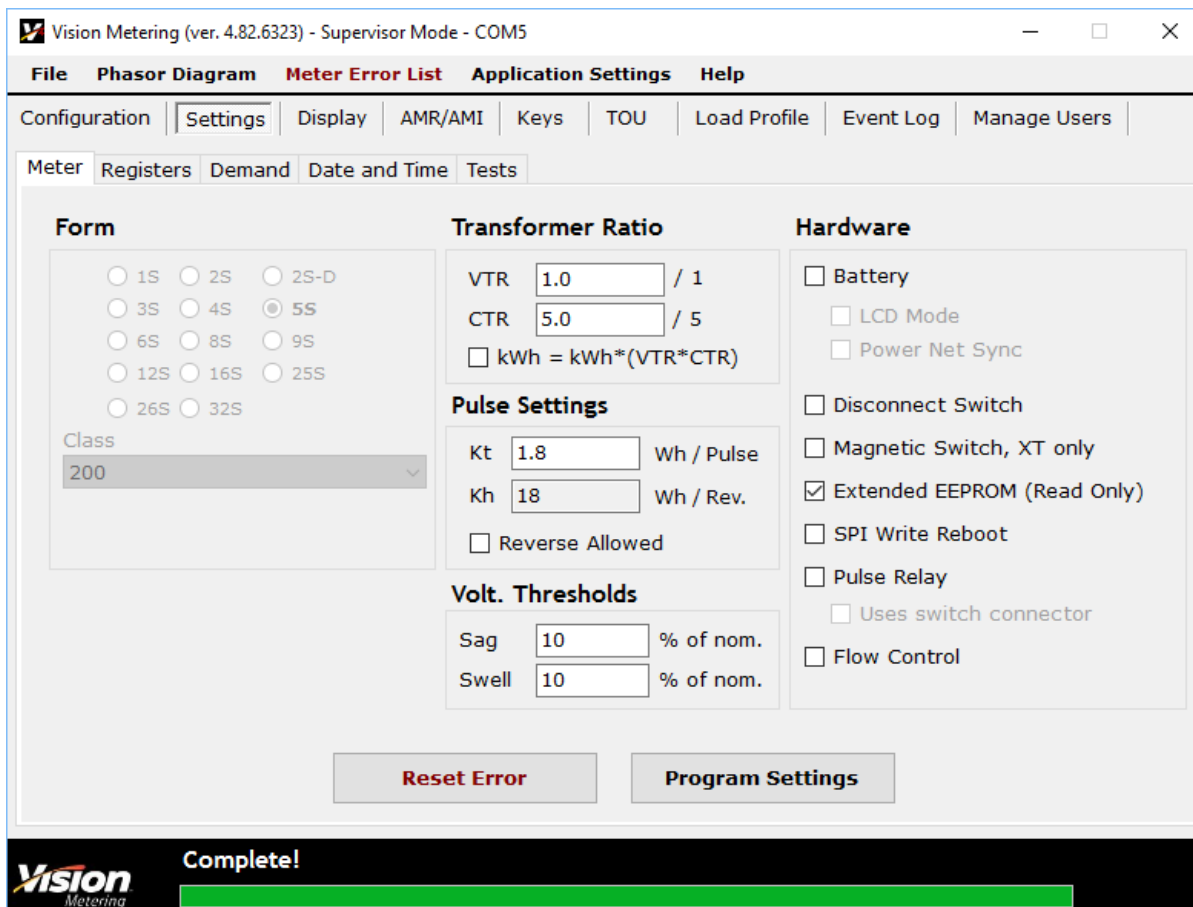


Figure 8

The Settings tab contains the following sub-tabs:

1. Meter
2. Registers
3. Demand
4. Date and Time
5. Tests
6. Disconnect Switch. This tab appears if checkbox **Disconnect Switch** on the Meter tab is checked.

6.1 Meter tab

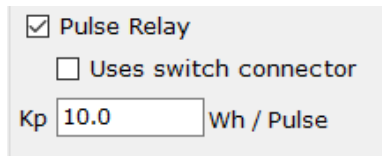
This tab let user to set general meter option and contains the following sections:

1. **Form.** Is is not available for edit. A meter form and class can be selected by the meter manufacturer.
2. **Transformer Ratio.** Lets to adjust meter readings to used voltage and current transformers ratios. This selection is not enabled unless meter is transformer rated. Examples of such meters are: Forms 3, 4, 5, 6, 8, 9, 10.

Example: If a Current Transformer ratio is 200:5 then 200 should be entered in this box.

Entering the **Transformer Ratio** values alone would not affect rate of change for billing registers – it would only affect Voltage and Current reading on the display. The **kWh=kWh*(VTR*CTR)** box must be checked to apply **CTR** and **VTR** to billing registers.

3. **Pulse Settings.** Lets to set meter Watt-hour ratio per pulse (**Kt** parameter). Watt-hour per revolution for disk emulator (**Kh**) is always equal 10 pulses of Kt and it is not adjustable. The checkbox **Reverse Allowed** has to be checked to register received energy. This box also suppress the Tamper error.
4. **Volt. Thresholds.** These options are used to register deviations of normal voltage in the event log. **Sag threshold:** meter generates event record if voltage drops below n% of nominal voltage. **Swell threshold:** meter generates event record if voltage exceeds n% of nominal voltage.
5. **Hardware.** This section contains settings for used extra hardware.
 1. **Battery** box has to be checked if an external battery is used for the internal clock. Firmware monitors voltage of the battery in this case. If selected **LCD Mode**, the meter shows accumulated kilo-Watt-hours with no power. If **Power Net Sync.** Box is checked meter synchronize its clock with network frequency.
 2. **Disconnect Switch** box has to be checked if a disconnect switch is installed in in the meter. The tab Disconnect Switch with the parameters appears in the settings.
 3. **Magnetic Switch** box is checked if need to show Diagnostic screen and a meter is equipped with this switch. See the section **7. Display Settings** for more details. This option is supported on XT meters.
 4. Extended EEPROM box is read-only and indicates if extra non-volatile memory chip is installed. Used only in the meters based on the XT-E platform.
 5. **SPI Write Reboot** box can be checked if a communication module uses Serial Peripheral Interface (SPI). In this case, a meter reboots any time if receives a write command via this interface.
 6. **Pulse Relay** box is used for the KYZ board installed in the meter. User can program Wh/Pulse ratio for the board if this box is checked. Vision provides two types of KYZ boards: one-channel and two-channel boards. The two-channel board uses disconnect switch connector, therefore the boxes **Uses switch connector** and **Disconnect Switch** are mutually exclusive.



The image shows a configuration panel with a light gray background. It contains three elements: a checked checkbox labeled 'Pulse Relay', an unchecked checkbox labeled 'Uses switch connector', and a text input field labeled 'Kp' containing the value '10.0' followed by the unit 'Wh / Pulse'.

Figure 9

7. **Flow Control** box is used with the special energy flow detector. This board shares the same micro controller inputs/outputs as KYZ board, therefore the box mutually exclusive with the Pulse Relay box.

6.2 Registers tab

This tab contains two sub-tabs: Configure and Update Data.

The **Configure** tab contains two windows and lets a user to set meter registers.

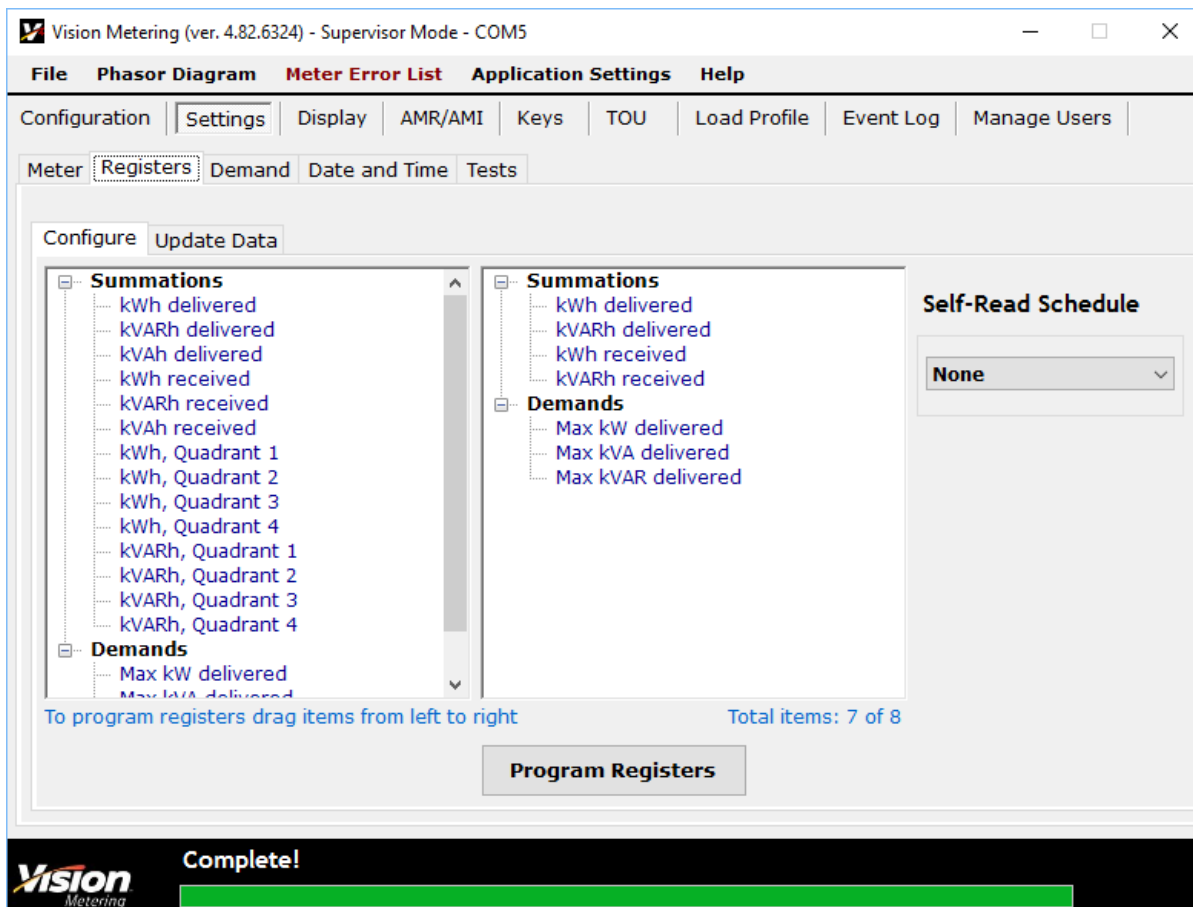


Figure 10

The left window provides a list of all supported sources of summations and demands. Drag an item to the right window to set desired combination of the sources.

Limitations:

1. Currently meter firmware does not support demands programming.
2. Maximum number of summations is 5.

User can select self-read schedule on this tab. Three options are available: None, Daily or Weekly.

Use the **Program Registers** button to send selected sources to the meter.

Meter registers can be set manually using the **Update Data** tab as shown in **Figure 11**.

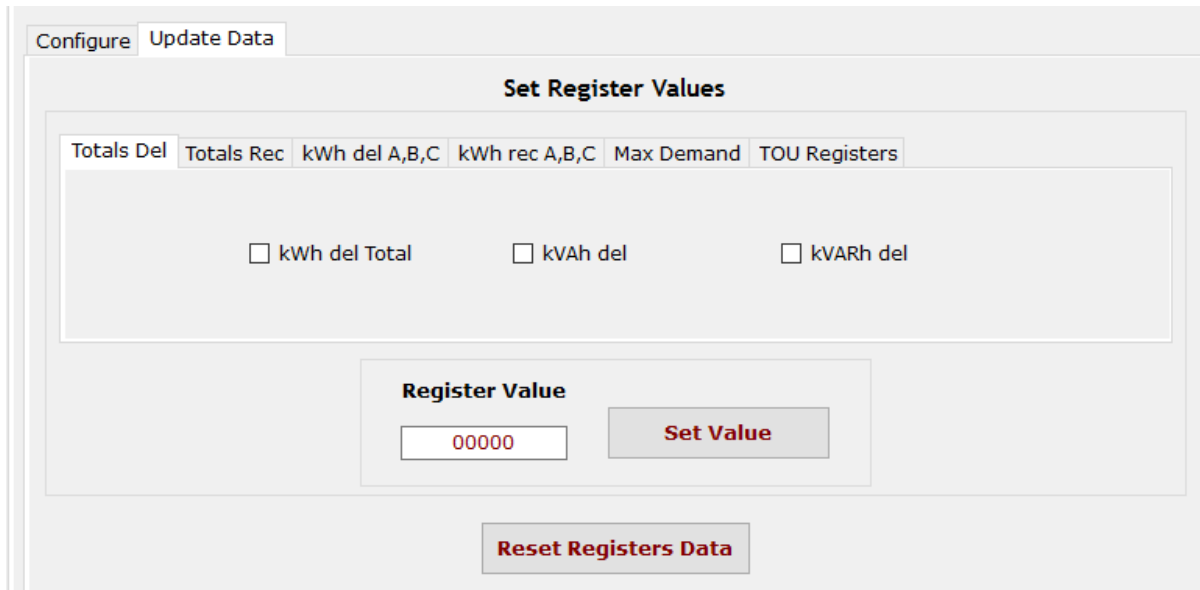


Figure 11

This tool can be used to manually update register values for meter change outs during billing cycles. As shown in **Figure 11**, it is possible to select the desired register variables, enter the value in the **Register Value** field, and then set the values to the meter.

- Select the register to be updated and place the new value in the **Register Value** field.
- Clicking the **Set Value** button will send these values to the meter.
- The **Reset Registers** data will reset registers to zero and the **Reset Error** button will reset errors.

6.3 Demand Settings tab

The **Demand Intervals** section consists of four fields (see **Figure 12**). **Interval Type** which can be **None**, **Block** or **Rolling**. The **Interval Length**, in minutes, is selectable from the dropdown menu.

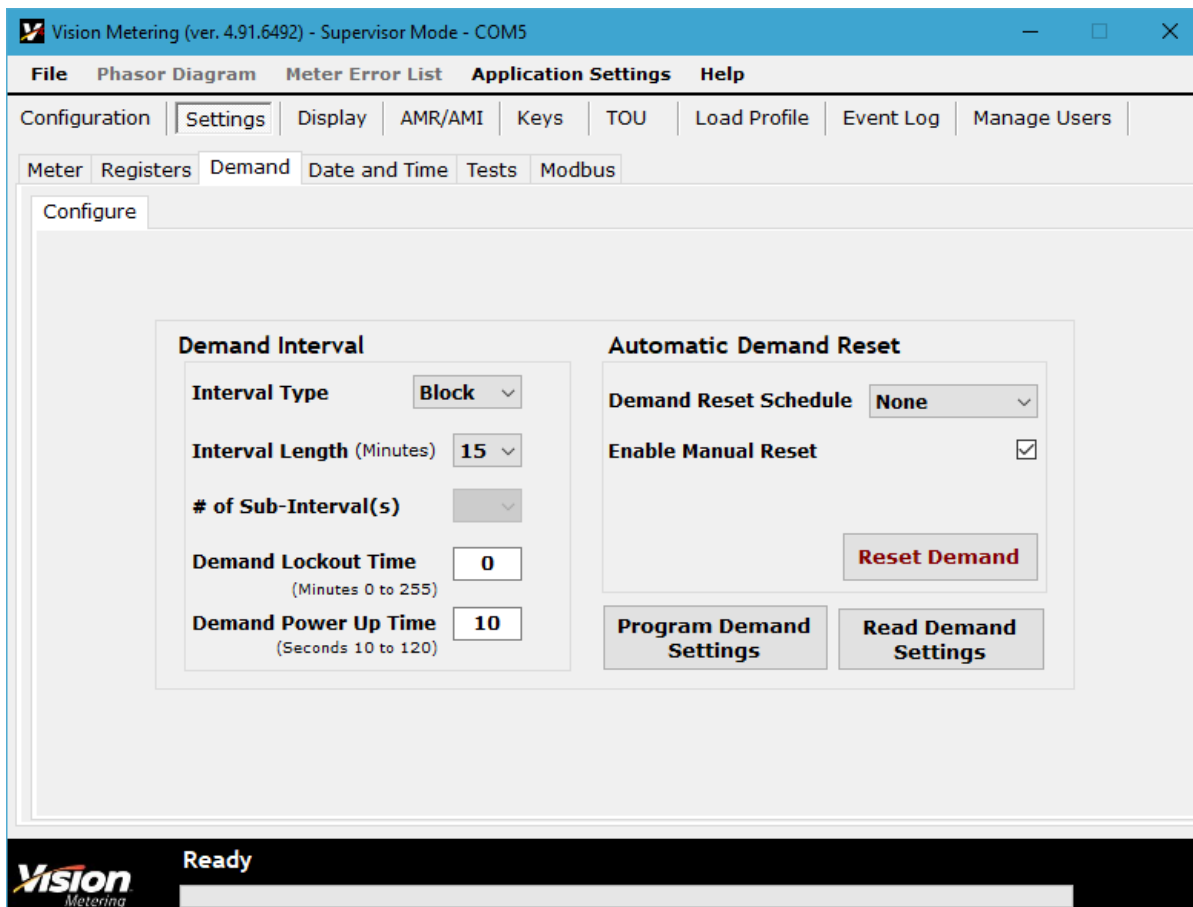


Figure 12

- If Rolling Demand is selected, the Demand sub-interval length must be selected followed by number of sub-intervals. (ex. For a 30 minute total time rolling interval with 6 sub-intervals, select an interval length of 5 minutes and 6 for the number of sub-intervals)
- The **Demand Lockout Time** field sets the minimum time between demand resets, in minutes, and may not be set higher than 255
- **Demand Power Up Time** sets a delay for demand after power to the meter is restored

The section **Automatic Demand Reset** describes schedule for reset automatically:

- ♦ **None**
- ♦ **Daily**
- ♦ **Weekly**. Selection of this option adds Day of Week combo box.

- ♦ **Monthly.** Adds a date of month (1...31) combo box.
- ♦ **Custom.** Adds custom days to reset. Up to 140 custom days are available. If this option is selected, a new tab “Custom Reset Schedule” appears next to “Configure” tab.

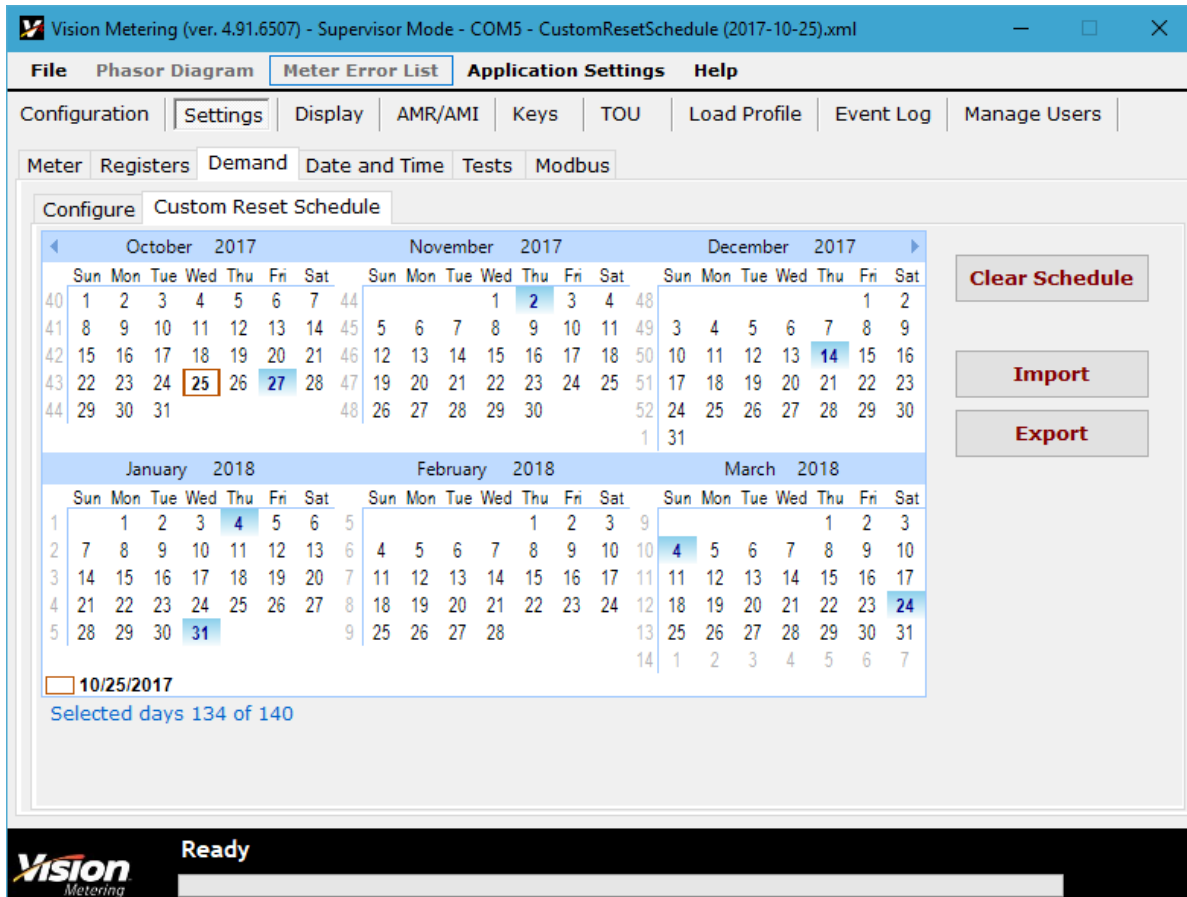


Figure 13

Reset days can be selected by clicking left mouse button. The blue rectangle as it is shown on the **Figure 13** appears after mouse pointer moves to another place. To unselect click a selected day again.

The **Export** button can be use for save selected dates to xml file. The **Import** button is for restore schedule from a previously saved xml file.

- ♦ **Work Days.** Adds the interval in work days between resets. The range is from 1 to 255 days. This option is experimental.

If a meter is programmed with the checked box **Enable Manual Reset**, the meter right upper button can be used for reset, otherwise this button is disabled.

Use the **Reset Demand** button for reset manually, the **Program Demand Settings** to send selected demand settings to the meter and the **Read Demand Settings** to read data from the meter.

6.4 Date and Time

The system and meter time options are shown in **Figure 14**. The **Date and Time** field provides the computer system clock information as a reference for meter clock information. The Vision2020 application shows date and time in format based on system settings.

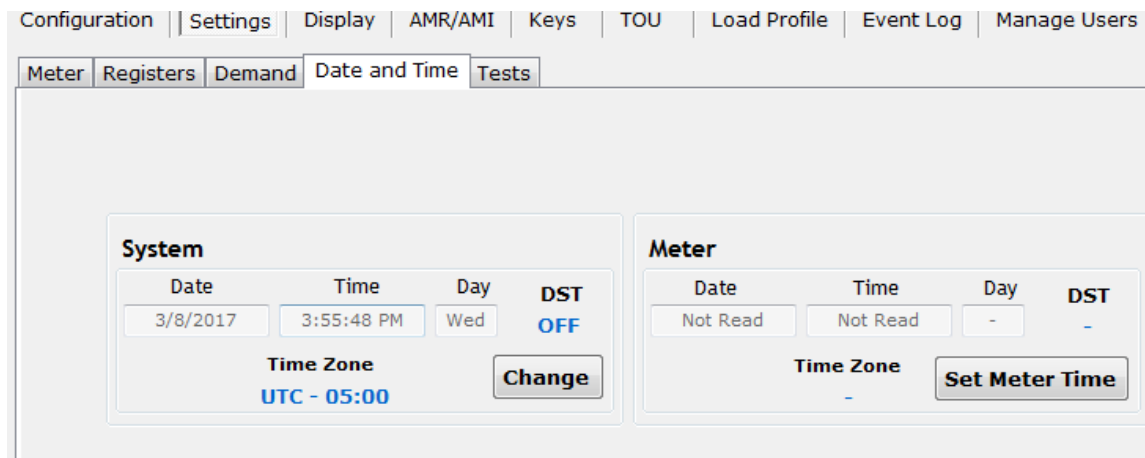


Figure 14

- The system time zone is changed by clicking the **Change** button and then selecting the appropriate time zone.
- The **Set Meter Time** button will synchronize the meter clock with the system clock. The system information about Daylight Saving Time (DST) also will send to the meter. If the meter is equipped with a battery, the date and time need to be programmed. DST is used by Time-Of-Use, if the DST events are scheduled.
- The time zone can be changed by clicking the **Change** button. Limitation: A meter firmware does not use Time Zone information, only local time.
- System settings are transferred to the meter when clicking the **Set Meter Time** button.

6.5 Disconnect Switch tab

This tab is available only if **Disconnect Switch** box is checked in the **Meter** tab (see **6.1 Meter tab** for details).

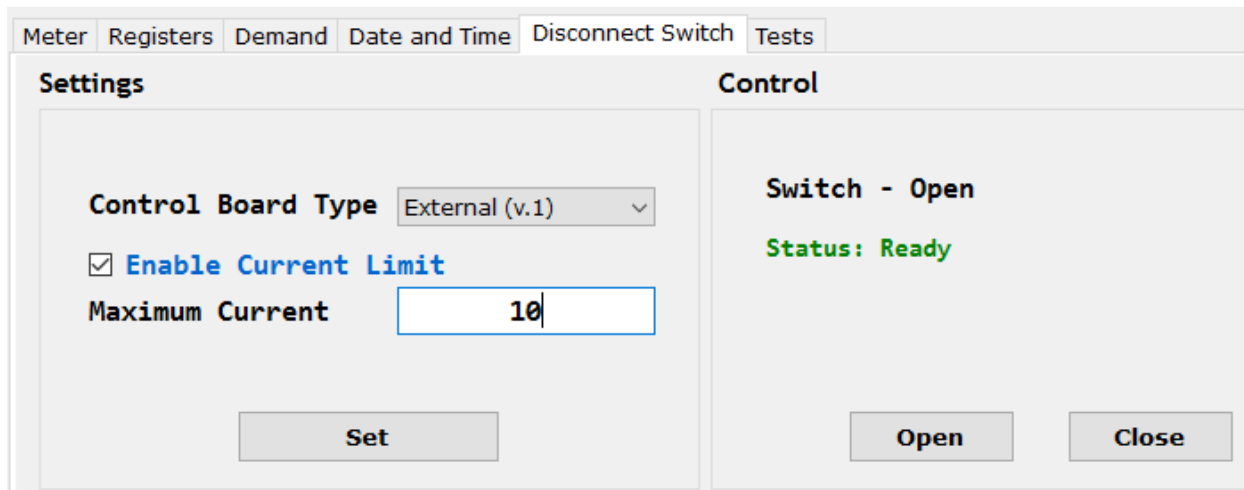


Figure 15

The Settings group lets user to select switch **Control Board Type**. It has to match board version installed in the meter. There are four versions of control boards:

1. **External (version 1)**;
2. **HawkEye**: board embedded to HawkEye™ meters;
3. **External** board used with **UL** meter boards;
4. **Embedded to XT-E** boards.

The correct selection is usually done by manufacturer.

In this group, a user can set a current threshold value. The meter will disconnect from the network, if load exceed this limit. The threshold does not work, if the current value set to 0 or unchecked **Enable Current Limit**.

In the Control group is shown actual status and error (if it is exists) and lets user to operate switch to open or close.

6.6 Tests tab

The meter is capable of select output pulses between **kWh** and **kVARh** for test purposes. The Test Settings section can be used to generate select pulses. Meter keeps this setting in non-volatile memory and it is important to restore proper pulses type for use a meter in the field. When reactive pulses are selected the meter shows the character '\$' in the display upper left corner with every pulse.

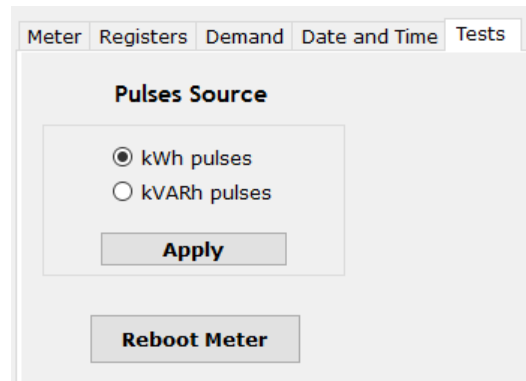


Figure 16

A user also be able to send the **Reboot Meter** command to the meter.

7. Display Settings

Display settings contain two tabs: **Settings** and **Sources**. The **Settings** tab is used to set common for all modes parameters and scrolling parameters for each mode.

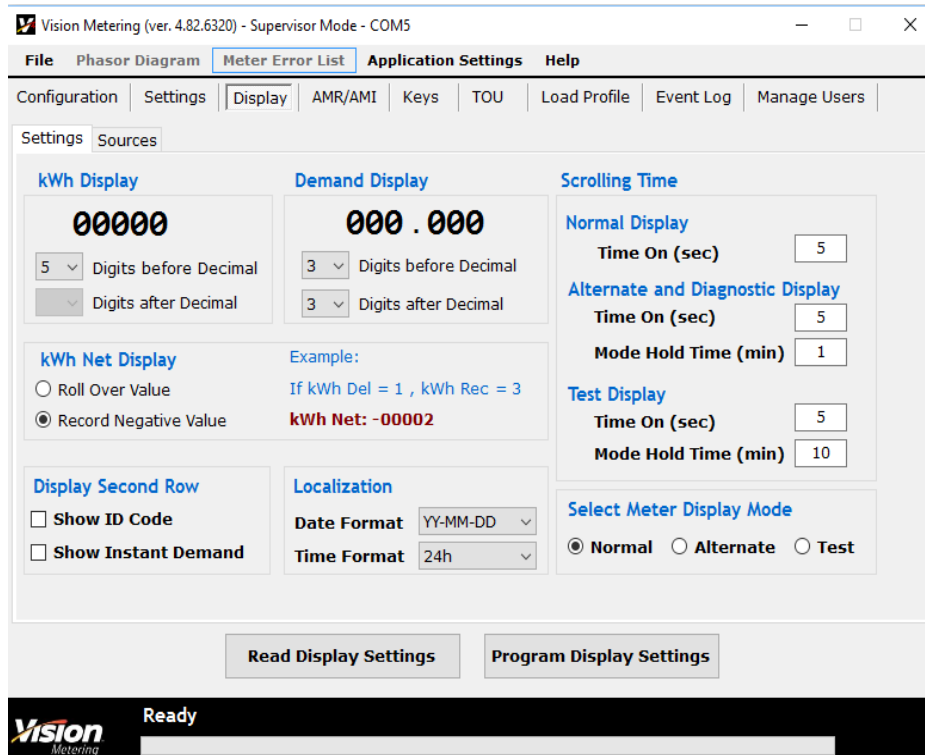


Figure 17

Vision 20/20 provides four mode options for displays; **Normal**, **Alt**, **Test**, and **Diagnostic**.

The **Time On** parameter describes how much seconds need to show each screen. **Mode Hold Time** determines time in minutes for each mode. When timer expires meter switches to the Normal mode. The Diagnostic mode uses the same parameters as Alternate mode.

The section **Display Second Row** lets a user to choose what information to show in the second row of the meter display. If **Show ID Code** is enabled, Instant demand will not be displayed in the second row, 3-digits Id codes will be shown for each source instead. In this case, the extra column ID appears in the right window of the Source tab and enables to type in the 3-digit ID number for each source item.

Enabling **Show Instant Demand** will initiate a meter to show the instantaneous demand for some sources not using the second row. This is a three digit reading that appears below the kWh registration on the LCD display.

In order to switch to the Diagnostic Display a meter board has to be equipped with a magnetic sensor. In this case a magnet from the optical probe can be used.



Figure 18

**Magnetic Sensor in the meter switches to
Diagnostic Display**

Meter localization is available by selecting Date and Time formats. Three options for Date Format:

1. YY-MM-DD (default)
2. MM-DD-YY
3. DD-MM-YY

and two options for Time Format:

1. 24 hours (default)
2. 12 hours

kWh Display and **Demand Display** sections let a user to select desired number of total digits on the meter display and place decimal point separator. Currently meter can display up to six digits on the display. If selected the option Record Negative Value in the section **kWh Net Display**, a minus sign will be shown for negative values at the left side of the display, therefore, only 5 digits can be used in this case.

User can switch meter to Normal, Alternate or Test modes from the section **Select Meter Display Mode**.

The **Sources** tab determines what sources can be shown on the meter display. Up to 73 sources can be selected for a single meter. To program each display mode simply drag an item from the left list to the right. To delete an unwanted item drag it in opposite direction – to any place on the left window, or use keyboard **Del** button. To remove all items from the right window use the **Ctrl+D** buttons.

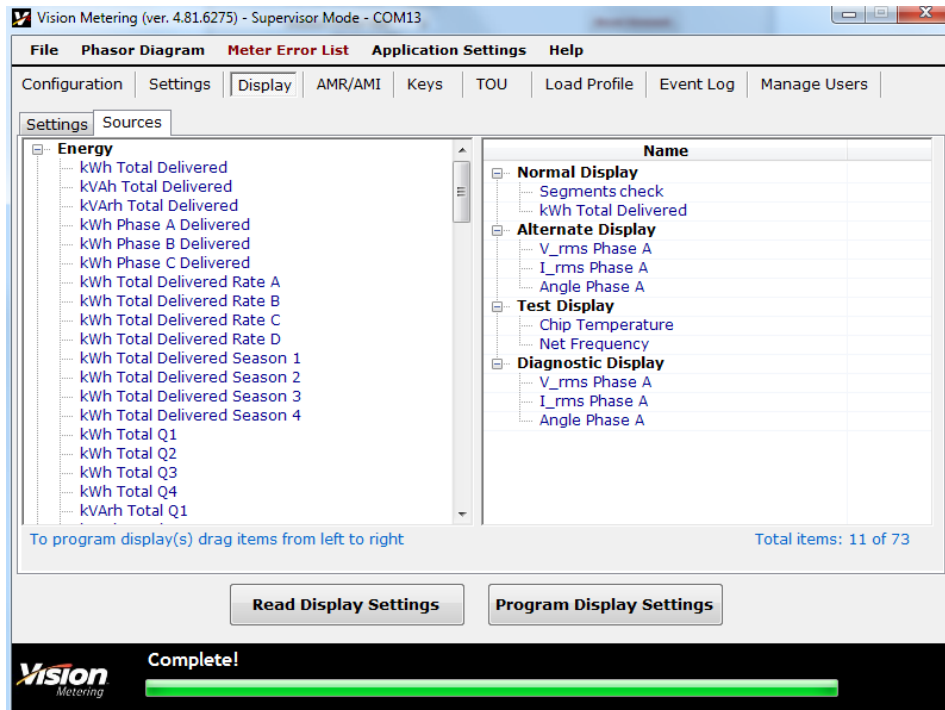


Figure 19

The popup menu appears after the mouse right click on any place of the left window:

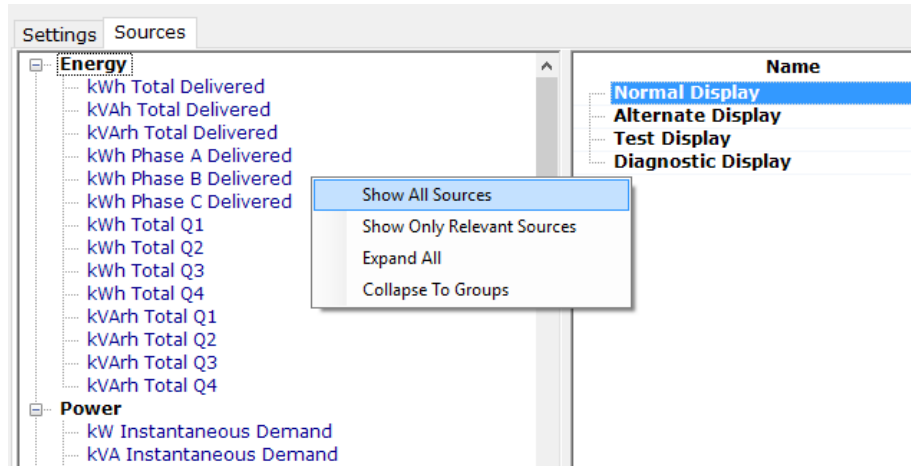


Figure 20

All sources can be visible on the left if selected **Show All Sources**. Default are visible only relevant sources for selected meter form and other settings. For example, if the meter form is 2S, kWh Phase B and C sources are hidden, or Time-Of-Use sources are not visible if TOU is not used.

- **Read Display Settings** button initiates to read current meter display settings;
- The **Program Display Settings** button sends the selected settings from tabs settings and sources to the meter. Vision 20/20 validates all sources and removes non-relevant before sending data to the meter.

List of available sources.

	Group	Source Name	Available when
1	Energy	kWh Total Delivered	
2		kVAh Total Delivered	
3		kVArh Total Delivered	
4		kWh Total Received	Reverse checked
5		kVAh Total Received	Reverse checked
6		kVArh Total Received	Reverse checked
7		kWh Total Net	Reverse checked
8		kWh Phase A Delivered	Not forms 1S,2S,3S,22S
9		kWh Phase B Delivered	Not forms 1S,2S,3S,22S
10		kWh Phase C Delivered	Not forms 1S,2S,3S,22S

	Group	Source Name	Available when
11		kWh Phase A Received	Not form 1S,2S,3S,22S and Reverse checked
12		kWh Phase B Received	Not form 1S,2S,3S,22S and Reverse checked
13		kWh Phase C Received	Not form 1S,2S,3S,22S and Reverse checked
14		kWh Total Delivered Rate A	TOU programmed
15		kWh Total Delivered Rate B	TOU programmed
16		kWh Total Delivered Rate C	TOU programmed
17		kWh Total Delivered Rate D	TOU programmed
18		kWh Total Delivered Season 1	TOU programmed
19		kWh Total Delivered Season 2	TOU programmed
20		kWh Total Delivered Season 3	TOU programmed
21		kWh Total Delivered Season 4	TOU programmed
22		kWh Total Quadrant1	
23		kWh Total Quadrant2	
24		kWh Total Quadrant3	
25		kWh Total Quadrant4	
26		kVArh Total Quadrant1	
27		kVArh Total Quadrant2	
28		kVArh Total Quadrant3	
29		kVArh Total Quadrant4	
30		Prev kWh Total Delivered (Pr3)	Demand programmed
31		Prev kVAh Total Delivered (Pr4)	Demand programmed
32		Prev kVArh Total Delivered (Pr5)	Demand programmed
33		Prev kWh Total Received (Pr6)	Demand programmed, Reverse checked
34		Prev kVAh Total Received (Pr7)	Demand programmed, Reverse checked
35		Prev kVArh Total Received (Pr8)	Demand programmed, Reverse checked
1	Power	kW Max Demand	Demand programmed

	Group	Source Name	Available when
2		kVA Max Demand	Demand programmed
3		kVAr Max Demand	Demand programmed
4		kW Instantaneous Demand	
5		kVA Instantaneous Demand	
6		kVAr Instantaneous Demand	
7		kW Cumulative Demand	Demand programmed
8		kW Continuous Cumulative Demand	Demand programmed
9		kW Max Demand Rate A	Demand and TOU programmed
10		kW Max Demand Rate B	Demand and TOU programmed
11		kW Max Demand Rate C	Demand and TOU programmed
12		kW Max Demand Rate D	Demand and TOU programmed
13		Prev kW Max Demand (Pr0)	Demand programmed
14		Prev kVA Max Demand (Pr1)	Demand programmed
15		Prev kVAr Max Demand (Pr2)	Demand programmed
16		Prev kW Max Demand Rate A	Demand and TOU programmed
17		Prev kW Max Demand Rate B	Demand and TOU programmed
18		Prev kW Max Demand Rate C	Demand and TOU programmed
19		Prev kW Max Demand Rate D	Demand and TOU programmed
20		kW Max Demand Season 1	Demand and TOU programmed
21		kW Max Demand Season 2	Demand and TOU programmed
22		kW Max Demand Season 3	Demand and TOU programmed
23		kW Max Demand Season 4	Demand and TOU

	Group	Source Name	Available when
			programmed
24		kW Max Demand Season 1 Rate A	Demand and TOU programmed
25		kW Max Demand Season 1 Rate B	Demand and TOU programmed
26		kW Max Demand Season 1 Rate C	Demand and TOU programmed
27		kW Max Demand Season 1 Rate D	Demand and TOU programmed
28		kW Max Demand Season 2 Rate A	Demand and TOU programmed
29		kW Max Demand Season 2 Rate B	Demand and TOU programmed
30		kW Max Demand Season 2 Rate C	Demand and TOU programmed
31		kW Max Demand Season 2 Rate D	Demand and TOU programmed
32		kW Max Demand Season 3 Rate A	Demand and TOU programmed
33		kW Max Demand Season 3 Rate B	Demand and TOU programmed
34		kW Max Demand Season 3 Rate C	Demand and TOU programmed
35		kW Max Demand Season 3 Rate D	Demand and TOU programmed
36		kW Max Demand Season 4 Rate A	Demand and TOU programmed
37		kW Max Demand Season 4 Rate B	Demand and TOU programmed
38		kW Max Demand Season 4 Rate C	Demand and TOU programmed
39		kW Max Demand Season 4 Rate D	Demand and TOU programmed
1	V_rms, I_rms, PF, Angles	V_rms Phase A	
2		V_rms Phase B	Not forms 1S, 2S, 3S, 4S, 5S, 12S, 22S, 25S, 26S, 32S

	Group	Source Name	Available when
3		V_rms Phase C	Not forms 1S, 2S, 3S, 4S, 22S
4		I_rms Phase A	
5		I_rms Phase B	Not forms 1S, 2S, 3S, 4S, 5S, 12S, 22S, 25S, 26S, 32S
6		I_rms Phase C	Not forms 1S, 2S, 3S
7		Angle Phase A	
8		Angle Phase B	Not forms 1S, 2S, 3S, 4S, 5S, 12S, 22S, 25S, 26S, 32S
9		Angle Phase C	Not forms 1S, 2S, 3S, 22S
10		Angle Voltage Phase B to A	Not forms 1S, 2S, 3S, 4S, 5S, 12S, 22S, 25S, 26S, 32S
11		Angle Voltage Phase C to A	Not forms 1S, 2S, 3S, 22S
12		Power Factor Phase A	Not forms 1S, 2S, 3S, 22S
13		Power Factor Phase B	Not forms 1S, 2S, 3S, 4S, 5S, 12S, 22S, 25S, 26S, 32S
14		Power Factor Phase C	Not forms 1S, 2S, 3S, 22S
15		Power Factor Total	
16		Coincident PF (max. KVA)	FW supported, Demand programmed
17		Coincident PF Prev. (max. KVA)	FW supported, Demand programmed
18		Coincident PF Self-read (max. KVA)	FW supported, Demand programmed
19		Net Frequency	
20		Chip Temperature	
21		Kt Constant	
22		Kh Constant	
1	Date & Time	Meter Date	
2		Meter Time	
3		kW Demand Date	Demand programmed
4		kW Demand Time	Demand programmed
5		kVA Demand Date	Demand programmed
6		kVA Demand Time	Demand programmed

	Group	Source Name	Available when
7		kVAr Demand Date	Demand programmed
8		kVAr Demand Time	Demand programmed
9		Demand Reset Date	Demand programmed
10		Demand Reset Time	Demand programmed
11		kW Previous Demand Date	Demand programmed
12		kW Previous Demand Time	Demand programmed
13		kVA Previous Demand Date	Demand programmed
14		kVA Previous Demand Time	Demand programmed
15		kVAr Previous Demand Date	Demand programmed
16		kVAr Previous Demand Time	Demand programmed
17		LP Interval remaining time	Load Profile programmed
18		Demand Interval remaining time	Demand programmed
19		kW Demand Date Season 1	Demand and TOU programmed
20		kW Demand Time Season 1	Demand and TOU programmed
21		kW Demand Date Season 2	Demand and TOU programmed
22		kW Demand Time Season 2	Demand and TOU programmed
23		kW Demand Date Season 3	Demand and TOU programmed
24		kW Demand Time Season 3	Demand and TOU programmed
25		kW Demand Date Season 4	Demand and TOU programmed
26		kW Demand Time Season 4	Demand and TOU programmed
1	Miscellaneous	Segments check	
2		Meter Serial Number	
3		TOU Season & Rate	TOU programmed
4		Demand resets counter	Demand programmed

	Group	Source Name	Available when
5		Firmware version	
6		Meter Identifier	Only last 6 characters

If **Show ID Code** is disabled, some selected sources require to show extra information in the second row instead of instantaneous demand. All possible information are the following:

3-Character Second Row	Meaning
"EOI"	End Of max demand Interval
"UA "	Apparent energy(VAh) or demand(VA)
"VAr"	Reactive energy(VARh) or demand(VAR)
"PF\$"	Power Factor. '\$' can be: - 'A' for phase A - 'b' for phase B - 'c' for phase C - 't' for Total
"An\$"	Current-to-Voltage angle. '\$' can be: - 'A' for phase A - 'b' for phase B - 'c' for phase C
"Hz "	Frequency in Herz
"CU "	Cumulative Demand
"CCU"	Continuous Cumulative Demand
"rE "	Demand Reset Date
"d-*"	Meter Date. '*' is day of week: Sun=1, ... Sat=7
"r-\$"	TOU Rate \$: 'a', 'b', 'c', 'd',
"SEr"	Serial #
"t°C"	Temperature °C
" *"	12-hour time indicator: 'a' is AM, 'P' is PM
"rE*"	Reset time. * is 'a' is AM, 'P' is PM
"Pr#"	Previous Demand or Energy. '#' can be a one of the following numbers: 0 - kW, 1 - kVA,

3-Character Second Row	Meaning
	2 - kVAr 3 - kWh Total Delivered 4 - kVAh Total Delivered 5 - kVArh Total Delivered 6 - kWh Total Received 7 - kVAh Total Received 8 - kVArh Total Received
"LP "	Load Profile
"dE "	Demand
"Id "	Meter ID #, last 6 digits
"Cot"	Coefficient Kt
"Coh"	Coefficient Kh
"S1\$"	Season1-Rate\$
"S2\$"	Season2-Rate\$
"S3\$"	Season3-Rate\$
"S4\$"	Season4-Rate\$
"S\$*"	Reset time, Season1..4, '*' is 'a' is AM, 'P' is PM
"q\$"	Active Quadrant \$
"rq\$"	Reactive Quadrant \$
" A"	Phase A
" b"	Phase B
" c"	Phase C
"A-\$"	Volt Angle <phase A>-to-<phase \$>. '\$' can be 'b' or 'c'
"Co\$"	Coincident PF to max kVA demand event. '\$' can be: 'A' - Actual max demand, 'P' - Previous max demand, 'S' - Max demand from self-read snapshot,

8. AMR/AMI Settings

The AMR/AMI screen allows the selection of all the parameters associated with Hunt Airpoint transmission and/or Vision's protocol for Data on Demand. This screen is shown in **Figure 21**.

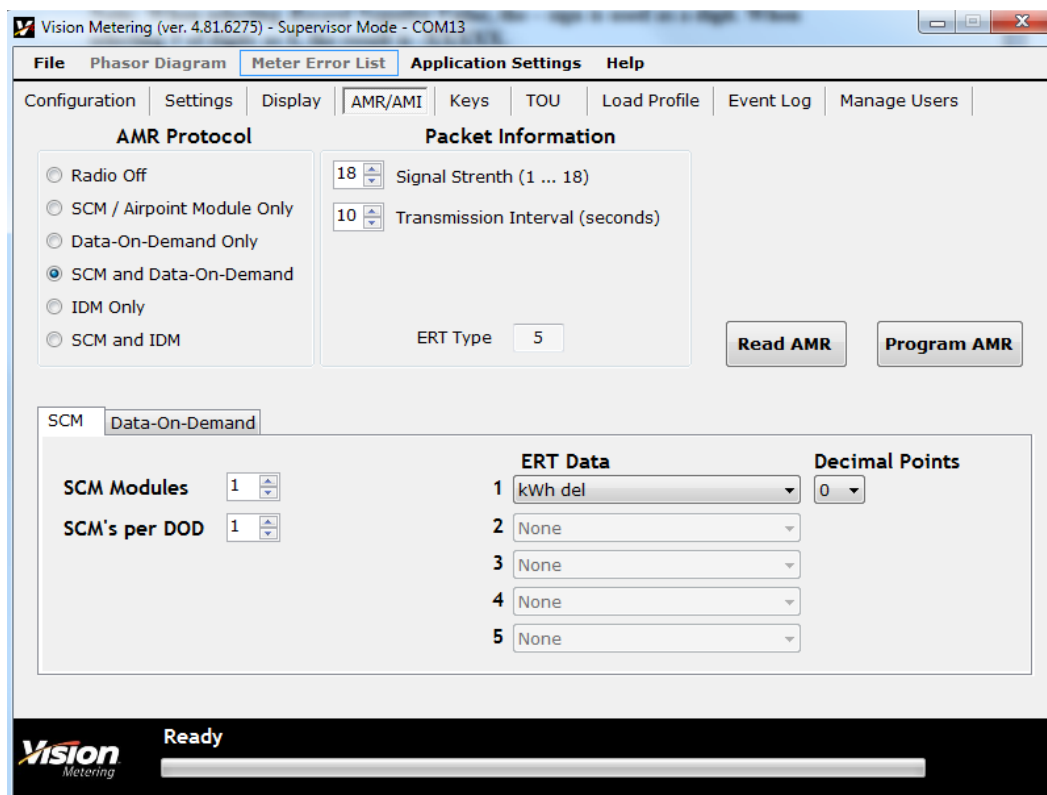


Figure 21

8.1 AMR (ERT) Protocol

Selectable options include SCM (AirPoint Radio/ERT), Data-on-Demand protocol, or a combination of the two. The SCM transmission is compatible with Itron's ERT™ system. Reception of the *Data on Demand* transmission requires the use of a Vision Metering Radiogate.

If the meter is not equipped with a radio or if the radio isn't needed then the **radio off** option should be selected

8.2 Packet Information

- It is possible to set the strength of the radio transmission through altering the **Signal Strength** field, selectable from 1-20, with 18 as default
- To set the time between the ERT or Data on Demand transmissions, alter the **Transmission Interval** field. The most commonly used settings are between 2 and 30 seconds
- The **IDM Usage Interval** may also be set, selecting between 1.25, 1.5 or 5 minute intervals

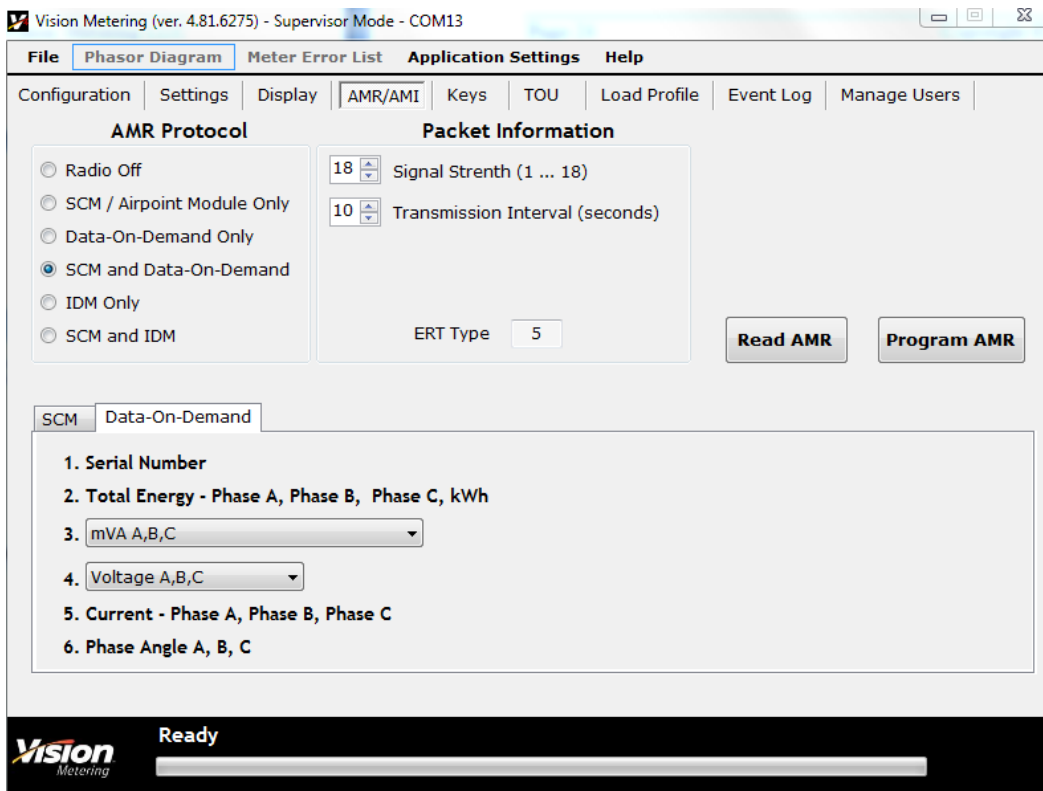


Figure 22

8.3 ERT Type

There are three ERT types supported by Vision 20/20.

- Singlephase meters are typically set to 5, but some utilities use 8
- Polyphase meters are typically set to 8
- Meters equipped with multiple ERTs default to type 8

8.4 Packet Structure

The packet structure is the stream which is sent from the meter for use with the *Data on Demand* system.

- Two items in this structure are selectable for the customer. Item number 3 may be **mVa**, **kW Max** or **Received Energy**. Item number 4 may be **Volt** or **Date-Time**. It is important when using EndSight, that the packet structure matches the selections programmed into the meter

Note: Packet selections programmed to meter must match structure in EndSight.

8.5 Multiple ERT (SCM) Transmission

In order for a meter to transmit through AMR, it requires an AirPoint module. Vision 20/20 supports up to five ERTs.

- By clicking the dropdown menu for each ERT it is possible to select the desired value to transmit as well as set the desired number of decimals to display. This is shown in **Figure 23**
- It is possible to read the AMR settings that are currently on the meter by clicking the **Read AMR** button located at the bottom right corner

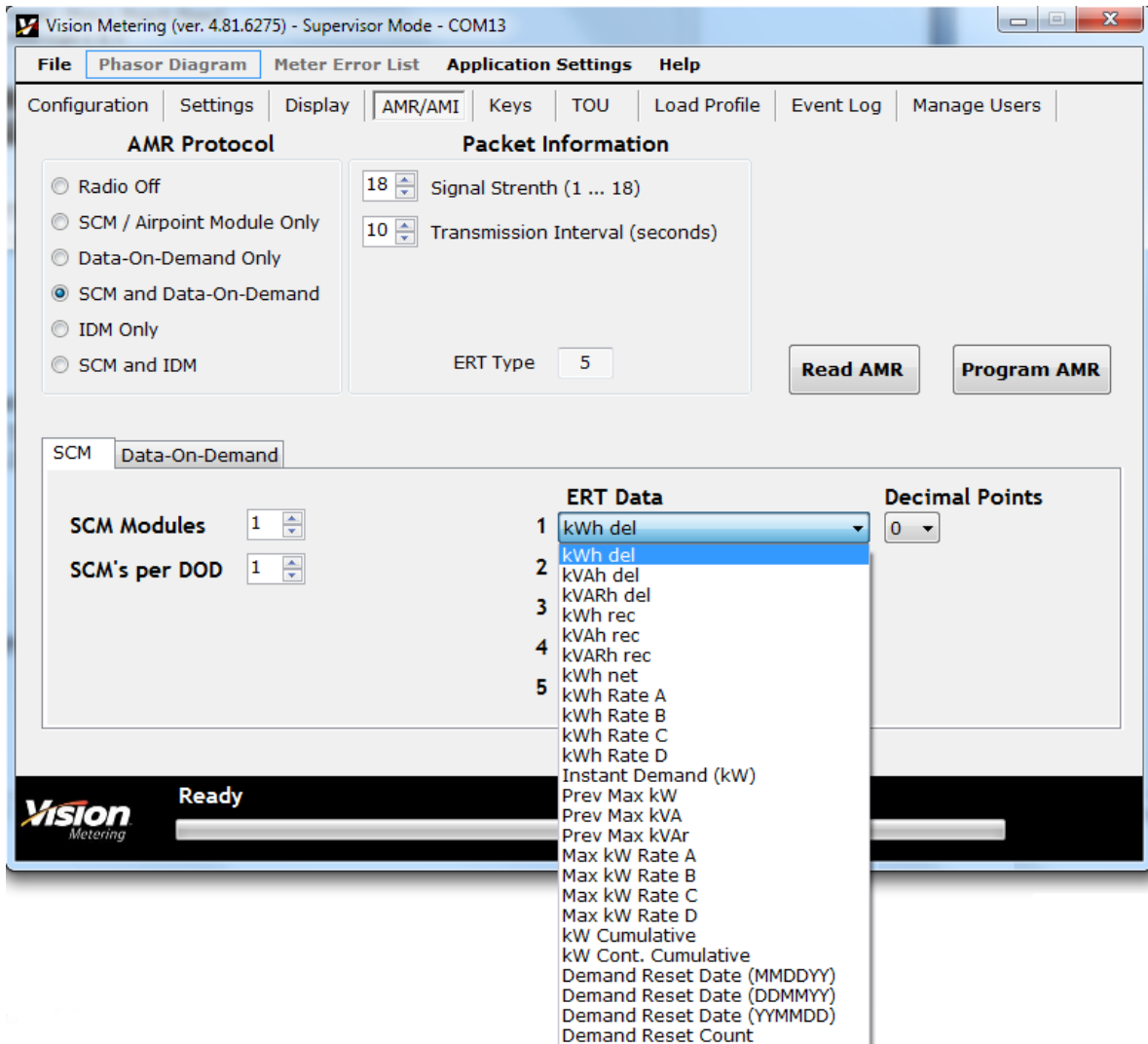


Figure 23

- Once all the data has been entered for programming, it is possible to program all the selected options and values to the meter by clicking the **Program AMR** button

9. Security Keys Setting

The **Security Settings** screen is only available in Supervisor mode, shown in **Figure 24**. A user can add multiple keys and store it in the computer.

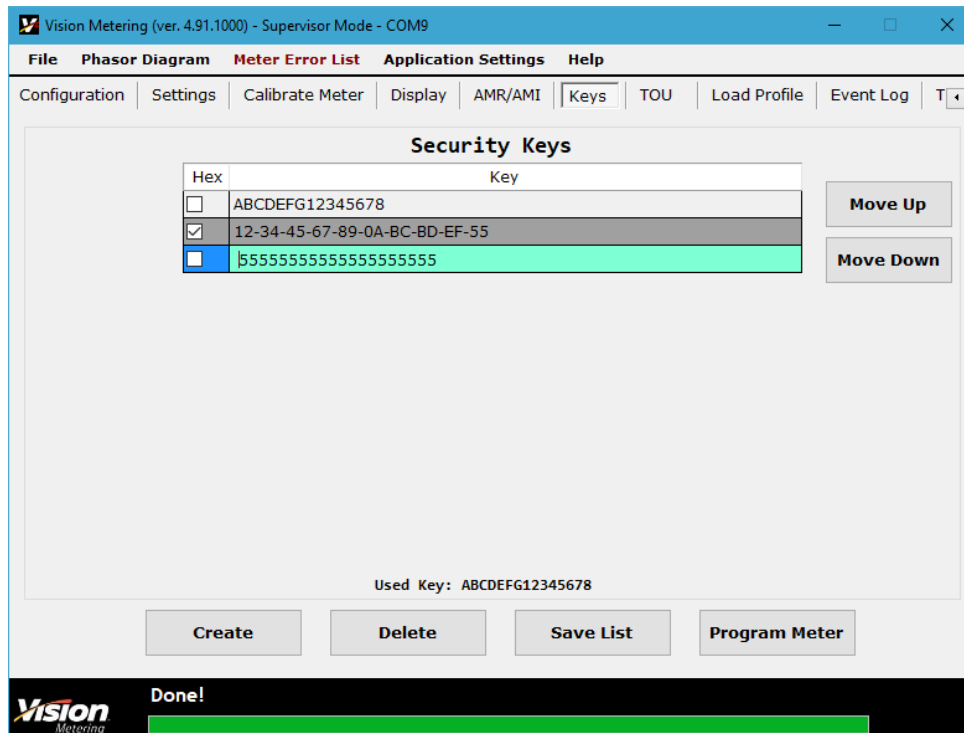


Figure 24

A meter can accept two types of keys: regular printed strings and hexadecimal bytes. In the last case the checkbox in the column **Hex** must be checked for selected row. One hexadecimal byte is described by two hex. numbers from 0 to 9 and from A to F. For example, as it is shown on the screenshot (**Figure 24**) in the first line, the following sequence AB-CD-01-02-03-04 describes 6-byte key. The Hyphen character will be inserted automatically.

The Last Used key will be shown in the bottom part of this tab for the last successful meter read.

To update the used key need to perform the following steps:

1. Click the "Create" button. Enter a new key. Check the box in the column "Hex" for the hexadecimal key.

2. Save the list.
3. Select the new key you just enter and click "Program Meter" button. The selected key replaces the last Used Key.

Notes:

- The limitation for the security keys is 16 characters/hexadecimal bytes.
- Upon initial programming, the security key currently in that meter will be displayed. Changing the security key is accomplished by typing the new key in and then verifying it before clicking the **Program Key** button.
- If the security key is changed, it must be stored or saved in a secure location. This is very important because once the security key is changed, there is no "back door" to unlock the meter and reprogram. The security key can be customized at the factory prior to shipping at the customer's request.

10. Time-Of-Use (TOU)

10.1 TOU Settings

After clicking on the **TOU** tab, the screen in **Figure 25** will appear. At the top left corner is a field labeled **TOU Schedule**.

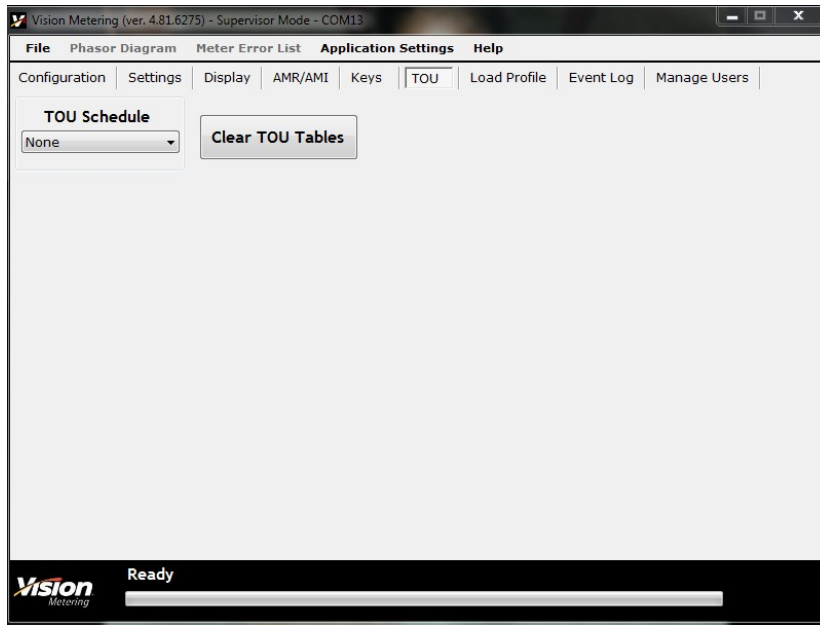


Figure 25

- If **None** is selected, then the entire screen remains blank with the exception of the **Clear TOU Tables** button. Utilize this button to erase any current TOU tables in the meter

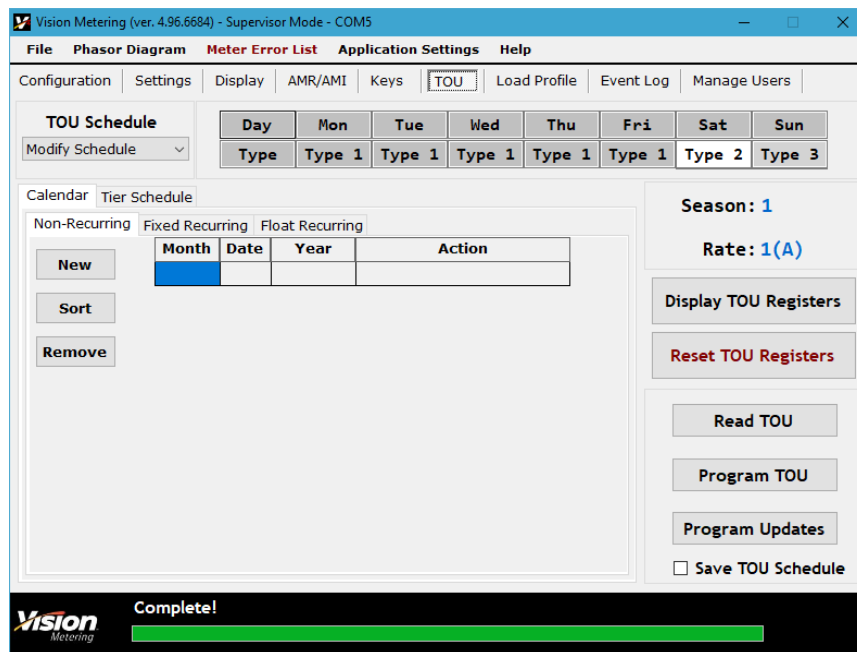


Figure 26

- Upon selection of **Open TOU Schedule**, select the TOU schedule file. By choosing **New TOU Schedule**, the screen populates with available sections to choose settings as shown in *Figure 26*.

The features available include:

- Up to 4 programmable seasons
- Up to 4 rates per day
- Saturdays, Sundays and holidays can be programmed with separate tier schedules
- 10 year calendar with a separate holiday schedule for recurring and nonrecurring holidays.

The **Day Type Schedule** is located at the top of the screen. Monday through Friday is **Type 1** of tier schedule. Saturday and Sunday are selectable between **Type 2** and **Type 3**. The “**Type**” is used to tell the meter which Tier Schedule from which to draw instructions.

- **Type 1** typically has the complex schedule of up to 4 seasons and up to 4 rates per day in each season. Programming this schedule is complex and should be thought through thoroughly before programming any variables

- The **Tier Schedule** has four tabs for each of the four seasons. There can be as few as one season or as many as four, with the seasons being defined by the calendar located at the bottom of the screen. It is necessary to select the desired type of season before selecting the season start date. These options are located at center right of the screen and are **Automatic Season Change**, **Automatic Season Change with Demand Reset** (a demand reset will be performed at the time of season change).
- The **Calendar Section** is located at the bottom and it contains three tabs to choose from: **Non-Rec** (this is a non-recurring schedule where all the events take place one time at specified day), **Fixed-Rec** (a fixed date like Christmas, New Year's or 4th of July, i.e. events are recurring at specified day every year) and **Float-Rec** (where the calendar is fixed and changes are made based on floating dates like Memorial Day or Labor Day. A schedule may be developed for each one of these categories. Under each header click on the field and choose from the dropdown menu.
- In the **Tier Schedule**, select a season tab you need Tier Schedule for. Elements on the tab will be available if the required season already selected in the **Calendar** tab. Navigate mouse pointer to the one of the bars marked as **Type 1**, **Type 2**, **Type 3** or **Holidays**. Every bar divided by 24 markers for each hour. Double click to approximate time. Than with the holding left mouse button move cursor to desired time.

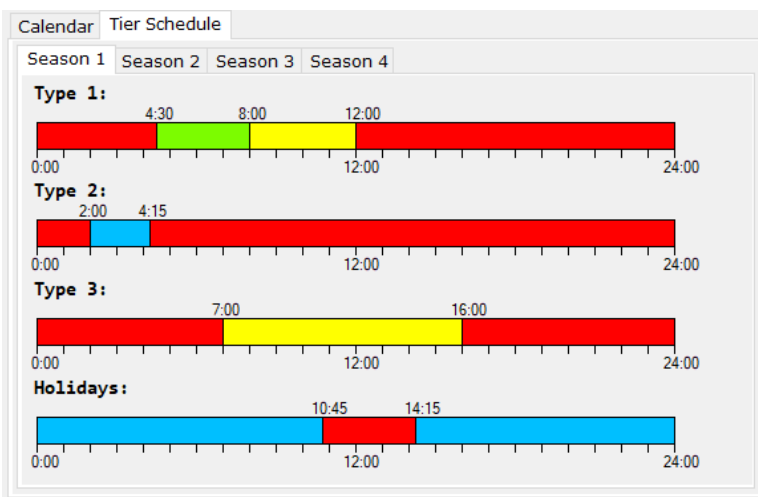


Figure 27

Update rate. A small popup menu as it shown on the **Figure 28** appears after clicking right button, then select a rate. Repeat these operations if needed to schedule another time and rate for each type. **Holidays** bar is not available, if at least one holiday event is not described in the **Calendar** tab.

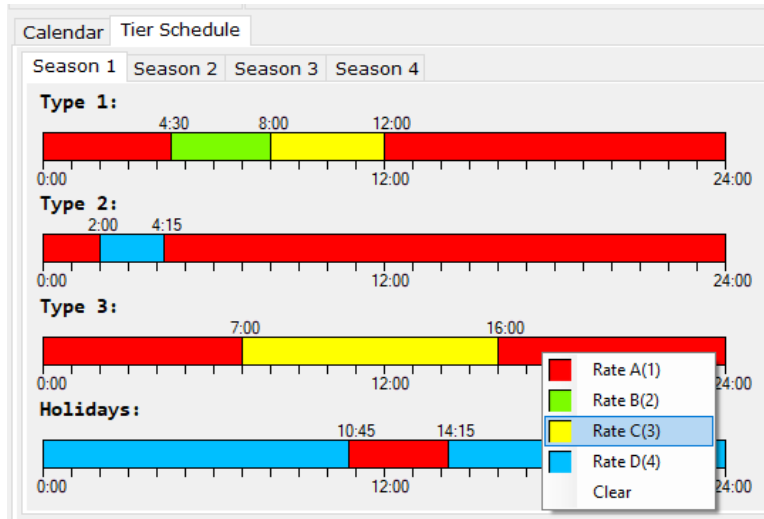


Figure 28

- It is possible to use the **Read TOU** button to read the current TOU settings on the meter. Once the meter has been read and changes have been made to setting selections, the modified settings may be sent back to the meter utilizing the **Program Updates** button. The **Program TOU** button is ideal for sending the chosen settings repeatedly to multiple meters

Notes:

1. Maximum of 64 tier schedule records can be entered for all four seasons
2. Maximum of 68 non-Rec dates
3. Maximum of 28 Fixed-Rec or Float-Rec dates

10.2 Daylight Saving Time Settings

Daylight Saving Time (DST) change can be set in the meter only using TOU data. It is not necessary describe whole set of tier schedule. To program DST is enough to perform the following steps.

1. **Tier Schedule** tab: add two rows for **Type 1** and **Type 2** as shown in **Figure 29**.

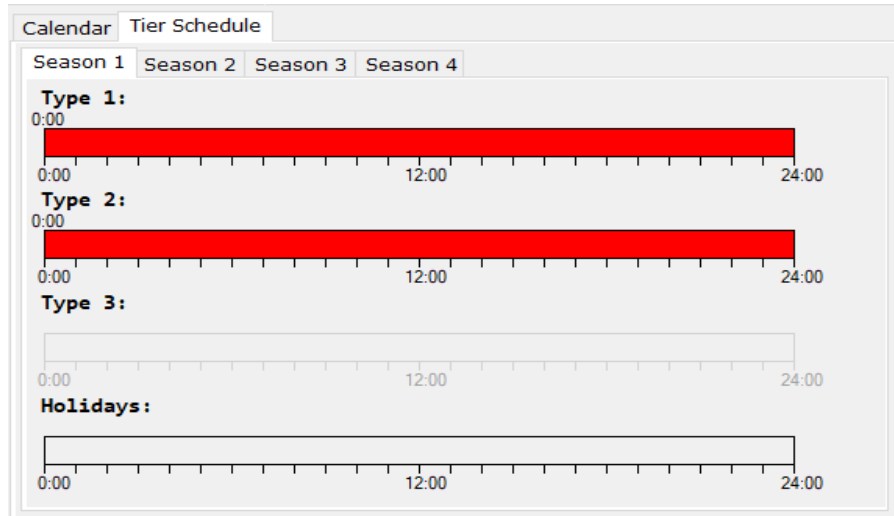


Figure 29

2. In the **Calendar / Fixed Recurring** tab add row and select January 1st, This Day Only and Season 1 as it is shown below:

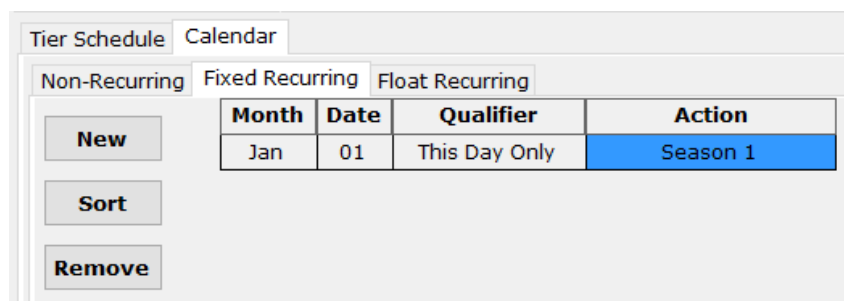
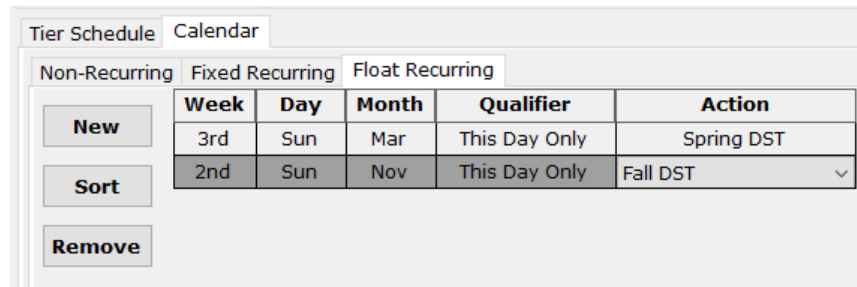


Figure 30

3. Add two rows to **Calendar / Float Recurring** tab describing Spring and Fall changing time events as it is shown below.



Week	Day	Month	Qualifier	Action
3rd	Sun	Mar	This Day Only	Spring DST
2nd	Sun	Nov	This Day Only	Fall DST

Figure 31

4. Program a meter with this TOU settings. With these setting in 2017 DST will begin on Sunday, March 12 and end on Sunday, November 5. DST events will occur at 2:00 AM.

11. Load Profile Settings

11.1 Load Profile Settings

The Load Profile Settings screen is shown in **Figure 32**. There are twelve channels of **Load Profile** settings that can collect data. After selecting the number of channels desired, each channel may be set to a particular value from the dropdown menu for individual channels. The values stored in the load profile are in the form of pulses and directly relate to the **Kh** of the meter. Current per phase, volts, amps, and power factor are not available. However, when available the values stored will be real values and not pulses. **Figure 33** shows the dropdown menu for a given channel. Note that this section is for data acquisition, not for management of user permissions. [Refer to Section 13 for User Permission Management.](#)

- It is possible to modify the load profile interval by checking the appropriate box. The number of days can be selected by either scrolling with the up and down arrows or clicking the field and typing in the desired number
- By checking the box at the bottom left corner the load profile can be saved. The load profile feature may be unselected by simply choosing 0 channels in the
- **Number of channels** box

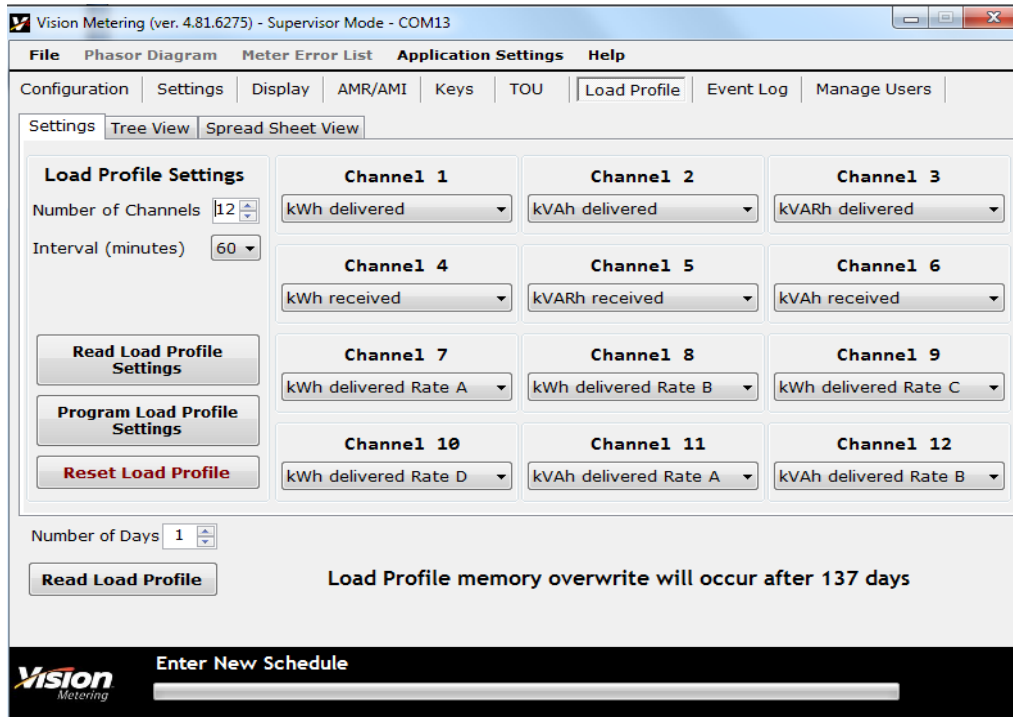


Figure 32

The section at the bottom of the screen of **Figure 32** shows the numbers of days until memory overwrite. The displayed number determines the amount of time allowed between data collection cycles without loss of data. The selection of different numbers of channels will change this timeline.

The available values vary according to meter form. The selectable values under each channel are listed below:

- kWh delivered Per Phase
- kVAh delivered
- kVARh delivered
- kWh received Per Phase
- kWh delivered Rate (A, B, C, D)
- Min voltage Per Phase

- Max voltage Per Phase

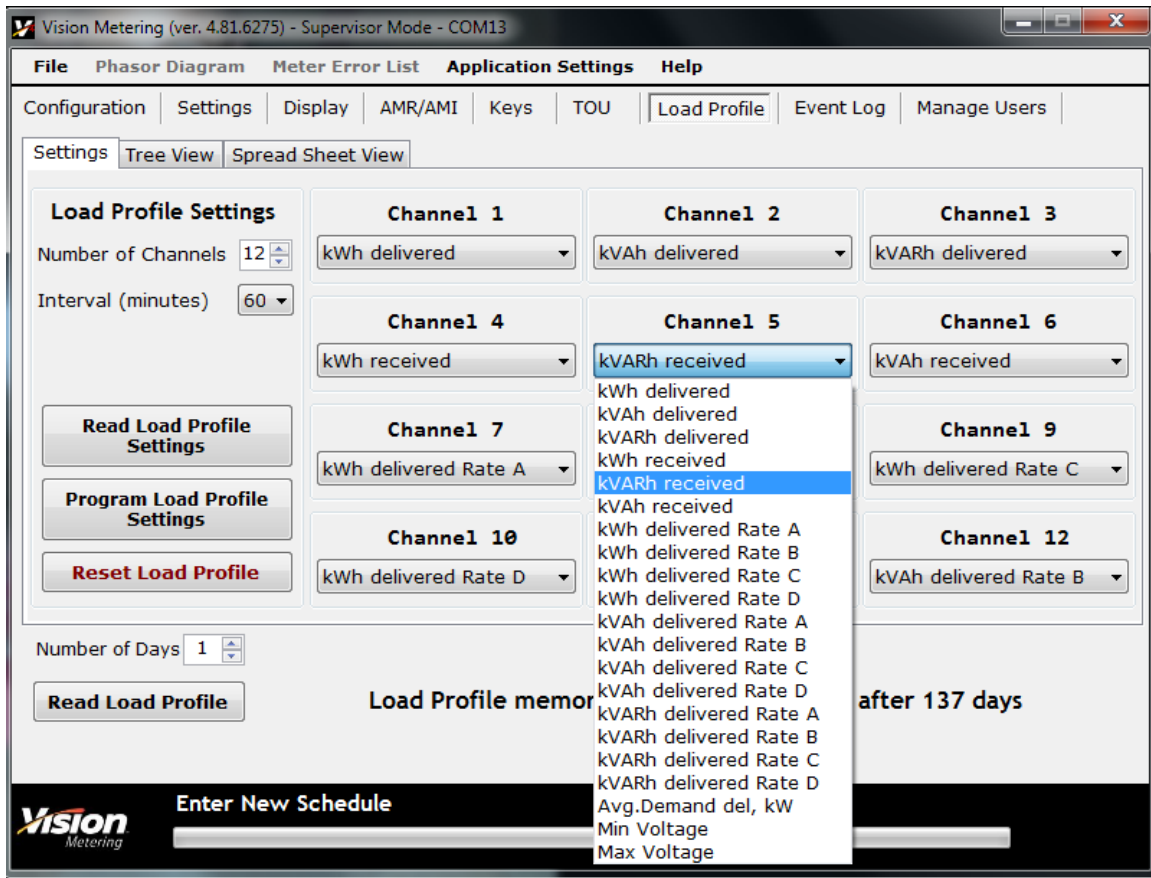


Figure 33

11.2 Load Profile Read/View

The **Spreadsheet View** tabs provide the ability to view load profile records from the meter. The spreadsheet view is shown in **Figure 34**.

- Populating the Spreadsheet views is accomplished by clicking the **Read Load Profile** button. The screen will populate with records in the assigned intervals which were selected in the setting screen
- The load profile may also be reset by clicking the **Reset Load Profile** button. A loaded profile record can be saved by checking the box for **Save Read Load Profile**. The data will be output in a .csv file format

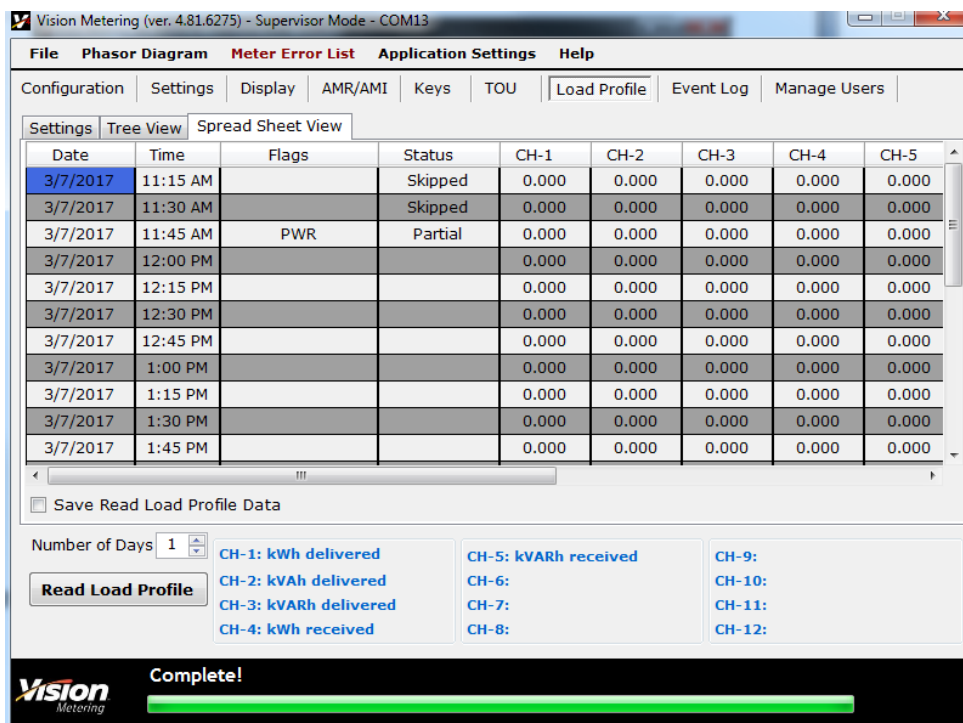


Figure 34

12. Event Log

The **Event Log** screen shown in **Figure 35** is in **Spreadsheet View**. From here it is possible to select **Tree View** or **Settings**. The **Tree View** is similar in format and is shown in **Figure 37**.

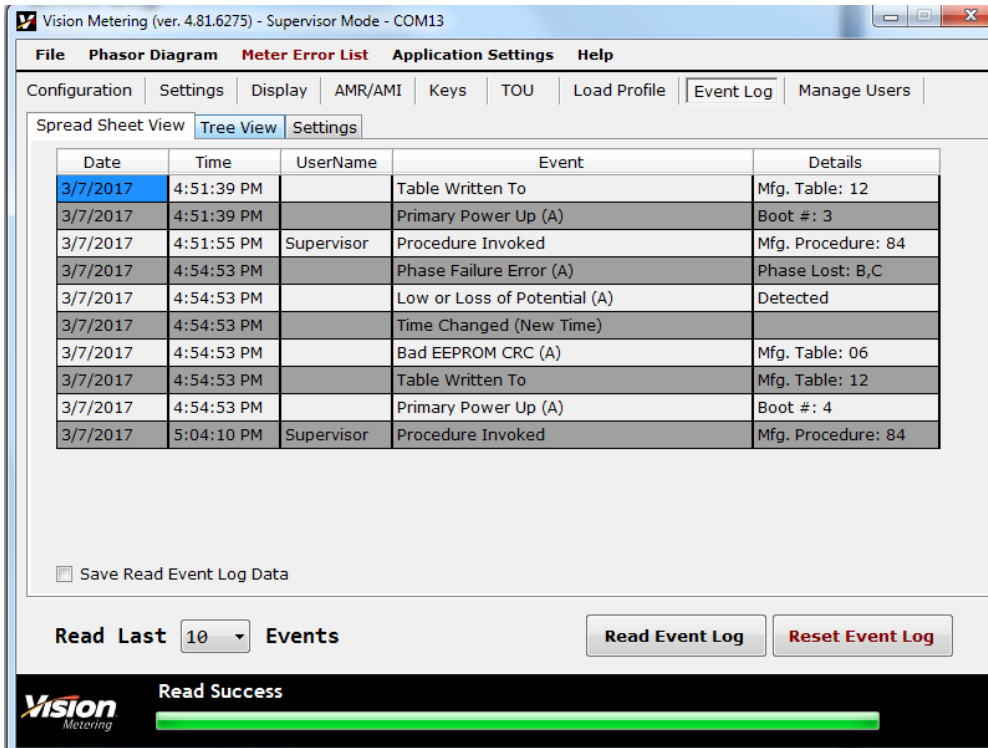


Figure 35

- The **Settings** tab displays the current event settings from the meter. Here as shown in **Figure 36**, it is possible to enable or disable standard and manufacturing events to be recorded. This is accomplished by clicking on the enabled field for each event. This will toggle the selection between **Yes** and **No**

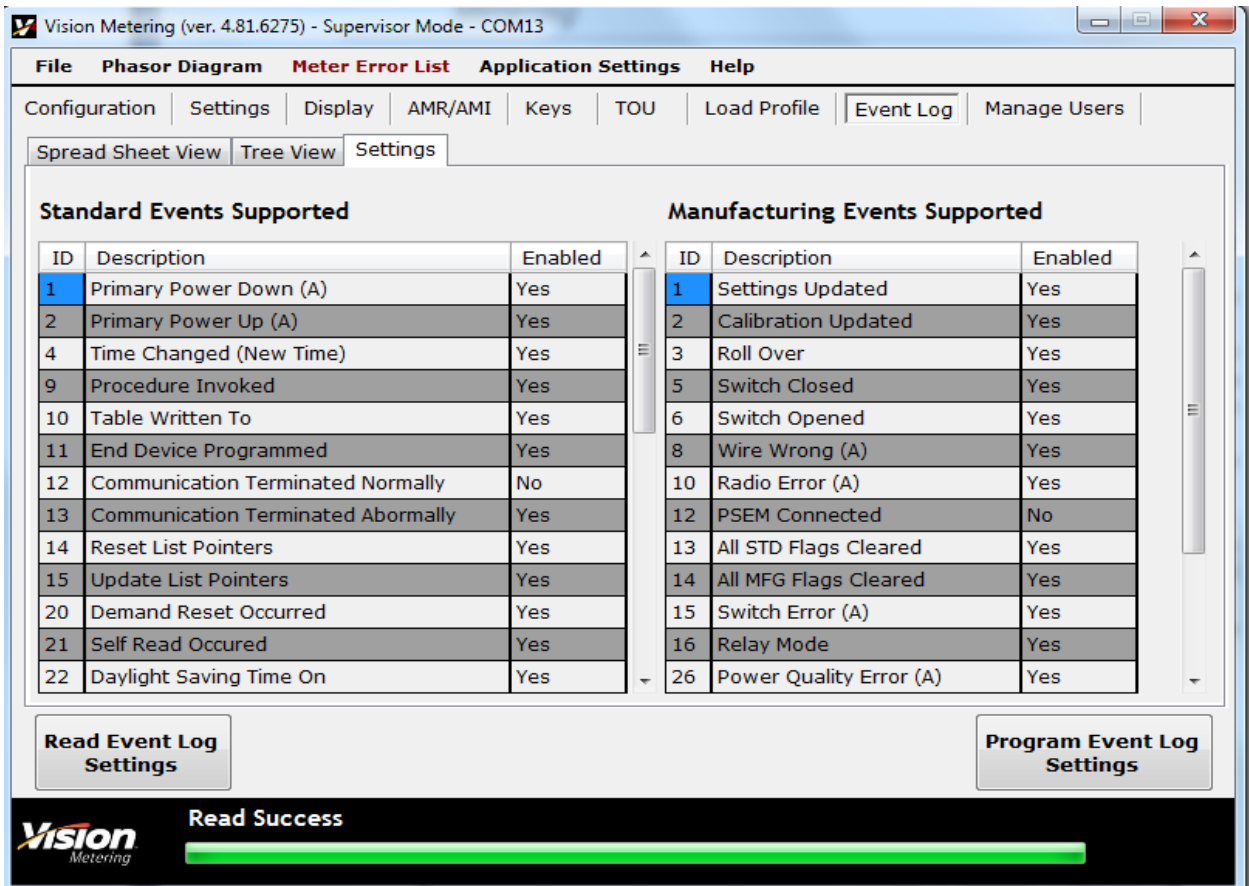


Figure 36

- To send the chosen event log selections, click the **Program Event Log Settings** button. By clicking on the **Read** tab, it is possible to read the event long by selecting between **10**, **20**, **50**, **100** and **All**. Click the **Read Event Log** button to display data stored on the meter. When reading the events, the screen will populate as shown in **Figure 35**. The fields for **Date**, **Time**, **Username**, **Event** and **Details** will be filled in

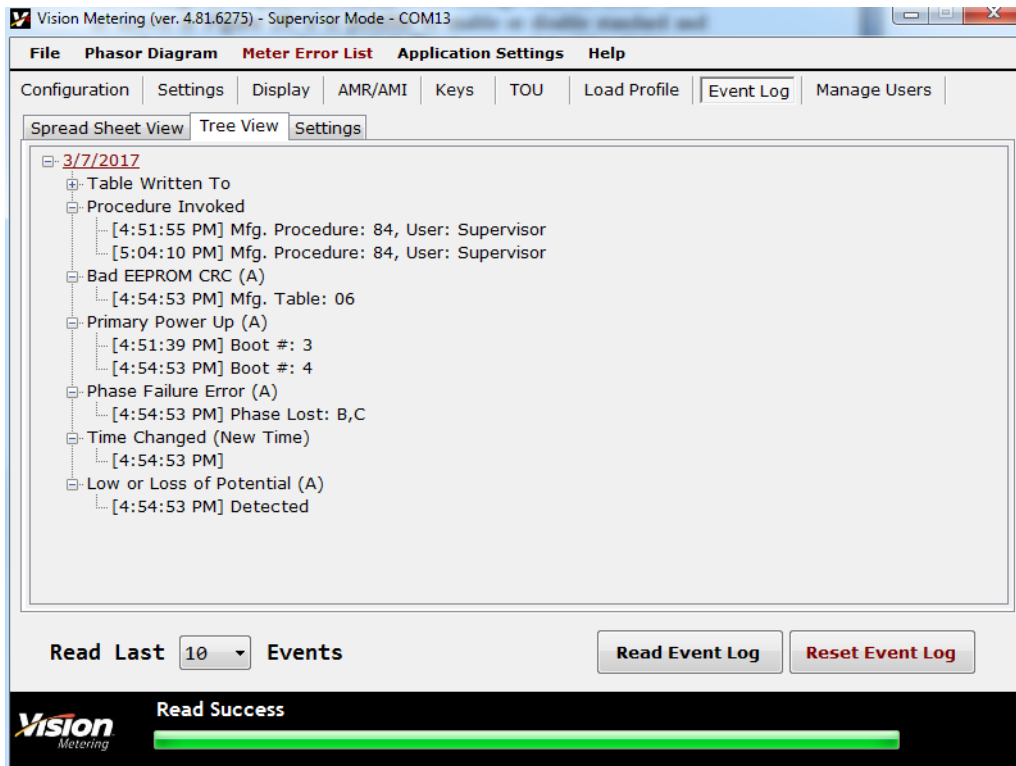


Figure 37

The following events may be displayed in the Event Log screen:

1. Standard Events

ID	Name	Triggers Alarm Signal	Default Monitored
1	Primary Power Down (A)	✓	✓
2	Primary Power Up (A)	✓	✓
4	Time Changed (New Time)		✓
9	Procedure Invoked		✓
10	Table Written To		✓
11	End Device Programmed		✓
12	Communication Terminated Normally		
13	Communication Terminated Abnormally		✓
14	Reset List Pointers		✓

ID	Name	Triggers Alarm Signal	Default Monitored
15	Update List Pointers		✓
20	Demand Reset Occurred		✓
21	Self Read Occurred		✓
22	Daylight Saving Time On		✓
23	Daylight Saving Time Off		✓
24	Season Changed		✓
25	Rate Changed		✓
26	Special Schedule Activation		✓
32	Test Mode Started		✓
33	Test Mode Stopped		✓
37	Configuration Error (A)	✓	✓
38	Self-Check Error (A)	✓	✓
39	RAM Error (A)	✓	✓
40	ROM Error (A)	✓	✓
41	Nonvolatile Memory Error (A)	✓	✓
42	Clock Error (A)	✓	✓
43	Measurement Error (A)	✓	✓
44	Low Battery Error (A)	✓	✓
45	Low or Loss of Potential (A)	✓	✓
46	Demand Error (A)	✓	✓
47	Tamper Error (A)	✓	✓
48	Reverse Rotation Error (A)	✓	✓

2. Manufacturing Events

ID	Name	Triggers Alarm Signal	Default Monitored
1	Settings Updated		✓
2	Calibration Updated		✓
3	Roll Over		✓
5	Switch Closed		✓

ID	Name	Triggers Alarm Signal	Default Monitored
6	Switch Opened		✓
8	Wire Wrong (A)	✓	✓
10	Radio Error (A)	✓	✓
12	PSEM Connected		
13	All STD Flags Cleared		✓
14	All MFG Flags Cleared		✓
15	Switch Error (A)	✓	✓
16	Relay Mode		✓
26	Power Quality Error (A)	✓	✓
28	Bad Table CRC (A)	✓	✓
29	Calibration Error (A)	✓	✓
30	CE Data Error (A)	✓	✓
31	STS Token Added (Prepaid meters supporting IEC65055 only)		
32	Bad EEPROM CRC (A)	✓	✓
33	Phase Failure Error (A)	✓	✓

From the screen in **Figure 36**, it is possible to also reset the event log by clicking on the **Reset Event Log** button. The event log may be saved (in .csv format) by checking the box for Save Read Event Log.

13. Manage Users Settings

The screen shown in **Figure 38** is only accessible by the Supervisor. Changes may be made to other user's permissions to access the various menus.

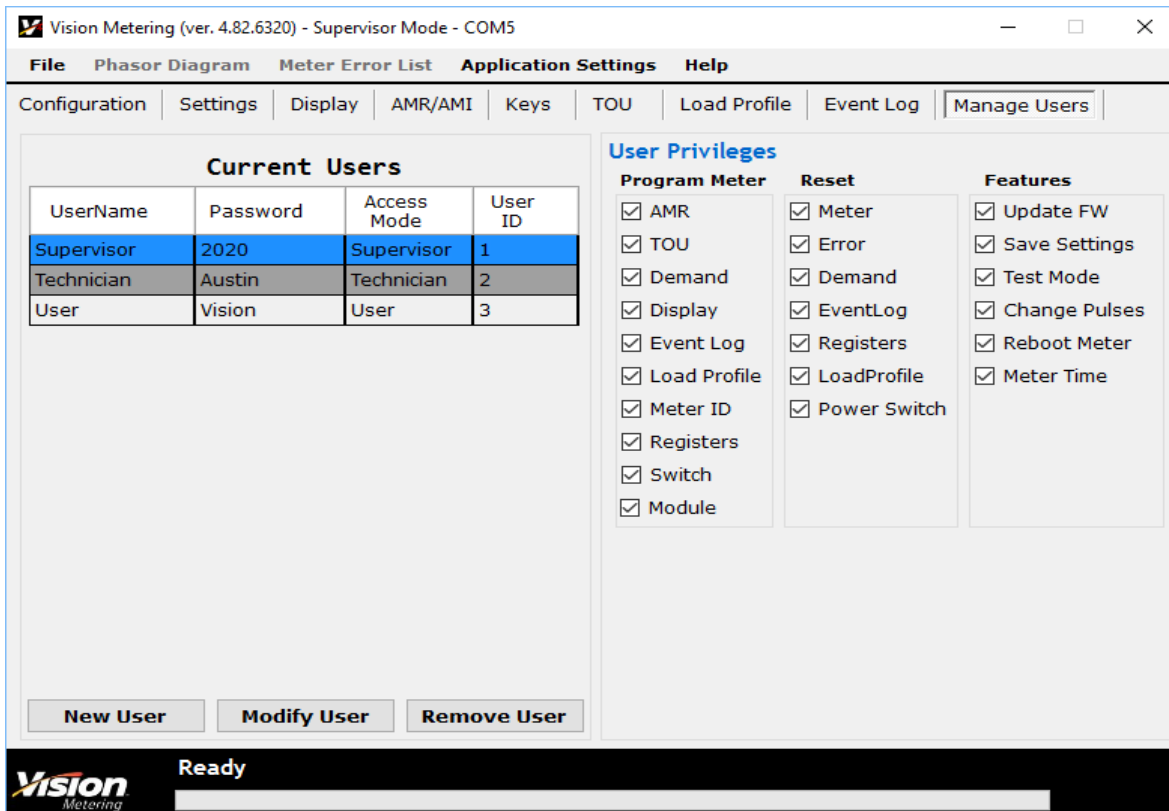
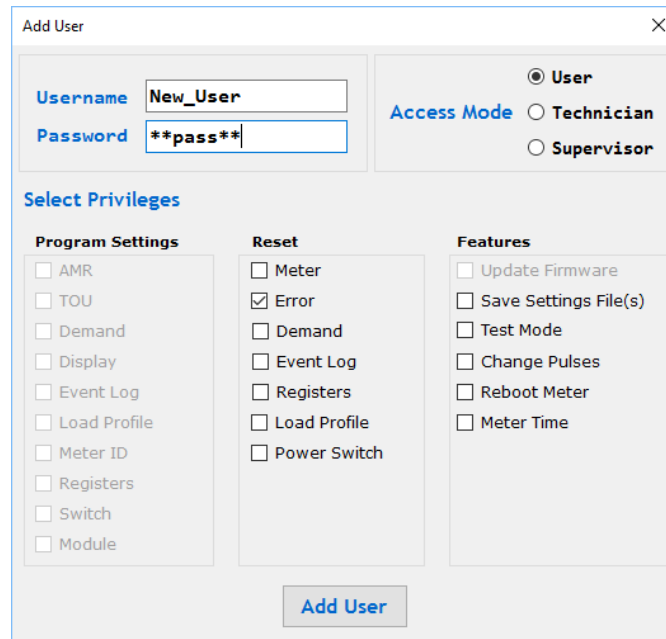


Figure 38

- The **Current Users** section shows the existing logins and respective passwords.
- The **New User** button allows the Supervisor to add a new user. The window box **Add User** appears (*Figure 39*). After giving the new user a name and password, select the **Access Mode** (User, Technician or Supervisor). Next, select the desired available privileges. Lastly, click the **Add User** button. For the Supervisor mode all the privileges are checked and grayed. For the User mode the Program privileges are not available.



The screenshot shows a window titled "Add User" with a close button (X) in the top right corner. It contains the following elements:

- Username:** A text input field containing "New_User".
- Password:** A text input field containing "**pass**".
- Access Mode:** Three radio buttons: "User" (selected), "Technician", and "Supervisor".
- Select Privileges:** Three columns of checkboxes:
 - Program Settings:** AMR, TOU, Demand, Display, Event Log, Load Profile, Meter ID, Registers, Switch, Module.
 - Reset:** Meter, Error (checked), Demand, Event Log, Registers, Load Profile, Power Switch.
 - Features:** Update Firmware, Save Settings File(s), Test Mode, Change Pulses, Reboot Meter, Meter Time.
- Buttons:** An "Add User" button at the bottom center.

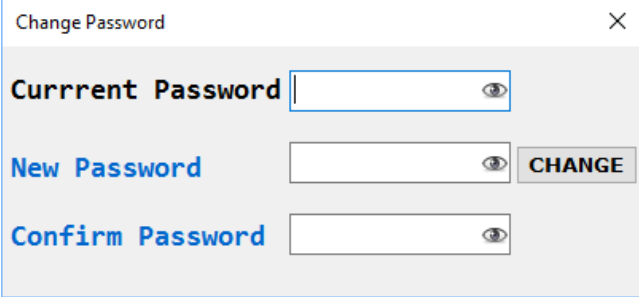
Figure 39

- To remove a user, select the desired user and click the **Remove User** button. The Supervisor assigned to ID 1 is the default user and cannot be deleted.
- To modify current users, select a user. The window box **Modify User** appears on the top of the current window. Change the access mode, password and/or privileges desired followed by clicking the **Modify** button.

Note: Password for the current user can be changed using the Settings tab located in the top menu, when logged in with the respective user name and password.

13.1 Change Password

To change a user password, select a user and click **Change Password** at the bottom left of the screen. As shown in **Figure 40**, a login window prompts the current password followed by the new password. Enter the new password again to confirm and click the **CHANGE** button.



Change Password

Current Password

New Password CHANGE

Confirm Password

Figure 40

14. Phasor Diagram

The **Phasor Diagram** is a diagnostic tool provided in Vision 20/20. The tab for this action is located at the top of the Configuration screen between **Application Settings** and **Help**. This section is unavailable until the meter is read. After the meter has been read it is possible to click this selection to see the screen showed in **Figure 41**.

- This tool provides data regarding voltage and voltage angle of each phase as well as the current and current angle of each phase
- Also presented here are the power factor and the instantaneous values per phase
- The color code for the diagram itself is (Red-Phase A, Green-Phase B, Blue-Phase C). The phasor diagram can be saved as .jpg format using the save button

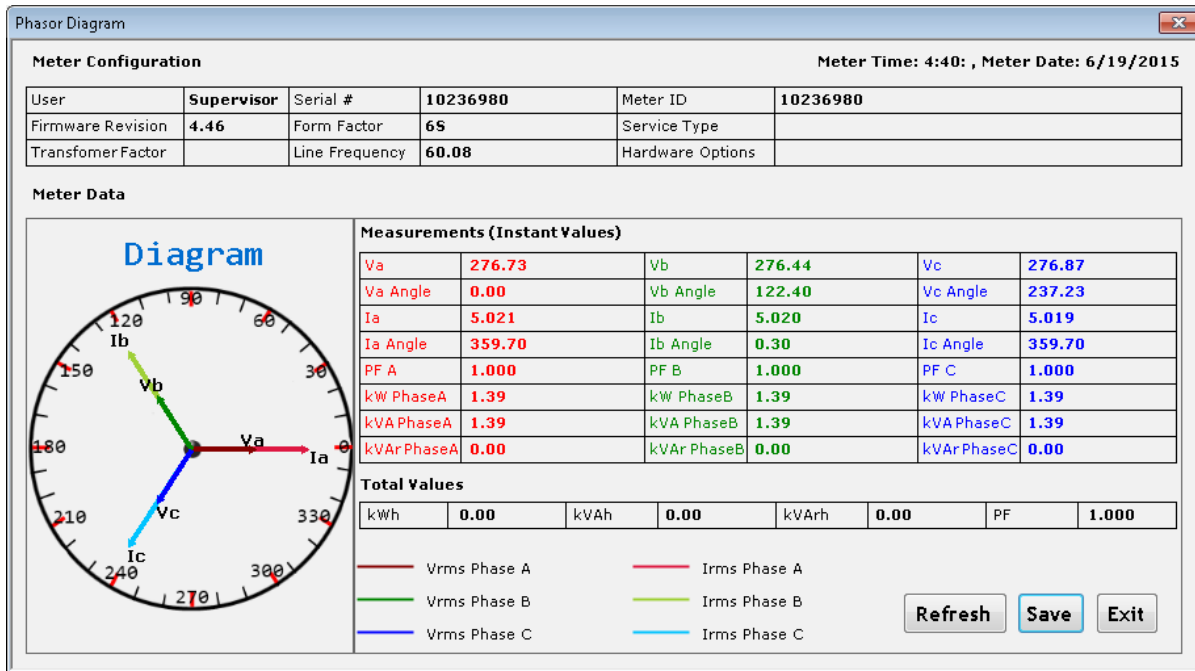


Figure 41

15. Meter Error List

This is available only after a meter has been read and is accessible from the task bar. Clicking on this tab opens the screen shown in **Figure 42**. From here it is possible to see the errors listed by code and description. From this location it is possible to also reset the errors by clicking the **Reset Error** button.

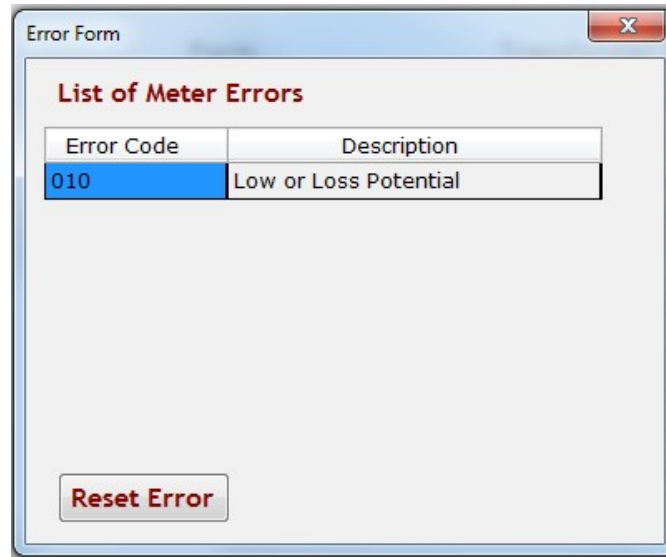


Figure 42

15.1 List of Possible Errors

The following is a list containing errors and their corresponding codes. Each error scrolls through the meter display and is not combined with others. Errors marked with * are serious errors and do not allow the display to continue scrolling.

Name	Code	Display Blocking	Cause	Required Action
ERR_UNPROGRAMMED	001	No	Meter is not programmed or in a factory default state	This error is set when firmware takes default setting data during initialization after power was up.
ERR_CONFIG	002	Yes	Meter detected a configuration error	Currently not supported by meter
ERR_SELFCHK	003	Yes	Meter detected a self-check error:	Reset the meter.

Name	Code	Display Blocking	Cause	Required Action
			Meter tried to recover reading data from backup memory after power was up and did not find any good records	
ERR_RAMFAILURE	004	Yes	Meter detected a RAM Memory failure	Currently not supported by meter
ERR_ROMFAILURE	005	Yes	Meter detected a ROM Memory failure	Currently not supported by meter
ERR_NONVOLMEMFAILURE	006	Yes	Meter detected a non-volatile memory failure. Meter tried to save reading data in the EEPROM memory unsuccessfully.	Call to the manufacturer if this error has not gone after 5 minutes.
ERR_CLOCK	007	No	Meter detected a clock error	Currently not supported by meter
ERR_MEASUREMENT	008	Yes	Meter detected a measurement element error	Currently not supported by meter
ERR_LOWBATTERY	009	No	Meter detected a low battery error	Replace the battery
ERR_LOWLOSSPOTENTIAL	010	No	Meter detected one of the device potential that is below a predetermined value.	Check the meter connection to the network. Check if the meter form-factor settings matches the faceplate label.
ERR_DEMANDOVERLOAD	011	No	Meter detected a demand threshold overload	Currently not supported by meter
ERR_POWERFAILURE	012	No	Meter detected a power failure. Power register in the computation engine was corrupt	Cycle meter power. Call to the manufacturer if this error has not gone.
ERR_TAMPERDETECT	013	Yes	Meter detected tamper activity. Used on meters	Reset the tamper flag.

Name	Code	Display Blocking	Cause	Required Action
			with the tamper sensors	
ERR_REVERSEROTATION	014	No	Meter detected reverse rotation	Currently not supported by meter
ERR_RADIO	101	Yes	Meter detected an error in the radio chip. Used on meters with the radio communication	Cycle meter power. Call to the manufacturer if this error has not gone.
ERR_POWERSWITCH	102	No	Meter detected a power switch error. Used on meters with the connect/disconnect switch. Can be switch board or switch malfunctioning	Replace switch board or power switch
ERR_NOTCALIBRATED	103	No	Meter is not calibrated	Calibrate the meter

Appendix A. List of Used Types of Communication

Software can communicate with Vision meters using the following types of communication:

- Optical interface. Used ANSI C12.18 protocol.
- Ethernet via TCP/IP protocol. Network Interface Card has to be inserted to the meter;
- LTE via TCP/IP protocol. Modem card has to be used as path-through media;

Revision History

Date	Author	Comments
08/05/2015	Jacob Kon	
03/10/2017	Maria Jimenez	Changed content, updated to firmware 4.81, Changed screen shots
03/10/2017	Isabel Freire	Formatted document, change numeration on pics, corrected and added hyperlinks
04/25/2017	Alex Sachinski	Updated Display and User Manager sections, reordered screenshots
06/16/2017	Alex Sachinski	Added 10.2 Daylight Saving Time Settings
06/23/2017	Alex Sachinski	Appendix A. List of Used Types of Communication
10/10/2017	Alex Sachinski	Updated 6.3 Demand Settings tab. Added Figure 13 Custom Demand Schedule
10/25/2017	Alex Sachinski	Updated 6.3 Demand Settings tab section and 7. Display Settings
10/26/2017	Alex Sachinski	Updated 9. Security Keys Setting section
12/13/2017	Alex Sachinski	Updated 7. Display Settings section. Added meter second row information
04/20/2018	Alex Sachinski	Updated 10.1 TOU Settings section
10/16/2018	Alex Sachinski	Updated 12. Event Log chapter

Vision Metering, LLC
Servicing Electric Utilities Around the World from
York, South Carolina, USA

BUSINESS OPERATING MANUAL
(QUALITY MANUAL)

Revision Date: 2025-10-01

Approved By: Production Manager, Vision Metering LLC,

Date: 2025-10-01

This document is authenticated in whole by verification of the above digital signature, using the signer's public key.

This is a complete re-issue of the manual with all previous changes incorporated, therefore there are no revision marks. This version replaces all prior issues.

This manual is the property of Vision Metering, LLC. It must not be reproduced in whole or in part or otherwise disclosed without prior written consent from Vision Metering, LLC.

The official controlled copy of this manual is the digitally signed PDF document on the Vision Metering network server and visible to all authorized users. All printed copies, and all electronic copies and versions except the ones described above, are considered uncontrolled copies used for reference only.

This document is controlled as a single entity, as any change – however slight, even a single character – to any part of the document by definition changes the entire document. For this reason, as well as the fact that the concept of “page” varies with the publication format, page-level revision is not practiced with this or any other Vision Metering document.

1. TABLE OF CONTENTS

Business Operating Manual: Table of Contents

1. TABLE OF CONTENTS	2
2. INTRODUCTION	5
2.1 Conformance and Compliance Standards	5
2.2 Other Relevant Standards	5
2.3 Abbreviations, Acronyms and Definitions	6
2.4 Services Offered	6
2.5 Parent Organization	7
2.6 Purpose of This Manual	7
2.7 Scope of the Business Management System and Exclusions.....	8
2.7.1 Business Operating Manual	8
2.7.2 Subsidiary Level 2 Documents.....	8
2.7.3 Laboratory Network	9
2.7.4 Permissible Exclusions and Mitigation	9
3. DISTRIBUTION AND REVIEW.....	10
3.1 Circulation List.....	10
3.2 Procedures for Updating the Business Operating Manual	10
4. QUALITY MANAGEMENT SYSTEM	10
4.1 General Requirements	10
4.2 Documentation Requirements	11
4.2.1 General	11
4.2.2 Business Operating Manual.....	13
4.2.3 Control of Documents	14
4.2.3.1 Document and Data Approval and Issue:	14
4.2.3.2 Document and Data Changes	14
4.2.3.3 Obsolete Documents.....	15
4.2.3.4 Documents of External Origin.....	15
4.2.4 Control of Quality Records	16
5. MANAGEMENT RESPONSIBILITY	16
5.1 Management Commitment.....	16
5.2 Customer Focus.....	16
5.3 Quality Policy.....	17
5.4 Planning.....	18
5.4.1 Quality Objectives	18
5.4.2 Quality Management System Planning	18
5.5 Responsibility, Authority and Communication	20
5.5.1 Responsibility and Authority	20
5.5.2 Management Representative	20
5.5.3 Internal Communications	21

5.6 Management Review.....	22
5.6.1 General	22
5.6.2 Review Input	22
5.6.3 Review Output.....	22
6. RESOURCE MANAGEMENT.....	22
6.1 Provision of Resources.....	22
6.2 Human Resources.....	23
6.2.1 Assignment of Personnel	23
6.2.2 Competence, Awareness, and Training.....	23
6.3 Infrastructure	23
6.4 Work Environment	24
7. SERVICE REALIZATION	24
7.1 Planning of Service Realization	24
7.2 Customer-Related Processes	25
7.2.1 Determination of Requirements Related to the Equipment.....	25
7.2.2 Review of Requirements Related to the Product.....	25
7.2.3 Customer Communication.....	26
7.3 DESIGN AND DEVELOPMENT	26
7.4 PURCHASING	26
7.4.1 Purchasing Process	27
7.4.2 Purchasing Information	27
7.4.3 Verification of Purchased Product	28
7.5 CALIBRATION AND SERVICE PROVISION	28
7.5.1 Control of Production and Service Provision.....	28
7.5.2 Validation of Processes for Calibration Provision.....	29
7.5.3 Identification and Traceability.....	30
Identification.....	30
Traceability	30
Inspection and Test Status.....	30
7.5.4 Customer Property.....	30
7.5.5 Preservation of Product	31
7.6 Control of Monitoring and Measuring Devices	31
7.6.1 Substitution of Test and Measurement Equipment Used as Measurement Standards.....	32
8. MEASUREMENT, ANALYSIS & IMPROVEMENT.....	32
8.1 General	32
8.2 Monitoring and Measurement	32
8.2.1 Customer Satisfaction.....	32
8.2.2 Internal Audit.....	32
8.2.3 Monitoring and Measurement of Processes	33
8.2.4 Monitoring and Measurement of Product.....	33
8.3 Control of Nonconforming Product	34
8.4 Analysis of Data	35
8.5 Improvement	35
8.5.1 Continual Improvement.....	35

8.5.2 Corrective Action.....	35
8.5.3 Preventive Action	35



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Public hearing on the authorization of a Loan Agreement and the issuance of Notes to evidence the obligation of the City thereunder.

Recommendation:

Attachments: 1. Indianola MU - Hearing Proceedings - ERRefCLN, Series 2026

ITEMS TO INCLUDE ON AGENDA FOR MARCH 9, 2026

**INDIANOLA MUNICIPAL UTILITIES BOARD OF TRUSTEES OF INDIANOLA
MUNICIPAL UTILITIES, IOWA**

Not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes

- Public hearing on the authorization of a Loan Agreement and the issuance of Notes to evidence the obligation of the City thereunder.
- Resolution instituting proceedings to take additional action.

NOTICE MUST BE GIVEN PURSUANT TO IOWA CODE
CHAPTER 21 AND THE LOCAL RULES OF THE
GOVERNING BODY.

March 9, 2026

The Board of Trustees of Indianola Municipal Utilities, State of Iowa, met in _____ session, in the Council Chambers, City Hall, Indianola, Iowa, at _____ .M., on the above date. There were present Chairperson _____, in the chair, and the following named Board Members:

Absent: _____

Vacant: _____

* * * * *

The Chairperson announced that this was the time and place for the public hearing and meeting on the matter of the authorization of a Loan Agreement and the issuance of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes, of the City of Indianola, State of Iowa, to provide funds to pay the costs of refunding and refinancing outstanding electric revenue obligations of the City, including the outstanding Electric Revenue Capital Loan Notes, Series 2017C, dated September 13, 2017, and that notice of the proposed action by the Board to institute proceedings for the authorization of the Loan Agreement and the issuance of the Notes had been published pursuant to the provisions of Sections 384.24A and 384.83 of the Code of Iowa.

The Chairperson then asked the Secretary whether any written objections had been filed by any resident or property owner of the City to the issuance of the Notes. The Secretary advised the Chairperson and the Board that _____ written objections had been filed. The Chairperson then called for oral objections to the issuance of the Notes and _____ were made. Whereupon, the Chairperson declared the time for receiving oral and written objections to be closed.

(Attach here a summary of objections received or made, if any)

Whereupon, the Chairperson declared the hearing on the authorization of entering into a Loan Agreement and the issuance of the Notes to be closed.

The Board then considered the proposed action and the extent of objections thereto.

Whereupon, Board Member _____ introduced and delivered to the Secretary the Resolution hereinafter set out entitled "RESOLUTION INSTITUTING PROCEEDINGS TO TAKE ADDITIONAL ACTION FOR THE AUTHORIZATION OF A LOAN AGREEMENT AND THE ISSUANCE OF NOT TO EXCEED \$6,800,000 ELECTRIC REVENUE REFUNDING CAPITAL LOAN NOTES", and moved:

- that the Resolution be adopted.
- to ADJOURN and defer action on the Resolution and the proposal to institute proceedings for the issuance of notes to the meeting to be held at _____ .M. on the _____ day of _____, 2026, at this place.

Board Member _____ seconded the motion. The roll was called and the vote was,

AYES: _____

NAYS: _____

Whereupon, the Chairperson declared the measure duly adopted.

RESOLUTION INSTITUTING PROCEEDINGS TO TAKE
ADDITIONAL ACTION FOR THE AUTHORIZATION OF A
LOAN AGREEMENT AND THE ISSUANCE OF NOT TO
EXCEED \$6,800,000 ELECTRIC REVENUE REFUNDING
CAPITAL LOAN NOTES

WHEREAS, pursuant to notice published as required by law, the Board of Trustees has held a public meeting and hearing upon the proposal to institute proceedings for the authorization of a Loan Agreement and the issuance of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes, in order to provide funds to pay the costs of refunding and refinancing outstanding electric revenue obligations of the City, including the outstanding Electric Revenue Capital Loan Notes, Series 2017C, dated September 13, 2017, and has considered the extent of objections received from residents or property owners as to the proposed issuance of Notes; and accordingly the following action is now considered to be in the best interests of the City and residents thereof.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF INDIANOLA MUNICIPAL UTILITIES, STATE OF IOWA:

Section 1. That this Board does hereby institute proceedings and take additional action for the authorization of a Loan Agreement and the issuance in the manner required by law of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes, for the foregoing purposes.

Section 2. This Resolution shall serve as a declaration of official intent under Treasury Regulation 1.150-2 and shall be maintained on file as a public record of such intent. It is reasonably expected that the electric fund moneys may be advanced from time to time for capital expenditures which are to be paid from the proceeds of the above Notes. The amounts so advanced shall be reimbursed from the proceeds of the Notes not later than eighteen months after the initial payment of the capital expenditures or eighteen months after the property is placed in service. Such advancements shall not exceed the amount authorized in this Resolution unless the same are for preliminary expenditures or unless another declaration of intention is adopted.

PASSED AND APPROVED this _____ day of _____, 2026.

Chairperson of the Board of Trustees

ATTEST:

Secretary of the Board of Trustees

CERTIFICATE

STATE OF IOWA)
) SS
COUNTY OF WARREN)

I, the undersigned Secretary of the Board of Trustees of Indianola Municipal Utilities, State of Iowa, do hereby certify that attached is a true and complete copy of the portion of the records of the Board of Trustees showing proceedings of the Board, and the same is a true and complete copy of the action taken by the Board with respect to the matter at the meeting held on the date indicated in the attachment, which proceedings remain in full force and effect, and have not been amended or rescinded in any way; that meeting and all action thereat was duly and publicly held in accordance with a notice of meeting and tentative agenda, a copy of which was timely served on each member of the Board and posted on a bulletin board or other prominent place easily accessible to the public and clearly designated for that purpose at the principal office of the Board pursuant to the local rules of the Board and the provisions of Chapter 21, Code of Iowa, upon reasonable advance notice to the public and media at least twenty-four hours prior to the commencement of the meeting as required by law and with members of the public present in attendance; I further certify that the individuals named therein were on the date thereof duly and lawfully possessed of their respective offices as indicated therein, that no Board vacancy existed except as may be stated in the proceedings, and that no controversy or litigation is pending, prayed or threatened involving the incorporation, organization, existence or boundaries of the City or the right of the individuals named therein as officers to their respective positions.

WITNESS my hand and the seal of the Board hereto affixed this _____ day of _____, 2026.

Secretary of the Board of Trustees, Indianola
Municipal Utilities, State of Iowa

(SEAL)

4935-9126-6957-1\10616-036

MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution instituting proceedings to take additional action for the authorization of a loan agreement and the issuance of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes

Recommendation:

Attachments:

1. Davidson Memo Regarding Potential Electric Debt Refinancing_03-05-26
2. RESOLUTION INSTITUTING PROCEEDINGS TO TAKE ADDITIONAL ACTION FOR THE AUTHORIZATION OF A LOAN AGREEMENT AND THE

Memorandum

To: Board of Trustees, Indianola Municipal Utilities
Chris DesPlanques, General Manager, Indianola Municipal Utilities,

From: Michael Maloney, Managing Director – D.A. Davidson & Co.
Telephone: 515.471.2723 Email: mmaloney@dadco.com

Date: Thursday, March 5, 2026 Page 1 of 2

Re: Electric Debt Refinancing Follow-up

D.A. Davidson is always reviewing potential refinancing savings for our clients and since reaching the call date in 2025 has been evaluating the opportunity for IMU as it relates to the outstanding Series 2017C Electric Revenue Notes as interest rates have trended downward in the municipal bond market. The interest rate on the outstanding debt is 4%. Under current market conditions, IMU could potentially borrow in the low-to-mid-3% range.

As a refresher, the interest rates available to IMU are comprised of two elements: 1) the current municipal yield curve index (based on a AAA rated municipal bond), and 2) IMU's credit spread to the index (based on IMU's recently upgraded S&P Global Ratings 'A' rating, Iowa, municipal electric utility; the potential for bond insurance – like used in 2017; and recent financial performance).

Interest rates move daily and there is no guarantee savings that is projected will actually materialize by the time we can/we want to proceed. At this time, we continue to monitor savings, though IMU has completed the public hearing steps to allow for us to move forward at a single future meeting.

The remaining administrative step for the Board to take before being able to capture savings is to approve use of the preliminary official statement (offering document for financing). We have a good template from 2017 and have made IMU's annual continuing disclosure filings since that debt issue, so this is something D.A. Davidson can help prepare efficiently for IMU. However, bond attorneys will be involved in the disclosure process and IMU would start incurring cost once we start that process. Therefore, we want to have a good indication that sufficient savings can be captured before incurring those costs.

Please consider the remaining refinancing process as having multiple 'off-ramps'. The off-ramps would be related to both effort and spending money. D.A. Davidson will continue work on this knowing we would only be compensated if the refinancing proceeds and actually closes. At this point, we can review potential savings for the Board monthly to make a decision to proceed with review and finalizing the offering document, secure a rating (this is assigned to each bond issue) and then proceed. The attached timeline is a simple outline of how this process could work.

Once we are meeting the 3% net present value benchmark outlined in our previous correspondence to the Board, we can inform staff and the Board and begin the remaining steps. Right now, we are still just below 2%, so will follow-up for the first April meeting with an update.

INDIANOLA MUNICIPAL UTILITIES, IOWA

Electric Revenue Refunding Capital Loan Notes, Series 2026

Purpose: Refinancing Series 2017C Notes

Projected Timeline

Updated: March 5, 2026

April 2026						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May 2026						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June 2026						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Financing Action Items

**February 9th
Board Meeting:**

- Board sets public hearing for refinancing for January 12th

**4 – 20 Days Prior to Public
Hearing:**

- Publish notice of public hearing

**March 9th
Board Meeting:**

- Board holds public hearing for refinancing
- Board reviews potential savings

**Future
Board Meeting #1:
(when savings merited)**

- Board approves use of Preliminary Official Statement (offering document for investors)

**Future
Board Meeting #2:**

- Board considers approval of Note Purchase Agreement (locks in rates/savings on refinancing)

**Future
Board Meeting #3:**

- Board authorizes issuance / legal documents relating to Notes

**16 days after Meeting #3:
(no meeting required)**

- Closing / delivery of funds
- Redemption of Series 2017C Notes

* Preliminary, subject to change.

Indianola Municipal Utilities
RESOLUTION NO 2024-

RESOLUTION INSTITUTING PROCEEDINGS TO TAKE ADDITIONAL
ACTION FOR THE AUTHORIZATION OF A LOAN AGREEMENT AND
THE ISSUANCE OF NOT TO EXCEED \$6,800,000 ELECTRIC REVENUE
REFUNDING CAPITAL LOAN NOTES

WHEREAS, pursuant to notice published as required by law, the Board of Trustees has held a public meeting and hearing upon the proposal to institute proceedings for the authorization of a Loan Agreement and the issuance of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes, in order to provide funds to pay the costs of refunding and refinancing outstanding electric revenue obligations of the City, including the outstanding Electric Revenue Capital Loan Notes, Series 2017C, dated September 13, 2017, and has considered the extent of objections received from residents or property owners as to the proposed issuance of Notes; and accordingly the following action is now considered to be in the best interests of the City and residents thereof.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF INDIANOLA MUNICIPAL UTILITIES, STATE OF IOWA:

That this Board does hereby institute proceedings and take additional action for the authorization of a Loan Agreement and the issuance in the manner required by law of not to exceed \$6,800,000 Electric Revenue Refunding Capital Loan Notes, for the foregoing purposes.

This Resolution shall serve as a declaration of official intent under Treasury Regulation 1.150-2 and shall be maintained on file as a public record of such intent. It is reasonably expected that the electric fund moneys may be advanced from time to time for capital expenditures which are to be paid from the proceeds of the above Notes. The amounts so advanced shall be reimbursed from the proceeds of the Notes not later than eighteen months after the initial payment of the capital expenditures or eighteen months after the property is placed in service. Such advancements shall not exceed the amount authorized in this Resolution unless the same are for preliminary expenditures or unless another declaration of intention is adopted.

PASSED AND APPROVED this _____ day of _____, 2026.

Dom Selgrade, Chairperson of the Board of
Trustees

ATTEST:

Monica Thompson Secretary of the Board of
Trustees



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Public Hearing regarding Indianola Municipal Utilities Budget 2027

Recommendation:

Attachments: 1. FY26-27 Budget Document 030926 for approval

Indianola Municipal Utilities – Proposed FY 2026-2027 Budget

This document presents the proposed budget for Indianola Municipal Utilities for the fiscal year 2026–2027. The budget reflects careful financial planning to ensure the continued delivery of reliable utility services, necessary infrastructure improvements, and prudent management of debt obligations.

The table below summarizes the estimated fund balances as of June 30, 2026, along with budgeted revenues, operating expenditures, capital expenditures, and debt service payments for each utility fund.

FISCAL 2026-2027 BUDGET ESTIMATED FUND BALANCES					
	Total IMU	Electric Utility	Water Utility	Communications Utility	IMU Administration
June 30, 2026 Ending Balance	\$24,454,463	\$19,325,254	\$3,790,442	\$597,506	\$741,262
Budgeted Revenue	30,900,895	20,438,300	4,079,245	6,148,950	234,400
Budgeted Operating Expenditures	(24,724,467)	(17,498,352)	(2,093,776)	(3,661,738)	(1,470,600)
Allocated Admin Expenditures	-	(568,333)	(365,636)	(302,231)	1,236,200
Budgeted Capital Expenditures	(6,068,900)	(2,900,300)	(2,282,400)	(886,200)	-
Debt Service	(1,803,455)	(676,800)	-	(1,126,655)	-
Net Change in Fund Balance	(\$1,695,927)	(\$1,205,486)	(\$662,567)	\$172,125	-
July 31, 2027 Ending Balance	\$22,758,537	\$18,119,768	\$3,127,876	\$769,631	\$741,262

Overall Highlights:

- Total budgeted revenues across all utility funds are approximately \$30.9 million, supporting essential services and capital projects. Operating expenses are projected at \$24.7 million. This supports ongoing service delivery and maintenance.
- Capital expenditures total nearly \$6.1 million. Ongoing projects include water main replacements, underground electric conversions, and fiber investments, including customer premise equipment and service delivery to new customers. New initiatives focus on the first-year phase of AMI meter conversion, while continuing improvements address utility plant, fleet vehicles, and operational assets
- Debt service payments of \$1.8 million maintain financial obligations and creditworthiness.
- The combined estimated fund balance on June 30, 2027, is projected to be \$22.8 million.
- The \$1.7 million reduction in fund balance demonstrates the utility’s commitment to strategic capital improvements, as detailed in the 5-year capital plan reviewed by the Trustees on December 8, 2025. This careful investment maintains a healthy ending fund balance, ensuring the utility remains financially strong and able to continue providing reliable services.

ELECTRIC UTILITY FUND SUMMARY

	FY2025-26 Re-Estimated	FY2026-27 Proposed Budget
Beginning Fund Balance (estimated)	\$ 19,722,797	\$ 19,325,254
Revenues		
Electric Service Fees-Sales	\$ 17,225,886	\$ 17,225,900
Peaking Capacity	639,000	624,200
MISO Credits	568,200	613,500
Other Electric Revenue	476,700	454,600
Plant Lease - Fiber	300,000	300,000
Sales Tax (in)	362,100	362,100
Interest	858,000	858,000
Total Revenues	\$ 20,429,886	\$ 20,438,300
Operating Expenditures		
Salaries	\$ 1,428,600	\$ 1,523,100
Benefits & Employee Costs	547,100	580,600
Purchased Energy	11,078,925	11,239,093
Transmission	1,330,981	1,370,911
Purchased Solar	250,000	500,000
Plant Operations	71,000	71,000
Turbine Expenses	428,000	228,000
Distribution Expenses	338,200	336,000
Other Expenses	98,000	100,000
Insurance	180,500	184,700
Admin & Allocated Expenses	1,576,223	1,568,182
Sales & Use Tax (out)	365,100	365,100
Total Operating Expenditures	\$ 17,692,629	\$ 18,066,686
Capital Expenditures		
Line Construction	\$ 1,044,000	\$ 1,098,000
Electric Meters	50,000	568,600
Vehicles	242,000	505,000
Specialized Equipment	715,000	270,000
Transmission Facilities	193,000	202,700
Other Capital	212,000	256,000
Total Capital Expenditures	\$ 2,456,000	\$ 2,900,300
Debt Service	\$ 678,800	\$ 676,800
Addition/(Reduction) in Fund Balance	\$ (397,543)	\$ (1,205,486)
Ending Fund Balance (estimated)	\$ 19,325,254	\$ 18,119,768

Electric Utility Highlights:

- Electric Usage: No change compared to prior year budget.
- Electric Rates: No increase in rates.

- Salaries: Cost of living adjustment budgeted at 3% increase.
- Benefits & Employee Costs:
 - Includes expenses for training, continuing education, memberships, dues, and uniforms.
 - Employer portion of medical premiums budgeted to increase 10%.
- Purchased Energy: Budget includes 3% increase.
- Purchased Solar: Assumes a full year of operations, whereas FY2025-26 re-estimate is based on half-year operations.

- Capital Budget includes:
 - \$1.1 million for electric underground conversion projects.
 - The first phase of the three-year AMI meter conversion budgeted at \$560,000.
 - Vehicle replacements, including a bucket truck, a dump truck, and other fleet vehicles budgeted at \$500,000.

- Debt Service: Principal and interest payments totaling \$676,800.

WATER UTILITY FUND SUMMARY

	FY2025-26 Re-Estimated	FY2026-27 Proposed Budget
Beginning Fund Balance (estimated)	\$ 4,762,604	\$ 3,790,442
Revenues		
Water Sales	\$ 3,338,500	\$ 3,497,200
Other Water Revenue	193,245	188,445
Sales/Excise Tax (in)	202,000	211,500
Interest Income	182,100	182,100
Total Revenues	\$ 3,915,845	\$ 4,079,245
Operating Expenditures		
Salaries	\$ 719,600	\$ 752,700
Benefits & Employee Costs	271,400	282,200
Treatment Chemicals	170,000	170,000
Electricity	229,200	240,600
Plant Operations	21,500	22,500
Plant Maintenance	61,000	50,000
Distribution Expenses	99,200	99,400
Other Operating Expenses	22,800	22,800
Insurance	61,000	62,700
Admin & Allocated Expenses	541,107	545,012
Sales/Excise Tax (out)	202,000	211,500
Total Operating Expenditures	\$ 2,398,807	\$ 2,459,412
Capital Expenditures		
Vehicles	\$ 70,000	\$ 200,000
Water Towers	1,150,000	375,000
Water Mains	1,070,000	1,025,000
Water Meters	150,000	630,600
Other Capital	51,200	51,800
Total Capital Expenditures	\$ 2,491,200	\$ 2,282,400
Addition/(Reduction) in Fund Balance	\$ (974,162)	\$ (662,567)
Ending Fund Balance (estimated)	\$ 3,788,442	\$ 3,127,876

Water Utility Highlights:

- Water Consumption: Based on actual usage, which is trending lower.
- Water Rates:
 - Base rate is increasing \$1.00 to \$13.25 per month, which covers the first 1,000 gallons.
 - Consumption rate is increasing to \$8.78 per 1,000 gallons for all customer classes.
 - Additional base rate increase applies to customers with meters larger than 1 inch.
- Salaries: Cost of living adjustment budgeted at 3% increase.
- Benefits & Employee Costs:
 - Includes expenses for training, continuing education, memberships, dues, and uniforms.
 - Employer portion of medical premiums budgeted to increase 10%.
- Water Treatment & Plant Operations: expenses remain flat compared to prior year.
- Other Operating Expenses: some expense lines remain flat; others reflect moderate increases.
- Capital Budget includes:
 - \$1.0 million for water main replacement projects.
 - Nearly \$531,000 for water meter replacements related to the first year of a three-year AMI conversion. New meters will communicate with the AMI electric meters for integrated reporting.
 - An additional \$100,000 for large meters and meters for new construction.
 - Plant/tower upgrades and improvements of \$375,000.
 - \$200,000 for replacement of excavation equipment.

COMMUNICATIONS UTILITY FUND SUMMARY

	FY2025-26 Re-Estimated	FY2026-27 Proposed Budget
Beginning Fund Balance (estimated)	\$ 650,507	\$ 597,506
Revenues		
Communications Revenue - Internet	3,940,000	4,250,000
Communications Revenue - Video	1,225,000	1,250,000
Communications Revenue - Telephone	250,000	250,000
Other Communications Revenue	340,450	244,950
Sales Tax (in)	120,000	120,000
Interest	34,000	34,000
Total Revenues	\$ 5,909,450	\$ 6,148,950
Operating Expenditures		
Salaries	750,700	798,700
Benefits & Employee Costs	289,600	322,100
Internet Wholesale	100,000	110,000
Video Wholesale	1,105,000	1,150,000
Telephone Wholesale	100,000	100,000
Transport Charges	80,000	75,000
Other Expenses	504,900	532,900
Plant Lease - Electric	300,000	300,000
Insurance	26,800	28,000
Admin & Allocated Expenses	369,531	364,270
Sales Tax (out)	120,000	120,000
Franchise Fees to City	63,000	63,000
Total Operating Expenditures	\$ 3,809,531	\$ 3,963,970
Capital Expenditures		
Customer Premise Equipment	225,000	310,000
Fiber Drop/Installs	115,000	100,000
Licensing	5,000	40,000
Vehicles	32,500	37,000
Other Capital	648,800	399,200
Total Capital Expenditures	\$ 1,026,300	\$ 886,200
Debt Service	\$ 1,126,620	\$ 1,126,655
Addition/(Reduction) in Fund Balance	\$ (53,001)	\$ 172,125
Ending Fund Balance (estimated)	\$ 597,506	\$ 769,631

Communications Utility Highlights:

- Communications Subscriptions: Trending upwards.
- Salaries: Cost of living adjustment budgeted at 3% increase.
- Benefits & Employee Costs:
 - Includes expenses for training, continuing education, memberships, dues, and uniforms.
 - Employer portion of medical premiums budgeted to increase 10%.
- Wholesale Provider Costs: Budget reflects moderate projected increases.
- Other Operating Expenses: Line items show limited increases overall.
- Capital Budget includes:
 - Customer premise equipment budgeted at \$310,000.
 - \$100,000 for fiber drops and installations.
 - System expansion into surrounding areas is budgeted at \$360,000 (NOFA 7 grant-funded).
- Debt Service: Principal and interest payments totaling approximately \$1.1 million.

UTILITY SERVICES & ADMIN FUND SUMMARY

	FY2025-26	FY2026-27
	Re-Estimated	Proposed Budget
Beginning Fund Balance (estimated)	\$ 741,262	\$ 741,262
Operating Expenditures		
Salaries	\$ 726,700	\$ 748,700
Benefits & Employee Costs	251,800	271,200
Technology Services	161,600	176,900
Billing Expenses	88,700	93,100
Insurance	20,000	21,300
Other Expenses	206,900	159,400
Total Operating Expenditures	\$ 1,455,700	\$ 1,470,600
Transfers Out		
Shared Services - to City of Indianola	\$ 237,200	\$ 234,400
Transfer to Electric Utility	563,658	568,333
Transfer to Water Utility	360,696	365,636
Transfer to Communications Utility	294,146	302,231
Total Transfers Out	\$ 1,455,700	\$ 1,470,600
Addition/(Reduction) in Fund Balance	\$ -	\$ -
Ending Fund Balance	\$ 741,262	\$ 741,262

Utility Services & Admin Highlights:

- Salaries: Cost of living adjustment budgeted at 3% increase.
- Benefits & Employee Costs:
 - Includes expenses for training, continuing education, memberships, dues, and uniforms.
 - Employer portion of medical premiums budgeted to increase 10%.
- Technology Services: Provides for recurring system maintenance for billing and financial software.
- Billing Expenses: Accounts for the costs of printing and mailing customer utility bills.
- Other Operating Expenses: Includes services for the annual audit, janitorial services, repairs & maintenance, social media management, and related operational needs.



MEMORANDUM

To: IMU Board of Trustees of the Electric, Water and Communications Utilities

From:

Date: March 9, 2026

Subject: Resolution Approving Indianola Municipal Utilities Budget 2027

Recommendation:

Attachments: 1. Res 2026 ADOPTING THE ANNUAL BUDGET FOR FISCAL YEAR ENDING JUNE 30, 2027

Indianola Municipal Utilities
RESOLUTION NO 2026-

RESOLUTION ADOPTING THE ANNUAL BUDGET FOR FISCAL YEAR ENDING JUNE 30, 2027

BE IT RESOLVED BY THE IMU BOARD OF TRUSTEES OF THE CITY OF INDIANOLA, IOWA:
The annual budget for the fiscal year ending June 30, 2027, as set forth in the Budget Summary Certificate and in the detail budget in support thereof showing the revenue estimates and appropriations expenditures and allocations to program and activities for said fiscal year is adopted, the Finance Director is directed to make the filings required by law and set up the books in accordance with the summary and details as adopted.
Adopted this 9th day of March 2026.

Dom Selgrade, Chairperson

Monica Thompson, Board Secretary