



CITY COUNCIL MEETING AGENDA

Mayor Logan Monson

Mayor Pro Tempore Cheryl Bowers
Council Member Chris Ewald
Council Member Len Gasser
Council Member Erik Grover
Council Member Kellen Nielson

Tuesday, September 27, 2022 at 7:00pm

50 West 100 South Street,
Blanding Utah 84511

Meetings are live streamed at:

www.youtube.com/channel/UCPzWdnJDcNhH31kvTjJ9N3w

Notice is hereby given that the City Council of Blanding, Utah will hold a Regular Council Meeting on September 27, 2022 at 7:00 pm at the City Office, located at 50 W. 100 S. Street.

POLICY MEETING

- I. Call to Order
- II. Roll Call
- III. Prayer or Thought
Anyone in attendance is invited to notify the Mayor prior to the meeting if they would like to offer a prayer or thought.
- IV. Pledge of Allegiance
- V. Approval: Consent Agenda and Minutes from September 13, 2022
- VI. Declaration of Conflicts of Interest

Public Input

Anyone wishing to address the Council on any item is invited to do so. Public Input is an opportunity for the public to bring information to the Council. Clarifying questions may be asked by the Council, but it is not an appropriate time for substantive discussion.

Reports

- | | |
|--------------------------------------|--------|
| 1. Mayor | |
| 2. City Council | |
| 3. City Manager, David Johnson | Pg. 6 |
| 4. Financial Report, Kim Palmer | Pg. 7 |
| 5. Public Works Report, Terry Ekker | Pg. 17 |
| 6. Forest Plan Revision, Terry Ekker | |

Presentations

1. Local Governments Trust Award, Mike Stagg

Discussion Items

- | | |
|--|--------|
| 1. Justice Court, David Johnson | Pg. 21 |
| 2. Raw Water Commercial Sales, David Johnson | Pg. 23 |

Business Items

- | | |
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| 1. Resolution 09-27-2022-1 - Contract for AMI Metering System, Kim Palmer | Pg. 27 |
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Closed Session

Possible closed session for the purpose of discussing pending or reasonably imminent litigation; to discuss the character, professional competence, or physical or mental health of an individual; to discuss collective bargaining; or to discuss the purchase, exchange, sale or lease of real property. *Utah Code 52-4-205*

Adjournment

In compliance with the ADA, individuals needing special accommodations during this meeting may call the City Offices at (435) 678-2791 at least twenty-four hours in advance. Every effort will be made to provide the appropriate services. One or more members may participate in the meeting electronically, according to Blanding City Ordinance 1-5-5-F regarding electronic meeting participation. All agenda times are approximate.



CITY COUNCIL MEETING MINUTES

Council in Attendance:

Mayor Logan Monson
Council Member Cheryl Bowers
Council Member Chris Ewald
Council Member Erik Grover
Council Member Kellen Nielson

Tuesday, September 13, 2022 at 7:00pm

50 West 100 South Street,
Blanding Utah 84511

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<https://www.youtube.com/watch?v=xqRb3g3SegE>

Absent: Len Gasser

Staff Members in Attendance:

City Manager - David Johnson
City Finance Director - Kim Palmer
City Community Dev. Dir. - Bret Hosler

City Police - Chief Bradford

City Recreation Director - David Palmer

Others: Beverly Vowell Black, Officer Tell
Stewart

Prayer was offered by Kim Palmer

Declaration of Conflict: None

1. The Pledge of Allegiance was recited.
2. **Councilmember Bowers moved to approve the minutes of the August 23, 2022 City Council Meeting and consent agenda. Councilmember Nielson seconded the motion. Mayor Monson repeated the motion and asked for discussion. Hearing none, he called for a vote.**

Those voting Aye:	Councilmember Bowers Councilmember Ewald Councilmember Grover Councilmember Nielson
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Those voting Nay:	None
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Those abstaining:	None
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Constituting all members thereof, Mayor Monson declared the motion carried.

PUBLIC INPUT

None

REPORTS

1. Mayor Monson

Mayor Monson shared that David Archuleta will be performing at San Juan High School auditorium on December 15th. Tickets will be available for purchase in the near future.

2. City Council

Councilmember Ewald told Council that a group of pilots with experimental aircraft are at the airport this week. They are spending their time touring the area.

The ATV Safari will begin on Wednesday, September 14th and run through Saturday, September 17th.

An event is being held at the college on Friday, September 16th to celebrate the completion of the West Water power project.

3. City Manager - David Johnson

Mr. Johnson reminded Council that he will be attending the final CIB funding meeting on October 6th in Salt Lake to make a final request for the Wellness Center repair projects.

Judge Hazelton will be retiring in December and Diane will be retiring at the end of September. Further discussion on the Justice Court will be held at an upcoming meeting.

An RFP for the General Plan will be advertised next week. The pickle ball court RFP will also be advertised.

4. Staff Reports

a. Finance Report - Kim Palmer

Ms. Palmer reported that all purchases were within budget.

b. Recreation Report - David Palmer

Mr. Palmer reported that the pool has been emptied, with most of the water going on to the ball fields.

When asked about the increase in numbers at the Wellness Center, Mr. Palmer responded that the change to Sportsman has really allowed a better count of the attendance at the facility. Reminder emails and text messages are also being sent through Sportsman regarding upcoming recreation registrations. It has worked quite well.

c. Water Report - Terry Ekker

Mr. Ekker was not in attendance.

d. Police Report - Chief Bradford

Chief Bradford introduced Tell Stewart as the department's newest officer. Officer Stewart comes to Blanding from the Logan area where he was an officer.

PRESENTATIONS

1. Update on Digitizing Blanding Histories to FamilySearch - Beverly Vowell Black

Mrs. Black shared details regarding the digitizing of family, individual and area histories. The project is taking place at the Family History Center, located at the South Chapel. Blanding is one of only four sites in Utah scanning at this time. There is no charge and histories can be viewed online for free. There are currently 500,000 free genealogy books, family histories, maps, yearbooks, etc., available for viewing.

BUSINESS ITEMS

1. Resolution 09-13-2022-1 Contract to Receive Westwater ARPA Grant - David Johnson

Mr. Johnson asked for Council's approval to accept the Westwater ARPA grant from the State of Utah.

Councilmember Bowers moved to approve Resolution 09-13-2022-1 Contract to Receive Westwater ARPA Grant. Councilmember Ewald seconded the motion. Mayor Pro-Tempore Bowers repeated the motion and asked for discussion. Hearing none, he called for a vote.

Those voting Aye:	Councilmember Bowers Councilmember Ewald Councilmember Nielson
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Those voting Nay:	Councilmember Grover
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Those abstaining:	None
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Constituting all members thereof, Mayor Monson declared the motion carried.

ADJOURNMENT

Councilmember Ewald moved to adjourn the meeting. Councilmember Grover seconded the motion. Mayor Monson repeated the motion and asked for discussion. Hearing none, he called for a vote.

Those voting Aye:	Councilmember Bowers Councilmember Ewald Councilmember Grover Councilmember Nielson
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Those voting Nay:	None
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Those abstaining:	None
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Constituting all members thereof, Mayor Monson declared the motion carried.

Council adjourned the meeting at 7:40 p.m.

By:

Kim Palmer, City Deputy Recorder

City Council Project Status Report - 09.27.2022

Project	Status	Notes
Wellness Center Sprinkler System & Showers	Ongoing	The City Manager presented to the CIB Board. The Board passed a motion for the City's request to come back during their October meeting for final approval. The motion was for \$341,000 loan at 2% interest and \$29,000 in grant. The City will contribute \$150,000 from capital savings or \$200,000 if the City does not receive the USDA Community Facilities Grant. The USDA Community Facilities grant was formally submitted by USDA staff for consideration of \$50,000 toward the equipment costs of the sprinkler.
Deep Well	Ongoing	The MOU was approved and the City Council approved the acceptance of the funding. The next step is the water conveyance agreement. This may take a couple of months to draft and review, and will come to City Council for feedback and approval.
Parks, Recreation, Trails & Open Space Master Plan	Ongoing	A Public Open House was recently held with minimal attendance. However, the prior survey results provided a high percentage of resident response and an additional link was sent out to the public for those that could not attend the public open house.
CDBG Grant	Submitted	The City's application was recommended for approval. Staff is now waiting on a contract from the state. After that is received, the City will send out an RFP.
Swallow's Nest	Ongoing	Staff priced out gravel at less than \$1,000 and is working to remove the grass, cap sprinklers and lay down the gravel to prevent flooding.
UDOT TPA Grant	Approved	Staff put out an RFP, which is due at the end of October. A committee will review the RFP and bring the RFP with the highest score to the City Council for approval.



CITY COUNCIL MEETING - STAFF REPORT

Author: Kim Palmer, Finance Director
Department: Finance
Subject: Accounts Payable/Council Financial Report - August 2022

Department Review

1. Invoice Register
 - a. All expenses are within the approved FY2023 budget.
2. Council Financial Report - August 2022

If you have any questions, I would be happy to meet with you to discuss them..

City of Blanding
Budgetary Variance Analysis 7/1/2022 to 8/31/2022
Variance Criteria: 0.00% and \$0.00

	Type	Prior Actual	Current Actual	Budget	Notes
10 - 10 General Fund					
General revenue					
3110 - PROPERTY TAXES	R	0	0	0	
3115 - Fee in leu of taxes	R	0	0	0	
3120 - SALES TAX	R	131,735.49	193,304.30	163,521.61	18% more than anticipated
3125 - ROOM TAX	R	9,471.19	11,180.31	4,998.00	123% more than anticipated
3150 - FRANCHISE FEES - EMERY TEL/BAKER	R	3,737.79	3,768.08	3,648.66	
3210 - BUSINESS LICENSES	R	200	175	230.92	
3230 - BUILDING PERMITS/INSPECTIONS	R	5,106.59	7,500.00	2,834.00	New homes and remodels
3310.010 - STATE GRANTS -Admin	R	0	12,409.00	0	Community, Heritage & Cultural Grant
3310.046 - STATE GRANTS Airport	R	0	0	0	
3310.065 - STATE GRANTS Parks & rec	R	3,000.00	0	0	
3318 - STATE LIQUOR ALLOTMENT	R	0	0	0	
3330.010 - COUNTY GRANTS Admin	R	0	0	0	
3440 - ADMINISTRATIVE FEES	R	0	0	0	
3450 - CREDIT CARD FEES	R	0	0	0	
3610 - INTEREST INCOME	R	5,845.32	35,238.05	5,084.00	Interest rates are rebounding (2.21% PTIF)
3620 - SALES/PROPERTY - SUPPLIES	R	0	0	2,634.00	
3680 - LOAN PROCEEDS	R	0	0	0	
3685 - CONTRIBUTIONS	R	0	0	0	
3690 - SUNDRY REVENUES	R	1,014.49	3,052.10	92,124.00	
3900 - FUND BALANCE APPROPRIATED	R	0	0	6,000.00	
3910 - TRANSFER FROM E/W	R	26,750.00	26,750.00	26,750.00	
Mayor and Council					
41110 - Council SALARIES AND WAGES	E	950	950	950	
41130 - Council EMPLOYEE BENEFITS	E	87.42	90.18	74	
41210 - Council BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
41220 - Council PUBLIC NOTICES	E	0	0	0	
41230 - Council TRAVEL	E	0	0	170	
41240 - Council OFFICE EXPENSE & SUPPLIES	E	1,729.67	0	276	
41250 - Council EQUIPMENT - SUPPLIES & MAINT	E	36.28	66.97	0	
41280 - Council TELEPHONE	E	0	0	0	
41480 - Council OTHER SPECIAL DEPART SUPPLIES	E	500	500	350	
41510 - Council INSURANCE	E	0	500	500	
Court					
3510 - COURT FINES/FOREFEITURES	R	-13,828.67	26,779.49	30,000.00	
42110 - Court SALARIES AND WAGES	E	11,509.78	15,351.76	15,274.00	
42130 - Court EMPLOYEE BENEFITS	E	2,970.05	3,646.87	3,158.00	
42210 - Court BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
42220 - Court PUBLIC NOTICES	E	0	0	0	
42230 - Court TRAVEL	E	0	0	0	
42240 - Court OFFICE EXPENSE & SUPPLIES	E	0	0	180	
42250 - Court EQUIPMENT - SUPPLIES & MAINT	E	0	0	1,900.00	
42310 - Court PROFESSIONAL/TECHNICAL	E	1,340.00	4,237.50	7,400.00	
42510 - Court INSURANCE	E	500	500	500	
42740 - Court CAPITAL OUTLAY	E	0	0	0	
Administration					
44110 - Admin SALARIES AND WAGES	E	6,435.05	7,348.36	6,588.00	
44130 - Admin EMPLOYEE BENEFITS	E	3,620.09	4,339.77	3,654.00	
44210 - Admin BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
44220 - Admin PUBLIC NOTICES	E	0	0	0	
44230 - Admin TRAVEL	E	0	492.75	0	
44240 - Admin OFFICE EXPENSE & SUPPLIES	E	86.37	244.93	354	
44250 - Admin EQUIPMENT - SUPPLIES & MAINT	E	839.51	181.78	446	
44260 - Admin BUILDINGS - SUPPLIES & MAINT	E	27.3	131.73	266	
44280 - Admin TELEPHONE	E	200	411.36	100	
44290 - Admin TELEPHONE - CELL	E	0	0	160	
44310 - Admin PROFESSIONAL/TECHNICAL	E	0	91.01	1,500.00	
44480 - Admin OTHER SPECIAL DEPART SUPPLIES	E	4,550.73	1,039.84	1,100.00	
44481 - Admin ELECTIONS	E	0	0	0	
44510 - Admin INSURANCE	E	2,700.00	2,500.00	2,700.00	
44740 - Admin CAPITAL OUTLAY	E	0	0	500	
7000 - BUDGETED INCREASE IN FUND BALANCE	E	0	0	0	
Attorney					
45210 - Attorney BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
45310 - Attorney PROFESSIONAL/TECHNICAL	E	450	262.5	1,800.00	
Planning and Zoning					
48110 - P&Z SALARIES AND WAGES	E	7,685.92	13,939.34	7,898.00	Employee Leave payout
48130 - P&Z EMPLOYEE BENEFITS	E	1,834.53	3,561.59	2,132.00	Employee Leave payout
48210 - P&Z BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
48220 - P&Z PUBLIC NOTICES	E	0	0	0	
48230 - P&Z TRAVEL	E	0	465	0	
48240 - P&Z OFFICE EXPENSE & SUPPLIES	E	0	0	172	
48250 - P&Z EQUIPMENT - SUPPLIES & MAINT	E	0	276	134	
48260 - P&Z BUILDINGS - SUPPLIES & MAINT	E	0	0	0	
48310 - P&Z PROFESSIONAL/TECHNICAL	E	507.3	415.84	800	
48480 - P&Z OTHER SPECIAL DEPART SUPPLIES	E	0	0	75	

City of Blanding
Budgetary Variance Analysis 7/1/2022 to 8/31/2022
Variance Criteria: 0.00% and \$0.00

	Type	Prior Actual	Current Actual	Budget	Notes
48510 - P&Z INSURANCE	E	0	0	0	
48740 - P&Z CAPITAL OUTLAY	E	0	0	0	
Police					
3240 - ANIMAL LICENSES & FEES	R	279	343	300	
3310.052 - STATE GRANTS Police	R	0	0	0	
52110 - Police SALARIES AND WAGES	E	52,744.45	53,566.87	55,460.00	
52130 - Police EMPLOYEE BENEFITS	E	39,783.76	36,004.99	38,694.00	
52210 - Police BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	200	0	
52220 - Police PUBLIC NOTICES	E	0	0	0	
52230 - Police TRAVEL	E	0	674	416	
52240 - Police OFFICE EXPENSE & SUPPLIES	E	0	0	666	
52250 - Police EQUIPMENT - SUPPLIES & MAINT	E	14,526.29	8,013.86	6,000.00	Gas & equipment
52260 - Police BUILDINGS - SUPPLIES & MAINT	E	0	0	720	
52270 - Police UTILITIES	E	1,006.12	848.8	1,195.40	
52280 - Police TELEPHONE	E	2,121.87	1,691.93	1,400.00	
52290 - Police TELEPHONE - CELL	E	0	0	480	
52310 - Police PROFESSIONAL/TECHNICAL	E	0	0	43,400.00	
52480 - Police OTHER SPECIAL DEPART SUPPLIES	E	0	0	2,600.00	
52482 - Police GRANT EXPENSE	E	0	0	20,000.00	
52510 - Police INSURANCE	E	2,500.00	3,500.00	2,500.00	
52610 - Police MISCELLANEOUS	E	0	0	0	
52740 - Police CAPITAL OUTLAY	E	0	0	55,000.00	
52800 - Police PRINCIPLE - EXPENSE	E	0	0	0	
Fire					
3320.053 - FEDERAL GRANTS Fire	R	0	0	0	
3330.53 - COUNTY GRANTS Fire	R	0	0	0	
3435 - FIRE REVENUE	R	0	0	0	
53110 - Fire SALARIES AND WAGES	E	3,609.34	3,464.84	3,464.00	
53120 - Fire VOLUNTEER FIRE	E	0	0	0	
53130 - Fire EMPLOYEE BENEFITS	E	384.44	378.48	312	
53210 - Fire BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
53220 - Fire PUBLIC NOTICES	E	0	0	0	
53230 - Fire TRAVEL	E	0	40	166	
53240 - Fire OFFICE EXPENSE & SUPPLIES	E	0	0	170	
53250 - Fire EQUIPMENT - SUPPLIES & MAINT	E	1,654.21	1,435.89	2,380.00	
53260 - Fire BUILDINGS - SUPPLIES & MAINT	E	150	0	0	
53270 - Fire UTILITIES	E	687.55	755.51	812.55	
53280 - Fire TELEPHONE	E	0	241.05	216	
53290 - Fire TELEPHONE - CELL	E	80	80	80	
53310 - Fire PROFESSIONAL/TECHNICAL	E	20	150	2,015.00	
53480 - Fire OTHER SPECIAL DEPART SUPPLIES	E	138.75	0	0	
53482 - Fire GRANT EXPENSE	E	0	0	0	
53510 - Fire INSURANCE	E	500	500	500	
53740 - Fire CAPITAL OUTLAY	E	0	0	0	
Class C					
3315 - STATE GRANTS - CLASS C ROADS	R	-21,874.19	53,045.50	23,333.00	Timing on these disbursements
3335 - COUNTY GRANTS - CLASS C ROADS	R	0	0	0	
47250 - Class C EQUIPMENT - SUPPLIES & MAINT	E	0	0	0	
47740 - Class C CAPITAL OUTLAY	E	0	706.09	0	
Streets					
60110 - Streets SALARIES AND WAGES	E	7,312.70	7,685.60	5,138.00	
60130 - Streets EMPLOYEE BENEFITS	E	2,857.22	2,965.08	2,888.00	
60210 - Streets BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
60220 - Streets PUBLIC NOTICES	E	0	0	0	
60230 - Streets TRAVEL	E	0	0	300	
60240 - Streets OFFICE EXPENSE & SUPPLIES	E	0	0	66	software renewals, gas, equipment & supplies
60250 - Streets EQUIPMENT - SUPPLIES & MAINT	E	6,492.34	7,214.38	3,332.00	
60260 - Streets BUILDINGS - SUPPLIES & MAINT	E	0	0	250	
60270 - Streets UTILITIES	E	552.71	1,114.50	566.93	
60280 - Streets TELEPHONE	E	0	0	0	
60310 - Streets PROFESSIONAL/TECHNICAL	E	0	0	0	
60480 - Streets OTHER SPECIAL DEPART SUPPLIES	E	2,500.00	2,500.00	4,650.00	
60510 - Streets INSURANCE	E	0	0	0	
60610 - Streets MISCELLANEOUS	E	0	0	0	
60740 - Streets CAPITAL OUTLAY	E	0	0	0	
Airport					
3320.046 - FEDERAL GRANTS Airport	R	0	0	0	
3330.046 - COUNTY GRANT Airport	R	0	0	0	
3430 - AIRPORT REVENUE	R	4,721.75	5,938.83	3,504.00	
46210 - Airport BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
46220 - Airport PUBLIC NOTICES	E	0	0	0	
46230 - Airport TRAVEL	E	0	175	0	
46240 - Airport OFFICE EXPENSE & SUPPLIES	E	0	0	52	
46250 - Airport EQUIPMENT - SUPPLIES & MAINT	E	1,036.63	133.68	1,200.00	
46260 - Airport BUILDINGS - SUPPLIES & MAINT	E	0	0	500	
46270 - Airport UTILITIES	E	169.49	402.12	236.58	
46280 - Airport TELEPHONE	E	0	0	0	

City of Blanding
Budgetary Variance Analysis 7/1/2022 to 8/31/2022
Variance Criteria: 0.00% and \$0.00

	Type	Prior Actual	Current Actual	Budget	Notes
46510 - Airport INSURANCE	E	0	0	3,000.00	
46740 - Airport CAPITAL OUTLAY	E	0	0	0	
Engineer					
61110 - Engineer SALARIES AND WAGES	E	2,910.84	3,050.70	2,926.00	
61130 - Engineer EMPLOYEE BENEFITS	E	811.3	834.46	790	
61210 - Engineer BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
61220 - Engineer PUBLIC NOTICES	E	0	0	0	
61230 - Engineer TRAVEL	E	0	0	0	
61240 - Engineer OFFICE EXPENSE & SUPPLIES	E	0	0	98	
61250 - Engineer EQUIPMENT - SUPPLIES & MAINT	E	0	0	300	
61260 - Engineer BUILDINGS - SUPPLIES & MAINT	E	0	0	34	
61290 - Engineer TELEPHONE - CELL	E	80	80	80	
61310 - Engineer PROFESSIONAL/TECHNICAL	E	0	0	0	
61480 - Engineer OTHER SPECIAL DEPART SUPPLIES	E	0	0	0	
61510 - Engineer INSURANCE	E	1,000.00	1,000.00	1,000.00	
61740 - Engineer CAPITAL OUTLAY	E	0	0	0	
Visitors Center					
3330.050 - COUNTY GRANT Visitor Center	R	0	0	0	
3650 - VISITORS CENTER REVENUE	R	2,992.55	3,817.67	3,263.40	
50110 - Econ Dev & Visitor Cntr SALARIES AND WAGES	E	9,273.80	8,854.16	9,128.00	
50130 - Econ Dev & Visitor Cntr EMPLOYEE BENEFITS	E	2,980.01	3,423.09	3,034.00	
50210 - Econ Dev & Visitor Cntr BOOK, SUBSCRIP/MEMBERSHIP	E	0	0	0	
50220 - Econ Dev & Visitor Cntr PUBLIC NOTICES	E	0	0	0	
50230 - Econ Dev & Visitor Cntr TRAVEL	E	334.8	0	800	
50240 - Econ Dev & Visitor Cntr OFFICE EXPENSE & SUPPLIES	E	150.98	0	58	
50250 - Econ Dev & Visitor Cntr EQUIP - SUPPLIES & MAINT	E	312.73	518.46	300	
50260 - Econ Dev & Visitor Cntr BUILDING-SUPPLIES & MAINT	E	1,101.40	142.7	3,082.00	
50270 - Econ Dev & Visitor Cntr UTILITIES	E	2,361.57	1,964.99	2,375.82	
50280 - Econ Dev & Visitor Cntr TELEPHONE	E	312.57	344.17	450	
50310 - Econ Dev & Visitor Cntr PROFESSIONAL/TECHNICAL	E	11,494.59	1,331.06	3,316.66	
50480 - Econ Dev & Visitr Cntr OTHER SPECIAL DEPT SUPPLIES	E	1,107.47	1,668.43	0	
50510 - Econ Dev & Visitor Cntr INSURANCE	E	0	0	500	
50610 - Econ Dev & Visitor Cntr MISCELLANEOUS	E	0	0	0	
50740 - Econ Dev & Visitor Cntr CAPITAL OUTLAY	E	0	0	0	
Parks and Recreation					
3330.065 - COUNTY GRANT Parks & rec	R	0	0	0	
3340.065 - OTHER GRANTS Parks & Rec	R	0	0	0	
3671 - BASEBALL REVENUE	R	-660	-1,500.00	0	Coaches Refunds
3671.5 - SOFTBALL REVENUE	R	-640	-3,350.00	0	Coaches Refunds
3672 - SOCCER REVENUE	R	4,450.00	4,895.00	4,000.00	
3673 - FOOTBALL REVENUE	R	2,730.00	3,175.00	3,000.00	
3674 - VOLLEYBALL REVENUE	R	0	0	0	
3675 - BASKETBALL REVENUE	R	0	0	0	
3676 - MISC REC REVENUE	R	0	0	0	
3677 - TOURNAMENT INCOME	R	-125	0	2,000.00	
65110 - ParksRec SALARIES AND WAGES	E	24,025.74	24,866.46	23,190.00	
65130 - ParksRec EMPLOYEE BENEFITS	E	6,241.33	6,495.25	5,556.98	
65210 - ParksRec BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
65220 - ParksRec PUBLIC NOTICES	E	0	0	0	
65230 - ParksRec TRAVEL	E	385.8	0	0	
65240 - ParksRec OFFICE EXPENSE & SUPPLIES	E	0	0	20	
65250 - ParksRec EQUIPMENT - SUPPLIES & MAINT	E	4,299.62	5,242.18	9,500.00	
65260 - ParksRec BUILDINGS - SUPPLIES & MAINT	E	0	0	0	
65270 - ParksRec UTILITIES	E	4,714.32	9,250.26	7,657.38	Water at the parks
65280 - ParksRec TELEPHONE	E	305.25	0	400	
65290 - ParksRec TELEPHONE CELL	E	160	160	160	
65310 - ParksRec PROFESSIONAL/TECHNICAL	E	0	0	0	
65320 - ParksRec POOL EXPENSE	E	0	0	0	
65325 - ParksRec WELLNESS CENTER EXPENSE	E	0	0	0	
65330 - ParksRec BASEBALL EXPENSE	E	109.26	0	108.22	
65340 - ParksRec SOFTBALL EXPENSE	E	2,970.75	0	0	
65350 - ParksRec SOCCER EXPENSE	E	4,230.42	2,658.80	4,209.08	
65360 - ParksRec FOOTBALL EXPENSE	E	482.31	73.89	0	
65370 - ParksRec BASKETBALL EXPENSE	E	0	0	0	
65380 - ParksRec WRESTLING EXPENSE	E	0	0	0	
65390 - ParksRec VOLLEYBALL EXPENSE	E	0	0	0	
65400 - ParksRec TOURNAMENT EXPENSE	E	0	0	2,000.00	
65480 - ParksRec OTHER SPECIAL DEPART SUPPLIES	E	12,435.00	8,360.00	8,290.00	
65510 - ParksRec INSURANCE	E	1,000.00	1,000.00	1,000.00	
65740 - ParksRec CAPITAL OUTLAY	E	0	0	0	
Wellness Center					
1510.3678 - WELLNESS CENTER REVENUE	R	43,122.51	50,688.86	39,738.07	Corporate/Agency memberships
66110 - Wellness Center SALARIES AND WAGES	E	54,041.71	50,250.81	65,882.56	
66130 - Wellness Center EMPLOYEE BENEFITS	E	7,028.96	6,798.18	4,996.00	
66220 - Wellness Center PUBLIC NOTICES	E	0	0	0	
66240 - Wellness Center OFFICE EXPENSE & SUPPLIES	E	17.65	0	166	
66250 - Wellness Center EQUIPMENT - SUPPLIES & MAINT	E	10,580.89	12,585.62	7,230.00	Vending, Equip lease, equipment
66260 - Wellness Center BUILDINGS - SUPPLIES & MAINT	E	817.91	879.6	0	

City of Blanding
Budgetary Variance Analysis 7/1/2022 to 8/31/2022
Variance Criteria: 0.00% and \$0.00

	Type	Prior Actual	Current Actual	Budget	Notes
66270 - Wellness Center UTILITIES	E	9,855.94	12,552.50	10,477.16	NG for the pool
66280 - Wellness Center TELEPHONE	E	-2,336.51	418.57	320	
66310 - Wellness Center PROFESSIONAL/TECHNICAL	E	0	0	0	
66320 - Wellness Center POOL EXPENSE	E	9,783.40	11,912.29	2,666.00	New motor/pump & chemicals
66480 - Wellness Center OTHER SPECIAL DEPART SUPPLIES	E	0	0	0	
66505 - Wellness Center GARBAGE	E	0	0	0	
66510 - Wellness Center INSURANCE	E	4,500.00	4,500.00	4,500.00	
69810 - SALES TAX REVENUE BOND PAYMENT	E	50,000.00	50,000.00	50,000.00	
40 - 40 Capital Projects Fund					
Capital Projects					
3310.044 - STATE GRANTS - Admin	R	0	70,000.00	70,000.00	
3310.046 - STATE GRANTS - Airport	R	0	0	0	
3310.060 - STATE GRANTS - Road	R	0	0	0	
3310.065 - STATE GRANTS - Parks & Rec	R	0	0	0	
3320.044 - FEDERAL GRANTS - Admin	R	0	0	0	
3320.046 - FEDERAL GRANTS - Airport	R	25,170.60	1,003.20	0	
3330.046 - COUNTY GRANTS - Airport	R	0	0	0	
3330.053 - COUNTY GRANTS - Fire	R	0	0	0	
3330.060 - COUNTY GRANTS - Road	R	0	0	0	
3330.065 - COUNTY GRANTS - Parks & Rec	R	0	0	0	
3340.065 - OTHER GRANTS - Park & Rec	R	0	0	0	
3610 - Interest Income	R	0	0	0	
3680 - LOAN PROCEEDS	R	0	0	0	
3910 - TRANSFER FROM GF	R	0	0	46,666.00	
3990 - Fund balance appropriated	R	0	0	1,081,610.00	
40740 - CAPITAL OUTLAY	E	9,482.42	13,666.71	338,000.00	Marketing, Rec Master plan, Hall damage Repairs
40746 - AIRPORT	E	45,052.50	0	0	
40747 - ROADS	E	3,711.50	28,853.23	678,897.00	HA5 Sealing, Asphalt patching, sidewalks
40748 - ROAD TRUST	E	0	0	0	
40749 - FIRE TRUCK	E	0	0	0	
40750 - WELLNESS CENTER	E	0	20,308.00	26,000.00	HVAC System
40753 - ELECTRIC	E	0	0	0	
4410.810 - STREETS PRINCIPLE BOND PAYMENT	E	0	0	0	
4410.820 - STREETS INTEREST BOND PAYMENT	E	0	0	0	
7000 - Increase in Fund Balance	E	0	0	0	
51 - 51 Water Fund					
Water					
3310 - STATE Capital Grants	R	0	38,900.00	2,030,984.00	Master Plan Reimbursement
3320 - FEDERAL Capital Grants	R	0	0	0	
3340 - LOCAL Capital Grants	R	0	0	0	
3710 - Water Service Income	R	166,047.67	186,227.14	161,853.18	
3720 - Water Connect Fee	R	0	3,500.00	1,166.00	
3730 - Water Impact Fee	R	0	1,100.00	834	
3750 - Other operating income	R	150	674.59	0	
3810 - INTEREST	R	586.33	3,419.79	666	
3880 - Gain / loss on property retirement	R	0	0	0	
3910 - TRANSFER FROM GF	R	0	0	0	
40110 - SALARIES AND WAGES	E	34,289.52	37,027.89	34,592.00	
40130 - EMPLOYEE BENEFITS	E	14,746.57	14,883.81	14,158.00	
40140 - COMPENSATED ABSENCE ADJUSTMENT	E	0	0	0	
40210 - BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
40220 - PUBLIC NOTICES	E	0	0	0	
40230 - TRAVEL	E	0	0	0	
40240 - OFFICE EXPENSE & SUPPLIES	E	0	0	250	
40250 - EQUIPMENT - SUPPLIES & MAINT	E	7,462.89	13,162.41	9,166.00	Chlorine, software renewals, equipment, repairs
40255 - WATER PURCHASES	E	0	0	0	
40260 - BUILDINGS - SUPPLIES & MAINT	E	0	0	84	
40270 - UTILITIES	E	6,715.10	6,125.95	6,538.78	
40280 - TELEPHONE	E	210.74	430.7	300	
40310 - PROFESSIONAL/TECHNICAL	E	4,493.75	4,931.25	13,550.00	
40480 - OTHER SPECIAL DEPART SUPPLIES	E	0	12,899.90	22,275.00	
40510 - INSURANCE	E	7,000.00	10,000.00	7,000.00	
40650 - FRANCHISE FEES	E	0	0	0	
40700 - DEPRECIATION	E	98,065.76	100,330.46	99,946.00	
40740 - Equipment under capitalization threshold	E	0	0	0	
40800 - PRINCIPLE - EXPENSE	E	0	0	0	
40900 - INTEREST EXPENSE	E	5,848.28	6,184.82	5,094.00	
7010 - TRANSFER TO OTHER FUNDS	E	4,000.00	4,000.00	4,000.00	
7040 - TRANSFER TO CAPITAL PROJECTS	E	0	0	0	
7050 - TRANSFER FROM OTHER FUNDS	R	0	0	214,984.00	
52 - 52 Sewer Fund					
Sewer					
3310 - STATE Capital Grant	R	0	0	0	
3320 - FEDERAL Capital Grants	R	0	0	0	
3710 - Sewer Service Income	R	89,765.96	87,358.44	88,434.00	
3720 - Sewer Connect Fees	R	0	250	250	

City of Blanding
Budgetary Variance Analysis 7/1/2022 to 8/31/2022
Variance Criteria: 0.00% and \$0.00

	Type	Prior Actual	Current Actual	Budget	Notes
3725 - Sewer Impact Fee	R	0	500	266	
3730 - Other operating revenue	R	0	1,800.00	0	
3810 - INTEREST	R	437.77	2,141.02	472.16	
3830 - Gain / loss on property retirement	R	0	0	0	
3840 - RENTAL INCOME	R	600	420	334	
3910 - TRANSFER FROM GF BALANCE	R	0	0	0	
40110 - SALARIES AND WAGES	E	31,295.56	33,959.06	31,950.00	
40130 - EMPLOYEE BENEFITS	E	12,796.50	12,791.34	12,490.00	
40140 - COMPENSATED ABSENCE ADJUSTMENT	E	0	0	0	
40210 - BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
40220 - PUBLIC NOTICES	E	0	0	0	
40230 - TRAVEL	E	0	0	0	
40240 - OFFICE EXPENSE & SUPPLIES	E	400	400	60	
40250 - EQUIPMENT - SUPPLIES & MAINT	E	5,989.33	15,966.89	5,500.00	2 Lift station pumps, probiotics, software renewals
40260 - Supplies & maintenance - buildings	E	0	0	216	
40270 - UTILITIES	E	519.62	616.05	747.35	
40280 - TELEPHONE	E	0	0	0	
40310 - PROFESSIONAL/TECHNICAL	E	4,100.00	4,100.00	10,934.00	
40480 - OTHER SPECIAL DEPART SUPPLIES	E	2,500.00	0	22,050.00	
40510 - INSURANCE	E	10,000.00	10,000.00	10,000.00	
40650 - FRANCHISE FEES	E	0	0	0	
40700 - DEPRECIATION	E	21,269.40	21,269.40	21,276.00	
40740 - Equipment under capitalization threshold	E	0	0	0	
40900 - INTEREST EXPENSE	E	0	0	7,330.00	
7010 - TRANSFER TO OTHER FUNDS	E	1,500.00	1,500.00	1,500.00	
7040 - TRANSFER TO CAPITAL PROJECTS	E	0	0	0	
53 - 53 Electric Fund					
Electric					
3310 - State capital grants	R	0	103,285.50	210,000.00	Rembursements for West Water Power
3320 - Federal capital grants	R	0	0	0	
37100 - Electric service charges	R	470,507.12	522,682.55	476,891.54	
37200 - Electric connection fees	R	1,500.00	3,000.00	525.76	
3730 - FINANCE CHARGES	R	408.64	-418.57	500	
38100 - INTEREST	R	2,350.86	3,202.40	616	
3830 - Gain / loss on property retirement	R	0	0	0	
3840 - RENTAL INCOME	R	0	0	0	
38500 - SUNDRY REVENUE	R	8,111.02	0	3,334.00	
39100 - TRANSFER FROM GF BALANCE	R	0	0	0	
40110 - SALARIES AND WAGES	E	39,710.46	39,177.05	46,403.79	
40130 - EMPLOYEE BENEFITS	E	14,670.85	13,494.32	14,339.71	
40140 - COMPENSATED ABSENCE ADJUSTMENT	E	0	0	0	
40210 - BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
40220 - PUBLIC NOTICES	E	0	0	0	
40230 - TRAVEL	E	-1,090.72	-1,239.55	600	
40240 - OFFICE EXPENSE & SUPPLIES	E	400	1,124.61	500	
40250 - EQUIPMENT - SUPPLIES & MAINT	E	33,644.54	51,842.17	39,750.00	Maintenance, software renewals, equipment
40255 - ELECTRIC PURCHASES	E	442,187.68	368,500.42	238,258.05	
40260 - BUILDINGS - SUPPLIES & MAINT	E	0	0	400	
40270 - UTILITIES	E	1,043.09	841.56	1,358.87	
40280 - TELEPHONE	E	406.48	200.66	800	
40310 - PROFESSIONAL/TECHNICAL	E	12,376.48	8,708.20	23,812.00	
40480 - OTHER SPECIAL DEPART SUPPLIES	E	12,167.98	12,760.00	18,600.00	
40510 - INSURANCE	E	30,808.49	37,393.12	30,000.00	
40610 - MISCELLANEOUS	E	0	0	0	
40620 - BANK CHARGES	E	4,231.23	3,589.72	0	
40650 - FRANCHISE FEES	E	0	0	0	
40700 - DEPRECIATION	E	30,324.74	29,853.06	30,298.00	
40740 - Equipment under capitalization threshold	E	0	0	250	
7010 - TRANSFER TO OTHER FUNDS	E	15,000.00	15,000.00	15,000.00	
7040 - TRANSFER FROM OTHER FUNDS	R	0	0	68,480.00	
54 - 54 Natural Gas Fund					
Natural Gas					
3710 - Gas service charges	R	58,146.18	72,046.90	58,141.44	
3710.1 - NATURAL GAS INCENTIVES	R	0	0	0	
3720 - Gas connection fees	R	1,125.00	1,050.00	1,666.00	
3730 - Other operating income/construction income	R	0	1,829.36	1,250.00	
3810 - INTEREST	R	276.94	1,641.44	750	
3830 - Gain / loss on property retirement	R	0	0	0	
40110 - SALARIES AND WAGES	E	23,594.38	26,958.33	28,388.00	
40130 - EMPLOYEE BENEFITS	E	8,843.62	8,606.45	9,682.00	
40140 - COMPENSATED ABSENCE ADJUSTMENT	E	0	0	0	
40210 - BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
40220 - PUBLIC NOTICES	E	0	0	0	
40230 - TRAVEL	E	-255.13	0	0	
40240 - OFFICE EXPENSE & SUPPLIES	E	500	500	200	
40250 - EQUIPMENT - SUPPLIES & MAINT	E	2,608.23	6,932.05	8,650.00	
40255 - NATURAL GAS PURCHASES	E	25,540.58	18,455.17	13,686.95	
40270 - UTILITIES	E	802.76	415.34	532.1	

City of Blanding
Budgetary Variance Analysis 7/1/2022 to 8/31/2022
Variance Criteria: 0.00% and \$0.00

	Type	Prior Actual	Current Actual	Budget	Notes
40280 - TELEPHONE	E	0	0	150	
40310 - PROFESSIONAL/TECHNICAL	E	2,700.00	4,260.00	10,995.00	
40480 - OTHER SPECIAL DEPART SUPPLIES	E	11,500.00	12,500.00	6,250.00	2023 Firework deposit
40510 - INSURANCE	E	8,000.00	0	8,000.00	
40610 - MISCELLANEOUS	E	0	0	0	
40650 - FRANCHISE FEES	E	0	0	0	
40700 - DEPRECIATION	E	23,027.44	24,639.40	23,224.00	
40710 - AMORTIZATION EXPENSE	E	0	0	0	
40740 - Equipment under capitalization threshold	E	0	0	0	
40800 - PRINCIPLE - EXPENSE	E	0	0	0	
40900 - INTEREST EXPENSE	E	2,135.47	1,907.53	2,361.00	
7010 - TRANSFER TO OTHER FUNDS	E	5,000.00	5,000.00	5,000.00	
55 - 55 Storm Water Fund					
Storm Water					
3320 - FEDERAL GRANTS	R	0	0	0	
3330 - COUNTY GRANTS	R	0	0	0	
3710 - STORM WATER SERVICE CHARGES	R	24,714.19	24,735.44	24,632.00	
3810 - INTEREST	R	0.07	0.4	0	
3830 - Gain / loss on property retirement	R	0	0	0	
40110 - SALARIES AND WAGES	E	970.28	1,016.90	976	
40130 - EMPLOYEE BENEFITS	E	263.22	271.03	222	
40140 - COMPENSATED ABSENCE ADJUSTMENT	E	0	0	0	
40210 - BOOK, SUBSCRIPTIONS/MEMBERSHIP	E	0	0	0	
40220 - PUBLIC NOTICES	E	0	0	0	
40230 - TRAVEL	E	0	0	0	
40240 - OFFICE EXPENSE & SUPPLIES	E	400	400	26	
40250 - EQUIPMENT - SUPPLIES & MAINT	E	0	1,500.00	0	
40270 - UTILITIES	E	0	0	0	
40280 - TELEPHONE	E	0	0	0	
40310 - PROFESSIONAL/TECHNICAL	E	0	0	250	
40480 - OTHER SPECIAL DEPART SUPPLIES	E	0	0	15,000.00	
40510 - INSURANCE	E	500	500	500	
40650 - FRANCHISE FEES	E	250	250	250	
40700 - DEPRECIATION	E	10,387.15	17,338.16	10,388.00	
40740 - Equipment under capitalization threshold	E	0	0	0	
40900 - INTEREST EXPENSE	E	0	0	4,560.00	
7040 - TRANSFER TO CAPITAL PROJECTS	E	0	0	0	
7050 - TRANSFER FROM GENERAL FUND	R	0	0	0	
57 - 57 Solid Waste Fund					
Solid Waste					
3710 - Waste collection service fees	R	41,890.87	51,026.21	44,900.00	
3720 - TIPPAGE FEES	R	1,945.00	2,350.00	1,872.00	
3830 - Gain / Loss on property retirement	R	0	0	0	
40110 - SALARIES AND WAGES	E	2,182.14	2,379.08	2,190.00	
40130 - EMPLOYEE BENEFITS	E	771.69	812.94	636	
40140 - COMPENSATED ABSENCE ADJUSTMENT	E	0	0	0	
40220 - PUBLIC NOTICES	E	0	0	0	
40240 - OFFICE EXPENSE & SUPPLIES	E	0	0	0	
40250 - EQUIPMENT - SUPPLIES & MAINT	E	135.42	0	3,050.00	
40260 - BUILDINGS - SUPPLIES & MAINT	E	0	0	0	
40270 - UTILITIES	E	34.15	50.37	0	
40310 - PROFESSIONAL/TECHNICAL	E	53,299.56	50,659.88	39,434.00	Our collections are covering our WM & SJC
40480 - OTHER SPECIAL DEPART SUPPLIES	E	0	0	0	
40510 - INSURANCE	E	1,000.00	1,000.00	1,000.00	
40650 - FRANCHISE FEES	E	0	0	0	
40700 - DEPRECIATION	E	98.38	98.38	98	
40740 - Equipment under capitalization threshold	E	0	0	0	
7010 - TRANSFER TO OTHER FUNDS	E	1,000.00	1,000.00	1,000.00	

City of Blanding
Invoice Register - 9/8/2022 to 9/21/2022 - All Invoices

9/21/2022

<u>Invoice No.</u>	<u>Vendor</u>	<u>Check No.</u>	<u>Ledger Date</u>	<u>Due Date</u>	<u>Amount</u>	<u>Account No.</u>	<u>Account Name.</u>	<u>Description</u>
401039880	CH SPENCER AND COMPANY	51722	9/13/2022	9/13/2022	\$344.54			
					344.54	5140250	EQUIPMENT - SUPPLIES & M	CLEANER GA-OK 5 GAL
2211107	CHEMTECH-FORD LABORATORIES	ACH.0919221142.52	9/15/2022	9/15/2022	\$120.00			
PO# .					120.00	5140250	EQUIPMENT - SUPPLIES & M	WATER TESTING
10 - 2012 Water	COMMUNITY IMPACT BOARD - UTAH	51723	9/19/2022	9/19/2022	\$12,000.00			
					12,000.00	512544.2	2012 Water Revenue Bond repa	Principal - 2012 Water Revenue
09192022	DEE, TINA	51725	9/19/2022	9/19/2022	\$25.00			
					25.00	103690	SUNDRY REVENUES	REFUND BOOTH FEE
Refund: 4061750	DEJOSHUA, PAULA	51709	9/8/2022	9/8/2022	\$176.02			
					176.02	531310	ACCOUNTS RECEIVABLE	Refund: 406175001 - DEJOSHU
09142022	EKKER, TERRY	51727	9/14/2022	9/14/2022	\$421.25			
					421.25	5440310	PROFESSIONAL/TECHNICAL	NATURAL GAS UTPS TRAININ
07312022	JACOBSEN, CHAS	51712	9/12/2022	9/12/2022	\$121.21			
					121.21	1053250	Fire EQUIPMENT - SUPPLIES	REIMBURSEMENT FOR FF SU
09142022	JACOBSEN, CHAS	51729	9/14/2022	9/14/2022	\$40.00			
					40.00	5440310	PROFESSIONAL/TECHNICAL	NG TRAINING
	Vendor Total:				\$161.21			
820134	MOTOR PARTS	51733	9/14/2022	9/14/2022	\$195.28			
					195.28	5440250	EQUIPMENT - SUPPLIES & M	SUPPLIES & EQUIPMENT
820243	MOTOR PARTS	51713	9/9/2022	9/9/2022	\$59.99			
					59.99	1065250	ParksRec EQUIPMENT - SUPP	SUPPLIES & EQUIPMENT
820568	MOTOR PARTS	51733	9/14/2022	9/14/2022	\$27.67			
					27.67	1066320	Wellness Center POOL EXPEN	ANTIFREEZE FOR POOL
820597	MOTOR PARTS	51733	9/14/2022	9/14/2022	\$384.00			
					384.00	1066320	Wellness Center POOL EXPEN	ANTIFREEZE FOR POOL
820613	MOTOR PARTS	51733	9/14/2022	9/14/2022	\$78.78			
					78.78	1065250	ParksRec EQUIPMENT - SUPP	SUPPLIES & EQUIPMENT
820641	MOTOR PARTS	51733	9/15/2022	9/15/2022	\$23.98			
					23.98	5340250	EQUIPMENT - SUPPLIES & M	STREET LIGHT REPAIR
	Vendor Total:				\$769.70			
S104445827.002	MOUNTAINLAND SUPPLY, LLC	51734	9/15/2022	9/15/2022	\$714.32			
					714.32	5140250	EQUIPMENT - SUPPLIES & M	6 METER BOXES
S104931921.001	MOUNTAINLAND SUPPLY, LLC	51734	9/15/2022	9/15/2022	\$153.12			
					153.12	5140250	EQUIPMENT - SUPPLIES & M	SUPPLIES & EQUIPMENT
	Vendor Total:				\$867.44			
INV193697	PACKARD WHOLESALE CO	ACH.0919221142.167	9/14/2022	9/14/2022	\$71.19			
					71.19	5240250	EQUIPMENT - SUPPLIES & M	OFFICE CLEANING SUPPLIES
RFD 553344418.	PUGH, JERICA	51735	9/12/2022	9/12/2022	\$18.89			
					18.89	532290	CUSTOMER DEPOSITS	Deposit Refund: 553344418 - P
527954	PURE COUNTRY WATER	51736	9/14/2022	9/19/2022	\$32.91			
					32.91	1044250	Admin EQUIPMENT - SUPPLIE	WATER
09122022	RARICK, LISA	51716	9/12/2022	9/12/2022	\$597.00			
					597.00	5340230	TRAVEL	CLERK'S CONFERENCE - LISA
863426	REDD'S ACE HARDWARE	ACH.0912221044.6056	9/8/2022	9/8/2022	\$11.99			
					11.99	5140250	EQUIPMENT - SUPPLIES & M	EQUIPMENT AND SUPPLIES
863594	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/12/2022	9/12/2022	\$34.98			
					34.98	5340250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP

City of Blanding
Invoice Register - 9/8/2022 to 9/21/2022 - All Invoices

9/21/2022

<u>Invoice No.</u>	<u>Vendor</u>	<u>Check No.</u>	<u>Ledger Date</u>	<u>Due Date</u>	<u>Amount</u>	<u>Account No.</u>	<u>Account Name.</u>	<u>Description</u>
863653	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/13/2022	9/13/2022	\$9.98 9.98	1044250	Admin EQUIPMENT - SUPPLIE	SUPPLIES AND EQUIP
863665	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/13/2022	9/13/2022	\$12.97 12.97	5140250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
863739	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/14/2022	9/14/2022	\$19.99 19.99	5340250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
863756	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/14/2022	9/14/2022	\$16.14 16.14	5140250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
863797	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/15/2022	9/15/2022	\$8.95 8.95	5340250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
863804	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/15/2022	9/15/2022	\$28.99 28.99	5740250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
863812	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/15/2022	9/15/2022	\$22.89 22.89	5340250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
863871	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/16/2022	9/16/2022	\$14.99 14.99	1066320	Wellness Center POOL EXPEN	WINTERIZING POOL
863916	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/17/2022	9/17/2022	\$21.77 21.77	5340250	EQUIPMENT - SUPPLIES & M	CLEANING SUPPLIES
863949	REDD'S ACE HARDWARE	ACH.0919221142.6056	9/17/2022	9/17/2022	\$7.59 7.59	5240250	EQUIPMENT - SUPPLIES & M	SUPPLIES AND EQUIP
	Vendor Total:				\$211.23			
0876160-IN	RELADYNE	51717	9/12/2022	9/12/2022	\$52.81 52.81	1060250	Streets EQUIPMENT - SUPPLI	HYDRALIC OIL
09072022	ROCKY MOUNTAIN POWER	51737	9/19/2022	9/19/2022	\$99.56 99.56	1046270	Airport UTILITIES	RUNWAY LIGHTS
09142022	SAN JUAN HIGH SCHOOL	51738	9/14/2022	9/14/2022	\$86.00 86.00	1065250	ParksRec EQUIPMENT - SUPP	CONCESSIONS
17222	SMASH ATHLETIC UNIFORMS	51718	9/12/2022	9/12/2022	\$405.47 405.47	1065360	ParksRec FOOTBALL EXPENS	FOOTBALL UNIFORMS/EQUIP
0822BLAN	SUMMIT ENERGY	51719	9/12/2022	9/12/2022	\$9,521.98 9,521.98	5440255	NATURAL GAS PURCHASES	AUG NATURAL GAS PURCHAS
3 - 2018 DWQ W	UTAH STATE DIV OF FINANCE	51741	9/19/2022	9/19/2022	\$102,634.82 70,000.00 32,634.82	522512.2 5240900	2018 DWQ Wastewater Revenu INTEREST EXPENSE	Principal - 2018 DWQ Wastewat Interest - 2018 DWQ Wastewate
09082022 PO# .	UTAH STATE TAX COMMISSION	0	9/8/2022	9/8/2022	\$11,213.42 1,803.75 8,267.70 1,141.97	102300 532300 542300	SALES TAX PAYABLE SALES TAX PAYABLE SALES TAX PAYABLE	SALES TAX - VC & WC SALES TAX SALES TAX
9914796607	VERIZON WIRELESS DATA	51742	9/12/2022	9/12/2022	\$739.92 295.09 40.60 147.11 117.12 140.00	1052280 1053250 5140250 5340250 5440250	Police TELEPHONE Fire EQUIPMENT - SUPPLIES EQUIPMENT - SUPPLIES & M EQUIPMENT - SUPPLIES & M EQUIPMENT - SUPPLIES & M	DATA DATA DATA DATA DATA
	Total:				\$140,570.36			
					1,803.75 25.00 42.89 99.56	102300 103690 1044250 1046270	GL Account Summary SALES TAX PAYABLE SUNDRY REVENUES Admin EQUIPMENT - SUPPLIE Airport UTILITIES	

City of Blanding
Invoice Register - 9/8/2022 to 9/21/2022 - All Invoices

9/21/2022

<u>Invoice No.</u>	<u>Vendor</u>	<u>Check No.</u>	<u>Ledger Date</u>	<u>Due Date</u>	<u>Amount</u>	<u>Account No.</u>	<u>Account Name.</u>	<u>Description</u>
					295.09	1052280	Police TELEPHONE	
					161.81	1053250	Fire EQUIPMENT - SUPPLIES	
					52.81	1060250	Streets EQUIPMENT - SUPPLI	
					224.77	1065250	ParksRec EQUIPMENT - SUPP	
					405.47	1065360	ParksRec FOOTBALL EXPENS	
					426.66	1066320	Wellness Center POOL EXPEN	
					3,537.81		Total	
					12,000.00	512544.2	2012 Water Revenue Bond repa	
					1,520.19	5140250	EQUIPMENT - SUPPLIES & M	
					13,520.19		Total	
					70,000.00	522512.2	2018 DWQ Wastewater Revenu	
					78.78	5240250	EQUIPMENT - SUPPLIES & M	
					32,634.82	5240900	INTEREST EXPENSE	
					102,713.60		Total	
					176.02	531310	ACCOUNTS RECEIVABLE	
					18.89	532290	CUSTOMER DEPOSITS	
					8,267.70	532300	SALES TAX PAYABLE	
					597.00	5340230	TRAVEL	
					249.68	5340250	EQUIPMENT - SUPPLIES & M	
					9,309.29		Total	
					1,141.97	542300	SALES TAX PAYABLE	
					335.28	5440250	EQUIPMENT - SUPPLIES & M	
					9,521.98	5440255	NATURAL GAS PURCHASES	
					461.25	5440310	PROFESSIONAL/TECHNICAL	
					11,460.48		Total	
					28.99	5740250	EQUIPMENT - SUPPLIES & M	
					\$140,570.36		GL Account Summary Total	



CITY COUNCIL MEETING - STAFF REPORT

Author: Terry Ekker, City Engineer
Department: Public Works
Subject: September 2022 Public Works Project Report
Date: September 27, 2022
Type of Item: Report

Background

Public Works Project Report

Budget Impact

NA

Department Review

Terry Ekker has compiled the update in the standard report format.

Recommendation

N/A

Attachments

September 2022 Public Works Project Report.



Public Works Project Report – September 2022

Westwater Power/Water Project

The power project has been completed. The Westwater community system was energized on September 1, 2022.

The City Council has accepted the \$3.5 million in grant funds for the construction of a new deep well, arsenic treatment, and a meter vault. The tentative schedule is for a bid opening in the first part of October for the deep well drilling phase of the project with a project award to the drilling contractor by the City Council at the October 25th meeting. Once the well has been drilled, well testing will be performed and the results of the well testing will be used to move forward with the design, bid, and construction of the remaining portion of the project.

Street Maintenance Project

The seal coat project has been completed. The new asphalt in and around the Meadowlark Subdivision was completed, as was the City Office parking lot. You may have noticed some work around the area of 100 West and 200 North. This work was completed as warranty work on material defects than required repair.

A chip seal and street maintenance project are being planned for the 2023 construction season.

Tantalus AMI Project

City staff has worked with Tantalus to come up with a plan to begin transitioning from the current AMR system that we use to read meters to an AMI system. Tantalus has been chosen as they can help us make the transition to AMI while still using much of the AMR infrastructure that is already in use. The cost of change to start over with a different system doesn't make sense financially. Tantalus is uniquely positioned to help with water, electric, and natural gas meters.

The initial phase will consist of deploying their system software, repeaters, and 300 electric meters. This will allow us to begin reading meters and get the system running. There will be other phases of work such as the implementation of a customer portal, and fully converting commercial electric, commercial gas and all water meters to radio read devices.

Natural Gas Master Plan Update

We are a little bit behind schedule on this project. I have a draft scope of work and expect to finalize the scope of work and get an RFP put together for the selection of a consultant to complete the study as soon as possible.



CITY COUNCIL MEETING - STAFF REPORT

Author: Terry Ekker, City Engineer
Department: Public Works
Subject: September 2022 Forest Plan Revision Update
Date: September 27, 2022
Type of Item: Report

Background

The Manti LaSal Forest Plan Revision has been in the works for quite a while. Progress on the plan has been very slow with covid. I was asked to represent Blanding City and attend the associated meetings as a cooperating agency. There was a recent meeting to update all of the cooperating agencies on the plan revision status and progress.

The current phase is the draft environmental impact statement (DEIS) This is a 12-month phase and we are in the middle of that phase. A draft DEIS will be released and a public process for comment/input will be incorporated in this phase. The next phase will be the final environmental impact statement (FEIS) which is expected to last for about 9 months. Following the release of the FEIS, there will be an objection period of approximately 6 months. The final plan will then be approved.

This plan does not include a travel management plan. That will come after the final plan is approved as a separate planning document and will be something that our community will be very interested in.

The two main alternatives consider how much human intervention will be used in forest management. Examples:

1. Prescribed fire vs mechanical treatment
2. Number of wilderness areas
3. Acres available for timber harvest

5 significant key issues have been identified from public comment thus far. They are:

1. Sustainable recreation
2. Support traditional & cultural ways of life.
 - a. Native American ceremonial uses
 - b. Grazing
3. Ecological resilience
 - a. Water quality
 - b. Wildlife
4. Protected areas



- a. Wilderness
- 5. Objectives

Budget Impact

N/A

Department Review

N/A

Recommendation

N/A

Attachments

N/A



CITY COUNCIL MEETING - STAFF REPORT

Author: David Johnson, City Manager
Department: Justice Court
Subject: Justice Court Transitions
Date: September 27, 2022
Type of Item: Discussions

Background

The City received notice from Judge Hazelton that he is retiring from Blanding City at the end of 2022. Shortly after, our full-time court clerk also submitted for retirement at the end of September 2022. As such, I recently met with Court staff and had a few conversations with the State to evaluate all of the potential options moving forward to bring to your attention.

If the City Council wants to hire a new Judge, the hiring process can take several months. The City currently has a part-time Court Clerk that can move immediately into the full-time position. If the hiring process for a new judge goes past the end of the fiscal year, the City can contract an interim judge.

The Blanding City Justice Court cases historically served approximately 25 percent of local residents. Since the increase of tourism with marketing and COVID, that percentage has decreased to approximately 15 percent. We believe the same number of local residents are being served, but the percentage has likely gone down, due to the increased numbers of tourists driving through the community.

Discussion

The City can move forward with two main options:

1. Begin the process of seeking a new Judge and maintain the Court; OR
2. Dissolve the Court and allow all future Justice Court proceedings to be managed by the County.

Maintaining the Court

Below are the pros and cons of hiring a new judge and maintaining the Blanding City Justice Court.

Pros

- Blanding City Council gets to appoint a new Judge.
- City brings in positive revenue from the state by providing the court AND providing the prosecutor.
- Provides local service for residents.
- Option to dissolve the court is still available in the future.



Cons

- Hiring a new judge can take several months.
- The City must manage the court process, state procedures, staff, and budget.
- The City must provide building and office space.

Dissolving the Court

Below are the pros and cons of not hiring a new judge and dissolving the Blanding City Justice Court.

Pros

- The City no longer has to manage the court process, state procedures, staff, and budget.
- The City no longer has to provide building and office space.
- By default, the County must provide the Justice Court and cannot charge the City for the service.

Cons

- Judge Hazelton may be retiring from the County in the near future.
- The County Commission appoints a new Judge.
- The County will collect the majority of revenues from the state by providing the court AND providing the prosecutor.
- Blanding City residents must travel to Monticello for court proceedings.
- Once the Blanding City Justice Court is dissolved it cannot be reinstated.

Budget Impact

If the City maintains the Court, it will see an immediate salary savings of approximately \$30,000 after the full-time court clerk retires and the part-time court clerk moves into the full-time position. The City would not refill the part-time clerk position at this time.

In addition, the Justice Court has generally brought in a net revenue between \$10,000 to \$30,000 annually, with the exception of last year, due to increased attorney fees. This issue has been addressed and we have already seen a significant decrease in fees the last two months, which has brought the City back on track for a positive net income this fiscal year. This funding would also be retained with the court.

Department Review

Administration & Finance

Recommendation

Staff seeks advice and consent from the City Council to move forward with hiring a new judge. Doing so will continue to generate a positive net revenue, provide greater accessibility to local residents, and retain the Blanding City Council's ability to appoint a local Judge.



CITY COUNCIL MEETING - STAFF REPORT

Author: David Johnson, City Manager
Department: Water Department
Subject: Raw Water Commercial Sales
Date: September 27, 2022
Type of Item: Discussion

Background

The intent of this discussion item is to get advice and consent from the City Council regarding a policy direction about raw water commercial sales.

A precedent of extremely low rates of raw water sales to Energy Fuels from Recapture Reservoir was inherited by the City when it purchased an additional 800 acre-feet from the Conservancy District. The inherited, long-term agreement ended several years ago. However, the City continued a year-to-year agreement with the Mill.

After the inherited contract ended, the City has sold 150 acre-feet of raw water to the Energy Fuels White Mesa Mill at an increased rate of \$75 an acre-foot. In fairness to the Mill, they do not always use this full amount.

Unfortunately, this circumstance and a lack of a policy for raw water sales opened the door for other entities to request the purchase of excess raw water at the same rate. As a result, this spring the Conservancy District requested purchasing raw water for commercial use prior to this staff's ability to bring a draft policy for the City Council to discuss and approve. As such, the City sold 10 acre-feet at the same rate as the Mill.

Research and Evaluation

The Mill's current rate is based on a historic contract and is the only regular commercial entity that the City sells raw water to at this rate. "Institutional" (churches, schools, Blanding City) raw water sales pay a rate of 75% of the culinary going rate. This rate is also subject to the annual tiered policy for culinary rates.

As a high-level comparison, the Mill purchases 150 acre-feet of water at \$75 an acre foot annually, which translates into 48,877,650 gallons at \$0.23 per 1,000 gallons. The total revenue to Blanding City Water was \$11,250 annually. Whereas, the City's highest yielding water meter purchased 15 acre-feet of water at \$741.20 per acre-foot last year, which translates to 4,729,000 gallons at \$2.27 per 1,000 gallons. The total revenue to Blanding City Water for this meter was \$10,756.86. **In other words, the Mill pays 10% of the cost as the City for raw water, for 100 times the usage, at nearly the same price.**



The City is not the only comparison like this. Below is a table to compare the raw water sales to various entities from the City, all of which are within City limits. The only exception is the cemetery, which also pays extremely low rates at \$175 an acre-foot for 33 acre-feet, or 10,753,097 gallons at \$0.54 per 1,000 gallons.

Customer Name	Rate, Type & Size	TOTAL ac-ft	TOTAL Average \$ per ac-ft	TOTAL Gallons	TOTAL Average \$ per 1k/gal	TOTAL City Revenue
BLANDING CITY	75% - Institutional 2"	6	\$ 623.25	2,003,000	\$ 1.91	\$ 3,831.11
BLANDING CITY	75% - Institutional 2"	3	\$ 595.85	1,064,000	\$ 1.83	\$ 1,945.64
SJSD	75% - Institutional 2"	3	\$ 552.67	1,109,000	\$ 1.70	\$ 1,880.96
CHURCH	75% - Institutional 2"	1	\$ 678.67	415,000	\$ 2.08	\$ 864.34
CHURCH	75% - Institutional 2"	4	\$ 594.57	1,458,000	\$ 1.82	\$ 2,660.37
CHURCH	75% - Institutional 2"	4	\$ 511.37	1,385,000	\$ 1.57	\$ 2,173.55
YOUTH CORRECTIONS	75% - Institutional 2"	1	\$ 680.70	379,000	\$ 2.09	\$ 791.73
SJSD	75% - Institutional 3"	8	\$ 656.74	2,542,000	\$ 2.02	\$ 5,123.31
SJSD	75% - Institutional 3"	9	\$ 727.02	3,027,000	\$ 2.23	\$ 6,753.68
BLANDING CITY	75% - Institutional 4"	15	\$ 741.20	4,729,000	\$ 2.27	\$ 10,756.86
SJSD	75% - Institutional 4"	15	\$ 586.63	4,894,000	\$ 1.80	\$ 8,810.65
ENERGY FUELS	10" line	150	\$75	48,877,715	\$ 0.23	\$ 11,250.00
CEMETERY	6" line	33	\$ 175.00	10,753,097	\$ 0.54	\$ 5,775.00

Billing for each entity meter varies to some degree, based on the meter size, month of usage, and amount of usage to which the rates are applied.

Reviewing water utilities nationwide, staff quickly found a range of rates for raw water sales between \$0.89 and \$2.99. These services were more comparable to our regular raw water customers and not recapture.

Discussion

City staff have researched and discussed various policy approaches and rates. Currently, the policy for raw water sold to Institutional entities (churches, schools, Blanding City) is at 75% of the culinary rate, which is subject to the tiered system of culinary rates.

The raw water sold to the Mill from Recapture Reservoir is approximately 10% of the rate that other raw water users are paying for raw water. The raw water sold to the cemetery is approximately 23% of the rate that other raw water users are paying for raw water. Neither are beholden to fluctuation based on the tiered culinary policy. *(Percentages for Mill and the cemetery were made by comparisons to Blanding City's 4-inch line in the table above.)*



The City should also consider how it would like to differentiate raw water sales to commercial and institutional entities in City limits, versus out of City limits.

Consistent Commercial Raw Water Policy & Rate Regardless of Source

The City does not currently sell raw water from other water sources based solely on the overhead costs of each specific water source. The rates are based on the collective overhead and maintenance of the system.

The City could choose to establish a policy to sell raw water for commercial use at a specific rate, which also applies a tiered system, regardless of which reservoir or water source it originates from or who is purchasing the raw water. This rate could be set at the same rate as Institutional, at 75% of the culinary rate. Doing so will prevent the City from being accused of favoritism to one entity over another regarding water sales.

The Council could also choose a policy with a lesser rate, such as 50% of the culinary rate, to incentivize economic development. The key is that the rate would be consistent, regardless of which City source the raw water originates from or business purchasing.

Commercial Raw Water Policy that Differentiates

An important point to consider is that the raw water sold from Recapture Reservoir to the Mill is through a gravity-fed pipe that presents little to no maintenance costs by the City. Likewise, the revenue generated by selling to the Mill is revenue that the City would not otherwise collect and is not currently in a position to sell to another entity. However, keep in mind that the City has not been not charging a rate that helps recoup the costs for originally purchasing the 800 acre-feet at Recapture.

The City could choose to establish a policy that differentiates the rate for Recapture Reservoir raw water from other commercial raw water sales in the rest of the system, due to the lack of needed maintenance and overhead. The City can create a set rate or continue to leave it open-ended, based on negotiations.

We have typically added an additional 10% to other billing that we have passed through to customers, such as Rocky Mountain Power. It would not be out of line or unjustified to include an additional 10% to this water for administrative costs and recouping some of the cost of the purchased water. A 10% increase in the cost for the Recapture water would include – repayment for the water, time taken to monitor that water, administration costs, future infrastructure costs not currently assessed. This would be approximately a \$7,620 increased expense to the Mill and revenue to the City.



Commercial Raw Water Policy that is a Hybrid

The City could choose to establish a hybrid policy that takes the two options above into account. For example, the City could set the raw water commercial rate at 25% of the culinary rate for Recapture Reservoir, and then set a different rate for the rest of the system at 75% or 50% for commercial sales. For example, 25% of culinary water rates is approximately \$0.38 per 1,000 gallons, which is an 8% increase from the current amount.

Department Review

Administration, Public Works, Finance

Recommendation

Staff recommends a clear and consistent policy that is available to all potential commercial entities that may invest in the required infrastructure to receive raw water.

Administration leans toward a consistent policy for all raw water commercial sales across the whole system to ensure equitable sales to all commercial entities and help create a more simple and clear policy to manage. However, administration is open to a hybrid form.

Public Works leans toward creating a policy that differentiates Recapture Reservoir raw water sales, due to the lack of overhead and maintenance costs compared to other water sources, and the fact that the water would likewise go unsold otherwise. Public Works is also open to a hybrid form.

Finance leans toward a hybrid form based on the pros and cons of both approaches.

Staff is looking for advice and consent from the City Council and direction for the type of policy approach the body of the Council would like staff take regarding a raw water policy for commercial sales. Staff will then bring back a drafted policy for approval.



CITY COUNCIL MEETING - STAFF REPORT

Author: Kim Palmer and Terry Ekker
Department: Finance and Engineering
Subject: Tantalus AMI System
Date: September 27, 2022
Type of Item: Business Item

Background

The City of Blanding currently uses a meter collection system that is over 10 years old. The current system, Automated Meter Reading (AMR) is a communication system technology utilities use to automatically collect usage consumption. These systems can be either a walk-by or drive-by system. The City has been converting meters to this system over the past several years.

Advanced Metering Infrastructure (AMI) is an integrated system of meters, communication networks and data management systems that enables two-way communication between the meters and utilities. Unlike AMR, AMI doesn't require utility personnel to collect the data. Instead the system automatically transmits the data directly to the utility at predetermined intervals.

An AMI system sends data to the utility company via a fixed network. The utility company can use the data to improve operational efficiencies and sustainability by effectively monitoring usage, system efficiency, detecting malfunctions and recognizing irregularities.

City staff has been working with Power West/Tantalus Systems Inc., to develop a plan for transitioning from our current AMR system to the AMI system. The Tantalus System has been selected because they have the ability to use much of our current AMR infrastructure that is already in place. The cost to start over with a different system does not make sense financially. Tantalus also has the ability to provide help with Water, Electric and Natural Gas meters.

Budget Impact

The City has received \$429,968 in ARPA funding over the last year. The AMI system was approved by Council in the FY2023 Water Enterprise Fund budget. The project also meets the approved uses for the ARPA funds. The proposal for the AMI system is quoted at \$187,647.99. We anticipate there will be some additional purchases necessary to complete the transition to radio read, for those meters not yet capable.



Department Review

Staff has met with Tantalus personnel to discuss their system and how it could benefit our system. Looking at the different AMI systems available, it was determined by staff that Tantalus was the best option for Blanding City, both financially and systematically. They can provide the necessary equipment to serve water, electric and natural gas and have experience in doing so. They can also do this with minimal changes to current infrastructure, saving the City the expense of replacing current equipment. The City uses an Itron ERT (encoder receiver transmitter) to communicate with the meter and Tantalus is the only third party AMI authorized and licensed by Itron to read these messages. The City has already invested money and time into installing Itron ERTs on meters. Currently over 3000 meters are read using an Itron ERT, with approximately 600 left to update to radio read capability.

TUNet is the platform that enables municipalities to control costs, improve reliability, enhance customer satisfaction and manage energy and resources more intelligently. Data can be delivered regarding a meter as frequently as 5 minutes. Outages and leaks are delivered in near real-time. Readings will be collected in the office, which will reduce costs associated with meter reading.

Recommendation

Based on our research into AMI systems, discussing the pro's, and con's of different systems, and the financial benefits, staff is recommending entering a sales agreement with Power West/Tantalus System Inc.

The purchase of the system without a formal bidding process is authorized under Blanding City Code Title 1 Chapter 11-1-5.

- a. The procurement officer may award a contract or authorize a purchase without engaging in a standard procurement process if the procurement officer determines in writing that:
 - (1) There is only one source for the procurement item; or
 - (2) (A) Transitional costs are a significant consideration in selecting a procurement item; and
(B) The results of a cost-benefit analysis demonstrate that transitional costs are unreasonable or cost-prohibitive and that the award of a contract without engaging in a standard procurement process is in the best interest of the City; or

Attachments

Blanding City - Itron/Tantalus AMI Proposal



RESOLUTION NO. 09-27-2022-1

A RESOLUTION APPROVING A SALES CONTRACT BETWEEN POWER WEST/TANTALUS SYSTEMS INC. AND BLANDING CITY

WHEREAS, Blanding City collects utility meter data for billing, to improve efficiencies, to detect malfunctions and recognize irregularities and;

WHEREAS, the current system is ten years old and no longer supported and;

WHEREAS, the purchase for a new upgraded system was approved in the FY2023 budget, using ARPA funds and;

WHEREAS, Staff has met with Power West Engineering and Tantalus Systems Inc. and determined their Automated Metering Infrastructure System will collect Blanding City's utility data and provide improved communications, efficiencies, detection of malfunctions and irregularities and;

WHEREAS, the City uses an Itron ERT (encoder receiver transmitter) to communicate with the meter and the Tantalus system is the only third party AMI authorized and licensed by Itron to read these messages;

NOW THEREFORE, BE IT RESOLVED the City Council approves a sales contract with Power West Engineering/Tantalus Systems Inc., for the purchase of an Automated Metering Infrastructure System.

PASSED on the 27 of September, 2022

**BLANDING CITY
A UTAH MUNICIPAL CORPORATION**

Logan Monson, Mayor

Attest: _____
David Johnson, City Administrator



Blanding City - Itron/Tantalus AMI Proposal ERT Overlay for Electric, Gas, & Water



POWER WEST
ENGINEERING

Contact: Craig Ebert
craig.ebert@powerwesteng.com
(801)712-1162



Tantalus

Tomorrow's Smart Grid. Today.

Blanding City Proposal Introduction

Tantalus Systems is pleased to present Blanding City with this proposal for your total meter ERT Overlay. Our TUNet solution provides innovative and efficient designs paired with the most advanced technology in metering and data management for municipalities like yourself. With our proposed solution, you can retain your existing electric, gas, and water ERT devices. The ability to retain these devices correlates to a direct cost-savings to Blanding City and it's customers.

The Tantalus solution is characterized by its ease of use, from the communications network to the user interface, we have designed our system with our customers in mind. The minimal network infrastructure is both easy to use and easy to maintain, requiring only a bucket truck to install, and once installed it is "set and forget" requiring little to no maintenance for years to come. Furthermore, the communications are done over the unlicensed 900 MHz spectrum, thus eliminating licensed spectrum costs and reducing RF exposure. In addition, the unlicensed 900 MHz spectrum of greater communication bandwidth, seamless future functionality integration and less chance of stray RF interference. A ERT overlay deployment such as the one Tantalus is proposing ensures a system capable of growing as needed by the city.

The Tantalus system prides itself on the low cost of ownership, in that we do not require significant personnel to administer the system. Our customer-centric system interface, TUNet Insight, is both powerful but intuitive to use. From an overall system level, down to an individual meter, the user views simple color-coding representations of actual circumstances on the network.

The Tantalus proposed ERT Overlay solution will provide Blanding City with the necessary communications infrastructure to meet the RFP requirements, but much more can be accomplished than is asked for in the RFP document. Tantalus is the only third party AMI provider authorized and licensed by Itron to read Itrons SCM, SCM+ and NIM ERT messages. Not only can the Tantalus read these messages in a fixed network mode, we can achieve full two-way communications and hourly intervals with devices such as the 100W or 100G ERT's. For legacy ERT's such as the 60/80W and electric R300/400 devices Blanding City can expect between 1 and 12 readings per day depending on the device. In addition, any ERT flag and or Counter broadcast by the ERT is also pushed to the Tantalus Head-End system for easy viewing. The Tantalus system utilizes the same infrastructure, RF frequency and Head-End to read all electric, gas, and water ERT devices as well TUNet equipped AMI electric meters. With the ability to collect all Blanding City's electric, gas, and water assets using a single system and network this greatly expands the functionality and value of the AMI network being purchased.

Tantalus Systems Inc. is pleased to present Blanding City with our proposal response to the Request for Proposals for Professional Services, Equipment, Integration & Installation of the ERT overlay and eventual (Advanced Metering Infrastructure) AMI System. Tantalus brings Blanding City a unique AMI solution that is well suited to the needs of municipal utilities across the United States, and Tantalus is the only AMI vendor that is exclusively focused on serving the municipal and cooperative utility market. Over the past three decades, Tantalus has consistently and creatively developed technology that enhances the safety, security, reliability and efficiency of public power and electric cooperative utilities across North America and the Caribbean.

What Our Customers Need:

Tantalus recognizes the unique challenges faced by municipal utilities in this country. Unlike the major metropolitan areas typically serviced by other vendors, communities like Blanding City have a special mandate to optimize the use of their time, resources and budgets, provide service, and be trusted by their communities. The people that the utility serves are counting on Blanding City and Tantalus to realize immediate and long-term value from their smart grid investment, and that infrastructure needs to be one that is also flexible and capable, serving as a foundation for future innovation as smart grid applications evolve over time.

Tantalus respects the need for municipal utilities to maintain control of their future, and avert a costly solution optimized for large cities and shareholder profits. An AMI system must meet the current near-term needs while evolving municipal utilities into truly sustainable utilities. The utility has the opportunity to be a driver of economic prosperity and socioeconomic progress. These are just a few of the unique challenges that Tantalus' solution was purpose-built to address. By utilizing the Tantalus TUNet® system, municipal utilities can leverage data to deliver higher value and more innovative services to its customers, and improve financial performance while driving operational reliability and efficiency.

What We Help Customers Do:



Connect: Devices, Data, and Decisions

TUNet is a two-way, near-real-time communications platform to every meter and TUNet endpoint. We support a multi-application network for Advanced Metering, Demand Response, Distribution Automation, & Grid Optimization.

Learn How to Meet and Anticipate Your Community's Needs

Tantalus is dedicated to supporting the safety, prosperity, and autonomy of the communities like Blanding City. We firmly believe that the energy futures of the communities we serve should be written by those communities and not by the shareholders or major metropolitan customers of one-size-fits-all market behemoths. The health, well-being, and values of the communities that municipal utilities serve depend on having an energy partner who's fully aligned with you and your future.

Optimize for Current and Future Needs

At Tantalus, we help municipal utilities balance the cost, operational efficiency, reliability, and innovative services to meet today's needs. At the same time, we provide an AMI platform that meets future needs of flexibility and expandability for coming innovations in market technology as well.

Succeed on Your Own Terms and In Your Own Time

In fact, Tantalus is unique in that 100% of our smart grid network deployments are being used by municipal and cooperative utilities. For 30 years, Tantalus has remained steadfastly committed to earning and maintaining the trust of customers just like Blanding City, and our heritage, business model, solutions and company culture are completely aligned with this commitment, making sure that municipal utilities and the communities they serve continue to grow and thrive.

What We Deliver:



Tantalus develops and delivers innovative smart grid solutions that are purpose-built to meet the needs of municipalities and rural cooperatives. We help our customers meet their customers' current needs while helping them evolve into truly sustainable utilities in their own time and in their own way.

Tantalus' comprehensive suite of smart grid solutions includes advanced metering infrastructure (AMI), demand-management technologies, data analytics, distribution automation and street lighting control systems. We do this by offering flexible and expandable AMI smart grid solutions that are designed to help our customers to stay in control of how their smart grid evolves. What's more, we invite our customers to co-create their energy futures with us through participation in customer advisory councils and continual feedback. Through it all, we deliver unparalleled customer service and access to experts and senior decision-makers who can remove barriers to success. Ultimately, we measure our success by how well our customers meet their customer's needs—now and into the future. This broad portfolio of solutions is purpose-built to support smart community initiatives essential to both the near-term and long-term success of the utilities Tantalus supports and the communities they serve.

Tantalus Offering:

Tantalus intends to provide the following goods and services to Blanding City in our base offering in support of their AMI project:

- 1) A scalable hosted head-end solution for Blanding City to fit the size of the municipality for this project, priced in a SaaS model for low up-front capital cost.
- 2) A scalable VersaComms Gateway backhauled with utility provided communications or cellular, and Network Repeaters to ensure network coverage in both dense and semi-rural territories.
- 3) The ability to retain the use of the currently deployed 60/80/100 series gas and water ERT devices as part of the new AMI network.
- 4) The ability to retain the use of the currently deployed R300/R400 electric ERT devices as part of

the new AMI network. These ERT devices will 1 and 12 interval reads to the head-end daily.

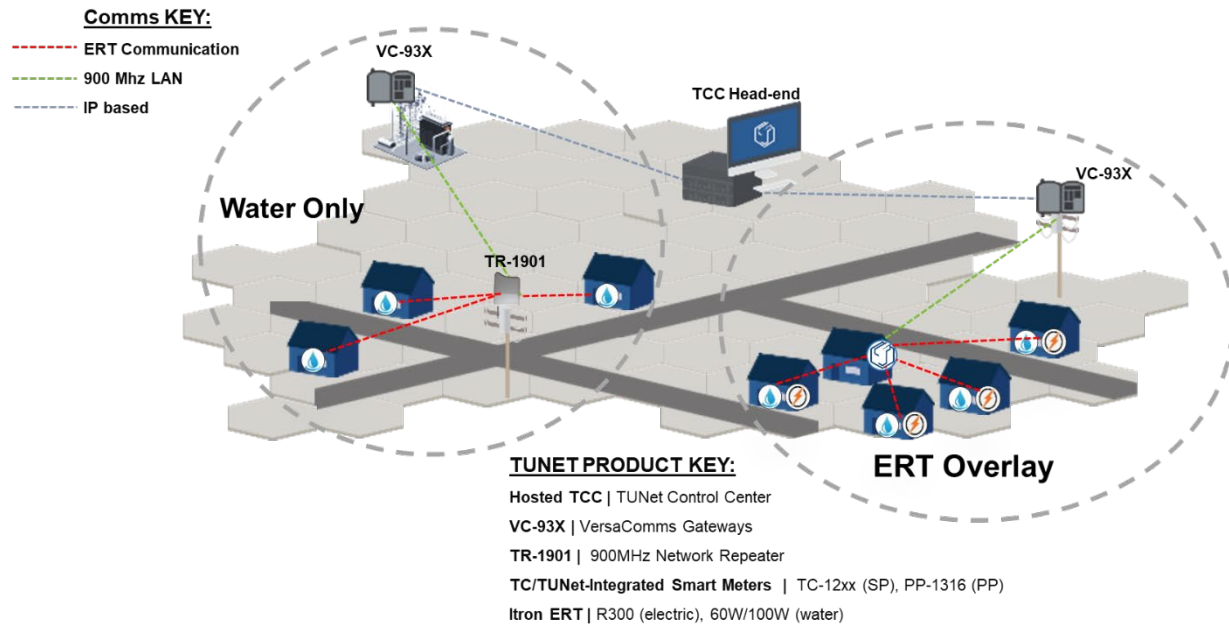
- 5) Professional Services, Technical Project Management, and Propagation Study services.
(Installation services for network infrastructure and electric meters, if desired, to be discussed further during contracting or quotes provided upon request.)

What Makes Us Different:

Tantalus has an unrivaled commitment to this market, with 100% of our customers, 100% of our revenue, and 100% of our endpoints deployed in the Municipal and Cooperative market. Our purpose-driven solutions are developed specifically for Blanding City and their unique needs, and were co-created with our customers, not cookie-cutter solutions meant for big cities. TUNet design can be used by current utility staff; there is no need to be an IT expert or data scientist to use our solutions.

The Industry's Most Flexible Smart Grid Network

TUNet 900MHz ERT System Design



We emphasize flexibility for what your customers need today, with near-real-time data delivery to enable a faster and more impactful response. Additionally, our system offers network expandability for what Blanding City will need tomorrow, with unrivaled computing power at the edge, and open systems that are compatible with other hardware and software platforms.

As a company, Tantalus is independent and autonomous, just like Blanding City. We are not beholden to any hidden shareholder agendas, and provide access to senior decision-makers, with client input into our product roadmaps.

At Tantalus, We Believe That:

- The energy futures of the communities we serve should be written by those communities, and not by the shareholders or major metropolitan customers of one-size-fits-all market behemoths.
- It is essential to safeguard the autonomy of these rural communities and their fundamental right to shape the future of their smart grids.
- And Tantalus is the only vendor whose heritage, solutions, business model, and company culture are completely aligned with these core values.

System Description:

Tantalus empowers utilities to access granular data from both legacy meters and cutting-edge two-way intelligent devices to improve customer service, facilitate consumer engagement, realize cost savings and streamline system operations. The Tantalus Utility Network (TUNet®) solution is a robust, multi-purpose platform purpose-built for municipal and cooperative utilities that provides data to power advanced smart grid applications. TUNet enables utilities to control costs, improve reliability, enhance customer satisfaction, and manage energy and resources more intelligently. For a more detailed system description please see the TUNet Overview provided later in this document.

The following 900MHz system design overview provides a technical description, functional and performance features, advantages and benefits of the proposed TUNet system.

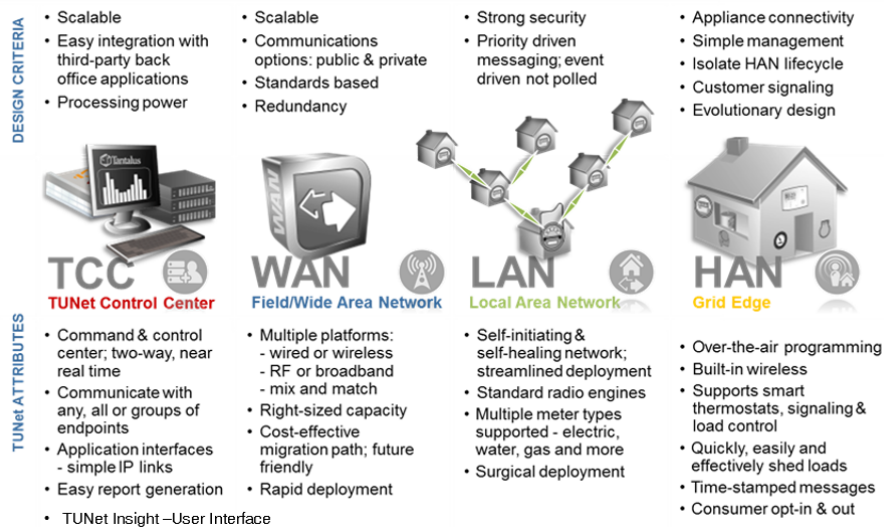
TUNet General Overview

The Tantalus Utility Network (TUNet®) solution is a robust, multi-purpose platform purpose-built for municipal and cooperative utilities that provides data to power advanced smart grid applications. TUNet enables utilities to control costs, improve reliability, enhance customer satisfaction and manage energy and resources more intelligently. As decisions are made to add advanced functionality, Tantalus' single platform can support those requirements through its advanced, unique, and patented communications methods and its ease of scalability.

TUNet's data delivery method is unique in the industry and provides significant benefits to our customers. The network utilizes a predominantly push method (TRUPUSH™) for data delivery which enables the meters to deliver interval data as frequently as every five minutes for electric meters. Alerts and outages are pushed from the meters in near real-time. With TRUPUSH technology, data arrives sooner and will remain fresher than data provided by in a batched method three or four times a day. Because of this, not only can utilities react faster to the incoming information, but with the analytical tools available they can preempt many situations thus mitigating the negative impacts.

Flexibility of the Tantalus Utility Network

Tantalus develops and delivers innovative smart grid solutions that are purpose-built to meet the needs of municipalities and rural cooperatives. We do this by offering flexible and expandable AMI smart grid solutions that are designed to help our customers to stay in control of how their smart grid evolves, helping our customers meet their customers' current needs while helping them evolve into truly sustainable utilities in their own time and in their own way.



TUNet Control Center (TCC)

The heart of the data collection system is the TUNet Insight User Interface. This interface:

- Provides an intuitive visualization of the system and the AMI functionality,
- Manages and monitors the network,
- Displays meter interval data, alarms, and events,
- Provides a platform for 3rd-party applications over TUNet,
- The web-based interface provides easy access to a wealth of data and functionality that will facilitate customer service and improve operational efficiency.

TCC can be deployed as a virtualized or hosted solution that is purpose-built for municipal and cooperative utilities and can scale in a cost-effective manner.

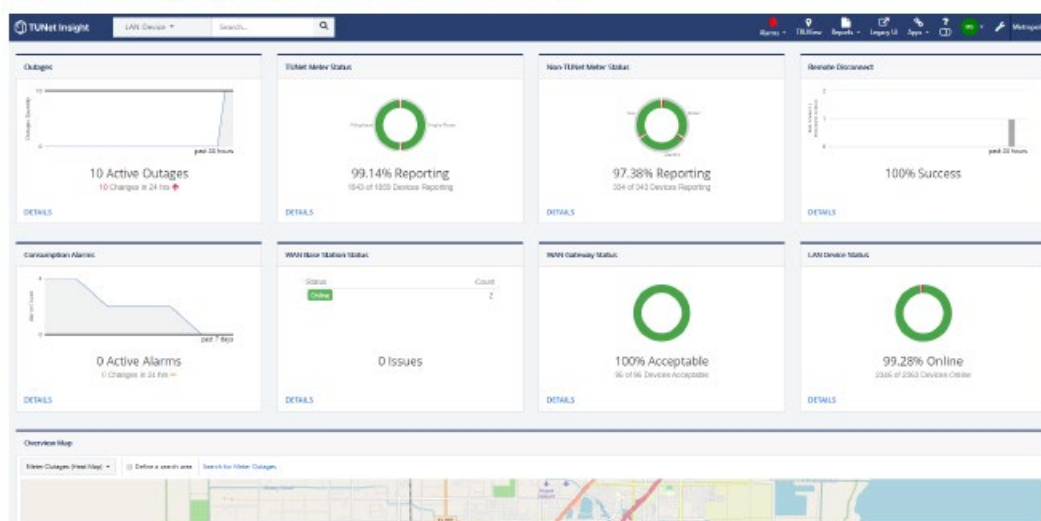
The TCC accumulates and processes the data that has been pushed from the LAN (e.g. meter read data, DA devices, events, alerts) in near real-time. The server provides the central database and is designed to collect and accommodate large amounts of data. The data is stored in the TCC for up to 14 months and can be exported to other systems for longer retention time.

TUNet Insight

Tantalus is excited to be releasing a redesigned user interface with an updated look and feel and improved user efficiencies. Working with a design consultant and feedback from current customers, our new interface is more user-centric - providing more content at a glance with a configurable, intuitive design. Reports and analytics are easily accessible and the user interface is supported on smartphones and tablets allowing authorized employees secure access on-the-go.

Starting with a deep understanding of the tasks to be accomplished and the typical workflow for utilities, the interface facilitates maximum productivity. As an example, the initial screen differs depending on the user login credentials. A System Administrator will be taken to one landing page while a Customer Service Representative (CSR) will be taken to a different landing page. Because the Administrator and CSR perform different tasks, the information they need is very different. We have eliminated the frustration of having to click and drill down endlessly to get to where you need to start. The CSR landing page is user-configurable and supports robust search capabilities to help retrieve data quickly and better serve customers.

System Landing Screen for the TUNet Administrator



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

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

Additionally, TUNet Insight screen-shots have been included in a separate document in the appendix located at the end of this proposal.

Data

All data, including outage notifications and sags/swells, provide a timestamp and full-scale register read, and are pushed to the TCC in near-real-time.

TUNet's data delivery method is unique in the industry and provides significant benefits to our customers. The network utilizes an endpoint push technology (TRUPUSH™) for data delivery which enables the system to deliver interval data as frequently as every five minutes for electric meters. Alerts and outages are pushed in near-real-time. With TRUPUSH technology, your data will get to you sooner and remain fresher than data provided by other vendors who provide batched data polled three or four times a day. Because of receiving more granular data when you need it, not only can you react faster to the incoming information but with the analytical tools available, you can preempt many situations thus avoiding the negative impacts. The TUNet TRUPUSH design also enables utilities to provide consumers with more detailed and timely consumption data as well as alerts, such as outages and water leaks (when coupled with ERT technology).

The TUNet module enables advanced monitoring capabilities including:

- Peak demand reset on request, by schedule, or by custom date and time as commanded by the TUNet Control Center.
- At peak demand reset, provides coincident and non-coincident peak kW and kVAR as calculated by the Sentinel meter.
- kW, kVAR, and kVA intervals for trending and profiling purposes.
- Instantaneous per phase voltage upon request or by interval.
- Upon request: coincident values to the peaks (kW / kVA / kVAR) if configured in the meter, cumulative kWh, kVAh, kVARh, and current values for non-coincident peak kW, kVAR, and kVA.
- Power quality information including current and voltage, line frequency, and power factor.
- Voltage monitoring: remotely configurable in the Tantalus module, real-time sags, swells, and outage alerts per phase.
- Load limiting/service limiting support

Network Analysis and Troubleshooting

TUNet Insight, the graphical user interface, includes many diagnostic and troubleshooting capabilities.

- System Dashboards provide read reliability reports, active event logs, the status of networking equipment and performance.
- TRUView is a geolocation GIS tool that displays real-time events and system performance data in graphical format.
- The Monitor screen provides the ability to access network data and reports associated with managing active events such as outages and tampers as well as the communication status of the LAN and WAN.
- TUNet Insight provides the Status snapshot as a landing screen. It includes network and system statistics such as meter read rate and communication infrastructure health.

TUNet Network Components

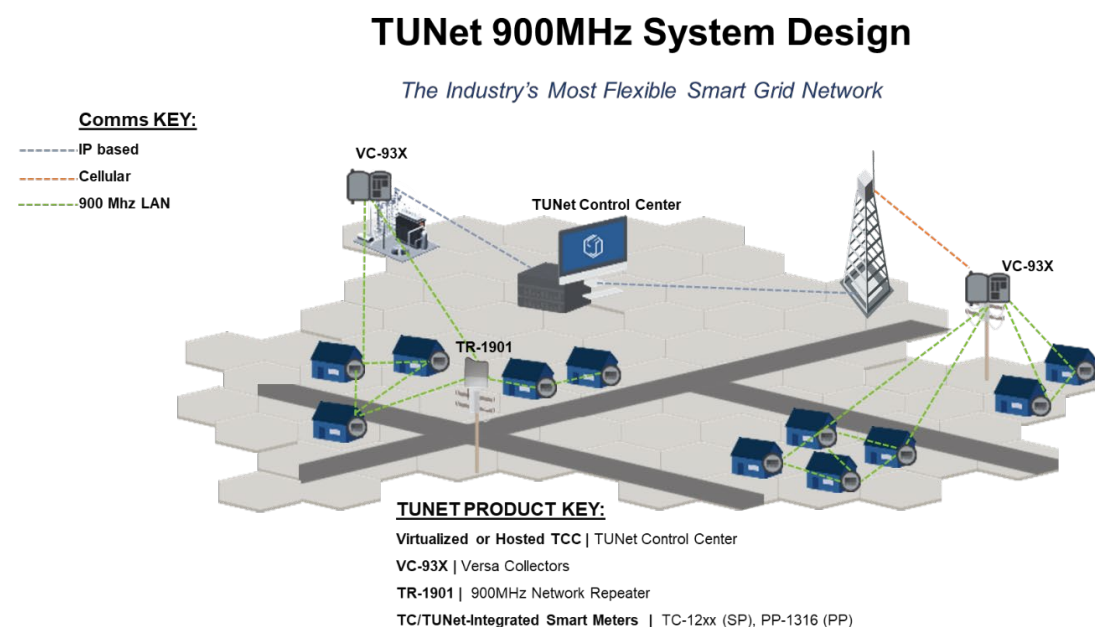
Flexibility in Deployment

Whether it is one hundred or one million meters, Tantalus has developed a wealth of experience delivering flexible metering solutions for utilities just like yours. The TUNet Control Center, or TCC, can be deployed as a virtualized or hosted solution, that is purpose-built for municipal and cooperative utilities and can scale in a cost-effective manner. Tantalus will work with you to develop a customized, mutually-agreed-to Statement of Work and personalized timeline for the project as part of the initial kick-off meetings and system design process to make sure that the utility's system is tailored to your current and future needs.

TUNet can leverage multiple transport methods for the WAN/backhaul including cellular, fiber, Wi-Fi, and WiMAX. Each transport method can be used individually throughout the service territory or in combination with others to provide the infrastructure best suited to your current and evolving needs. TUNet supports meters from multiple manufacturers including Itron, Aclara, and Landis + Gyr all on the same network. TUNet also supports water and gas meter readings using Itron ERTs, Badger Orion, and Neptune modules that typically only require minor additions to infrastructure equipment based upon the utility.

900MHz Network Design

The image below provides an overview of what a deployment a 900MHz network will look like, including VersaComms (VC) Gateways, repeaters and 900Mhz communication with electric endpoints.



Wide Area Network (WAN)

TUNet can leverage multiple transport methods for the WAN/backhaul infrastructure including cellular, fiber, Wi-Fi, WiMAX, and others. Each transport method can be used individually throughout the service territory or in combination with others to provide the infrastructure best suited to current and evolving needs.

The VersaComms (VC) Gateway is a device that supports communication between the local area network (LAN) and the WAN. Tantalus offers a variety of Gateways to provide coverage for all types of deployments and terrain, while limiting the risks associated with a single point of failure.

The VC Gateway is aptly named as it is versatile in both the backhaul that it supports and its scalability in field deployments. The VC Gateway can be mounted at any convenient location where sufficient power is available, such as on the side of a building or at the top of a street pole and is available in several capacity

sizes for cost-effectiveness. The VC Gateway enables connection to fiber, cellular and/or other IP-based communication backhaul platforms.

Local Area Network (LAN)

The local area network provides communication among the endpoints (electric, gas and water meters, DR/DA devices, future streetlight controllers) utilizing a 900 MHz RF technology in the unlicensed band. It is self-initializing, self-healing and self-optimizing. A key differentiator between TUNet and other 900 MHz LANs is that the data is pushed from the endpoints to the VC Gateways via TRUPUSH™ technology.

Routers – TUNet routers extend the reach of the LAN to provide connectivity between the VC Gateway and the harder to reach meters at the edge of the LAN. In addition, the module in every TUNet device acts as a repeater extending LAN coverage if needed and providing economical coverage in more rural deployments, as well as providing redundancy for the network.

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

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

TUNet limits each LAN to a max of 250 TUNet endpoints. But fewer endpoints per LAN doesn't mean more infrastructure devices, more installation work, or a higher infrastructure cost per endpoint. Up to four LAN controller gateways can be co-located in one enclosure, providing a cost-effective high capacity device without sacrificing the benefits of smaller LANs. As an example, the TUNet VersaComms Gateway can support up to 1,000 endpoints in a single battery backed-up pole-mounted unit with up to four LANs. For ease of deployment and maintenance, LAN controllers can also be meter socket-based.

The scalability of the TUNet VersaComms Gateway allows for a more cost-effective infrastructure deployment in low-density areas. Why pay for an access point that supports many thousands of meters when the remote area only has 100 meters or less?

TUNet's combination of "right-sized" LANs, intelligent endpoints, prioritized messaging, guaranteed message delivery, and near-real-time data delivery, rather than batching, results in much more efficient use of network capacity and provides a more reliable communications network.

Endpoints

Electric Meters with TUNet Communication Modules – Itron, Aclara and Landis+Gyr meters are available with integrated TUNet communication modules for single-phase and polyphase metering applications. The single-phase meters can be equipped with an optional integrated disconnect switch to support remote disconnect and reconnect for move-in/move-out, collections and prepayment applications. This integrated meter/module solution is assembled and calibrated at the manufacturer's facility.

The DA Bridge Modem is an industrial modem designed to route SCADA protocols (DNP3) over the TUNet network. It features Tantalus TRUPUSH™ technology for instant, field-initiated event notifications such as outage alerts or load shed success without device polling.

Home Area Network (HAN)

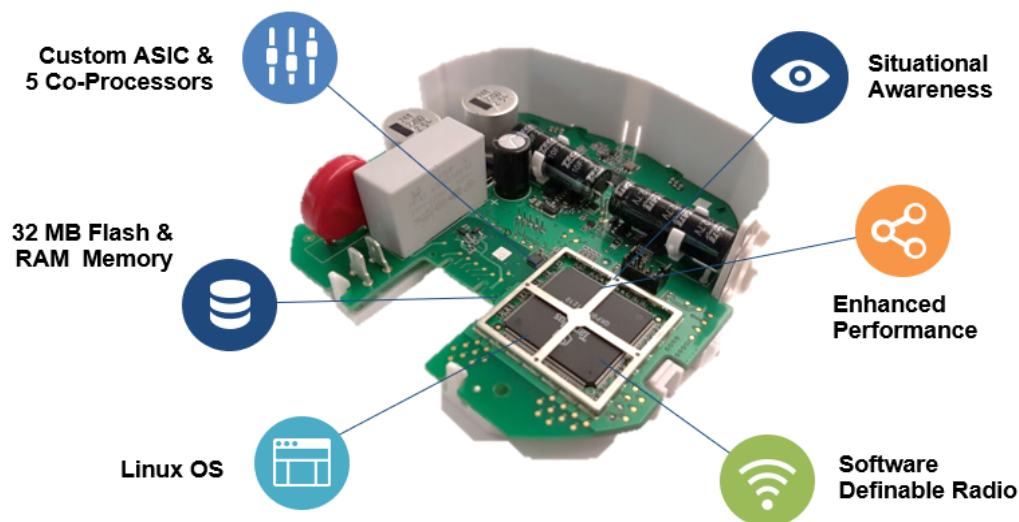
Tantalus Load Management System (TLMS) works with HVAC systems, electric water heaters, pool pumps, electric vehicle chargers, and a variety of other large and small loads. The solution supports load control events, static and dynamic rate structures with automatic price response. Through TLMS the utility can design and execute load control events either immediately or in the future. Events can be defined as mandatory or voluntary with various levels of priority.

Flexibility Now and into the Future

We emphasize flexibility for what your customers need today, with near-real-time data delivery to enable a faster and more impactful response. Additionally, our system offers network expandability for what your customers will need tomorrow, with unrivaled computing power at the edge, and open systems that are compatible with other hardware and software platforms.

Endpoint Power

Tantalus was the first to introduce a high-resolution real-time data processing platform that supports distributed intelligence at the endpoint. The Tantalus TRUEdge® communication module is a Linux-based intelligent endpoint module with a powerful ASIC and 5 co-processors, 32MB RAM + 32MB flash and powerful computing capacity. It was first introduced in 2013.



The Tantalus TRUEdge Communication module is an intelligent endpoint that supports analytics and reports edge data by exception. Distributed intelligence is the ability to analyze more granular data at the endpoint, make decisions, and take actions without having to ship all of the data to the central server, reporting only the relevant results. Tantalus has embedded the computing power of a smartphone into an AMI communication module making smart meters and devices even “smarter”. This enables advanced communications, high-resolution data processing and analysis in the edge device. This platform was built with support for tomorrow’s predictive analytics, not just historical analysis of yesterday.

Tantalus’ powerful intelligent communications module enables Tantalus to provide a unified software platform that takes smart metering and grid communications beyond the world of static firmware running basic, pre-programmed functions to a robust platform for software applications that can be upgraded via

over the air updates. With this platform, Tantalus has provided a future-proof endpoint with the ability to support and deploy new features as they become available.

Security-Enhanced Linux OS provides a secure application platform. It also provides for rapid software development on a standardized platform that can support 3rd party endpoint applications. Based on work by the National Security Agency (NSA), SELinux provides enhanced security over many other systems and is utilized by the Department of Defense for critical systems.

LAN Behavior

TRUPUSH

With TUNet's TRUPush technology, data from the electric meter is pushed to the TCC headend within the next interval period. For example, 15-minute interval data is sent every 15 minutes. TUNet can support data as frequent as every 5 minutes. The data is routed through the WAN and backhauled to the headend. Tantalus' utility customers are using TRUPush technology to enable applications where near real-time data is required such as voltage management, checking transformer/line loading prior to servicing, power factor management, grid optimization (e.g. CVR, VVO) and faster response to exceptions such as consumption on inactive accounts. TUNet's near-real-time data delivery enhances customer portals.

Automatic Registration and Self-healing

The LAN is self-initializing, self-healing, and self-optimizing. Upon initial power-up, the meters find an optimal path to the TCC and several alternate paths. Multiple paths are stored in the TUNet communication module within the meter. If the primary path is not viable (loss of communication between the meter and the TCC), the meter will utilize one of its alternate paths to push data to the TCC.

Message Prioritization

The TUNet system utilizes priority messaging to provide efficient use of the network and timely data delivery. TUNet supports 8 levels of message priority with the highest level reserved for DA, followed by outages, then alarms, with interval data delivered at the lowest priority. When meters generate high priority data, the data is immediately pushed to the VC and on to the TCC. Low priority data (which accounts for the majority of messaging on our systems today) is pushed through the network within the following interval and momentarily aggregated with other low priority data before being delivered, increasing the efficiency of the WAN.

Scalability

TUNet provides a robust platform to support multiple applications and scales easily to accommodate additional endpoints and/or data requirements by adding Gateways, Routers and/or increasing the capacity of the TCC server. Tantalus will appropriately design the network based on the number and location of endpoints and the data requirements. The design includes excess capacity to support additional functionality and/or devices. The server hardware and software requirements are calculated based on the number of devices and the messaging required (i.e. interval frequency).

The LANs typically have significant excess capacity. Interval data uses a small fraction of the capacity with the vast majority reserved for advanced applications such as outages, restorals, DA, street light, load control, voltage monitoring, and other future applications.

Flexibility

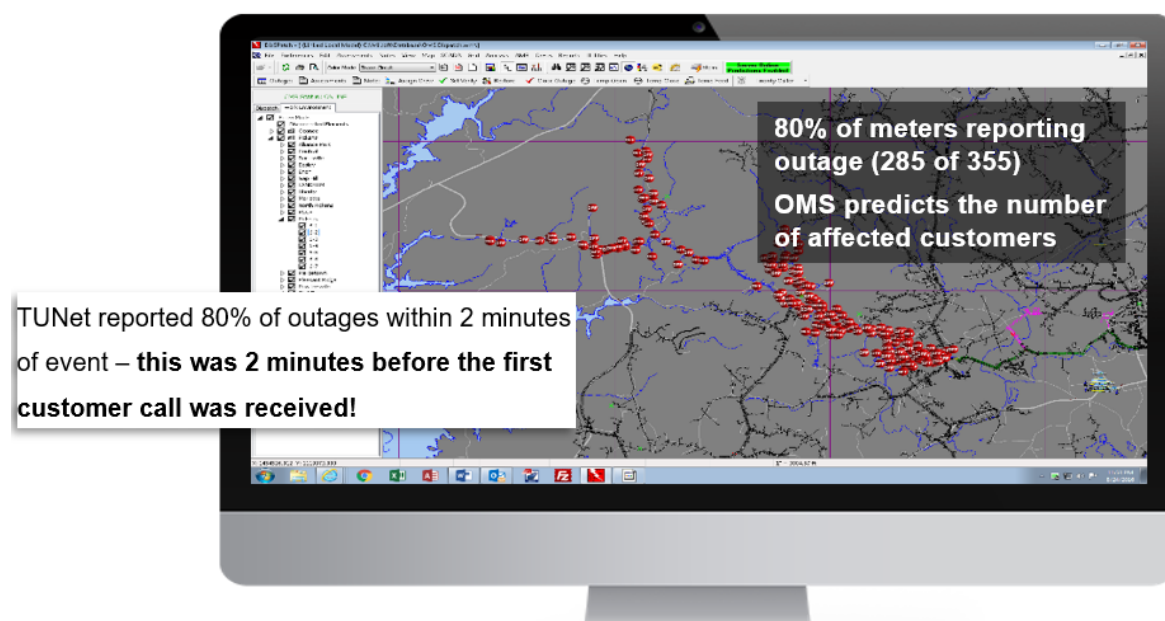
The Tantalus Utility Network (TUNet) can support multiple meter vendors on the same network. These meter vendors include Itron (Centron C1S and C2S, Sentinel), Aclara (i210+, kV2c), and Landis+Gyr (FocusAXe). This flexibility allows our customers to potentially retrofit existing meters when migrating to AMI, or chose the preferred or most competitively priced meter in the market.

Outage and Restoration Performance

All TUNet modules can detect the loss of AC voltage. Supercapacitors that continue to provide power to the device after AC voltage is lost, and Gateway devices use batteries to maintain power for several hours. These combine to keep the network operating to report outages. As soon as the module detects loss of AC voltage, it begins to time the outage. The TUNet module identifies outages that are shorter than a configurable duration and records them as blinks. This configurable duration is referred to as the outage qualification time, which can be set to between 1 and 10 seconds. Blinks are handled separately and are not reported as outages. If power is restored before the outage qualification time has elapsed, the TUNet module logs it as a blink and does not send outage and restoral messages. However, once the outage qualification time has elapsed without power being restored, the TUNet module immediately sends an outage message, which includes the time of the outage and the kWh register reading at the time of the outage, through the network to the TUNet head end. The supercapacitors power the TUNet modules long enough to send the outage messages, with retries if necessary, and also to relay outage messages from other devices.

2 Minutes Post-Outage

Real Time Data for Real Time Results



In a multiple-meter outage scenario, 85-100% of devices typically report an outage to the head end within one minute of the onset of the outage, assuming the system is deployed and maintained as recommended. Actual performance depends on the extent of the outage and the characteristics of the network – some outage messages may not make it up through the network in a nested outage scenario if the upstream meters have already been down long enough for their supercapacitors have discharged – but a number of properties of TUNet’s outage reporting design and the TUNet network in general combine to provide superior outage reporting performance. This has been demonstrated in utility trials comparing TUNet’s outage performance with other systems. These design advantages include:

- TUNet’s long range and network designs tend to result in relatively “flat” LANs. Unlike other vendor’s designs that tout large LANs and the ability to hop 16 times, Tantalus has chosen a different approach, one that creates a more stable, less chatty network. Although TUNet LANs can support 15 hops by design, meters are typically only a couple hops from the Gateway devices.

This minimizes the dependence on parent meters to relay outage messages to the Gateway, and minimizes the impact of nested outages.

- TUNet outage and restoration messages are sent only on defined message paths rather than broadcasting them to all devices as some other systems do. While it may seem intuitive that broadcasting increases the probability of a message getting through the network, it can have the opposite effect in a large outage scenario, because if a large number of meters are all doing this at the same time, collisions will occur and the messages won't get through. Better reliability is actually achieved by managing network traffic more intelligently and limiting the number of messages to only what is necessary.
- Another way TUNet manages network traffic is by acknowledging all messages, including outage messages. Systems that do not acknowledge outage messages have to send each message several times since there is no way to confirm that it got through the network. This flooding of the network with unnecessary retries can cause collisions and prevent other messages from getting through, especially in a large outage scenario. Acknowledging all messages enables TUNet to avoid this problem by retrying only messages that are not acknowledged.

TUNet has multiple methods available to report outages:

- System dashboard
- Event monitor
- TRUView GIS tool, which shows outages on a map
- Real-time email or text notification
- Reporting to an outage management system (OMS) via easily integrated MultiSpeak interfaces

If TUNet is being used with an outage management system, in addition to the blink filtering performed by the endpoint, an additional level of outage filtering is available in the head end on the outage messages it receives from the endpoints. The head end can be configured to distinguish between momentary and sustained outages, and report only sustained outages and their corresponding restorals to the OMS.

When used with an OMS in a multiple-meter outage scenario, typically the number of outages reported by TUNet is sufficient for the OMS to identify the full extent of the outage within 2 minutes. However, several Tantalus customers have found that they are able to effectively manage outages using TUNet without an OMS. TUNet's immediate outage, and the ability to view outages in the TRUView GIS tool, provide visual display of the location of outages that have been reported by the endpoints, enabling the utility to identify the source of the outage usually within a few minutes, even if some of the meters have not yet reported their outage.

When power is restored, the device attempts to get time from the network. This usually happens within seconds. Once the device knows the time, it calculates the time when power is restored, and immediately sends a timestamped restoral message through the network to the head end. Typically, 90% of restorals are reported to the head end within one minute after restoration, and 100% within 5 minutes, assuming the network infrastructure devices that the meter communicates with have also powered up or are still being powered by their batteries. If this is not the case, then because all messages are acknowledged, the device will know to retry sending the restoral message when power has been restored to the device that did not acknowledge the message.

Upon receipt of the restoral message, or any other message from a device that was in an outage state, the head end reports the restoration on the event monitor and, if enabled, by email or text, and clears the outage. Meters that were unable to successfully send their outage message through the network before the supercapacitor discharged will send their outage message with the restoral message, so that the fact that they were in an outage is recorded, along with the time of the outage and restoral, but the outage is immediately cleared.

Beyond AMI Capabilities

- **Distribution Automation:** The Tantalus DA Bridge Modem allows for down-line automation devices to be seen and managed using DNP. Our partner S&C is doing this to leverage TUNet for their latest devices being deployed in the public power space.
- **CLVR:** Rather than having to deploy specialized bellwether meters, Tantalus's Closed Loop Voltage Reduction (CLVR) can report voltage data in near real-time from any designated meter allowing operators to make decisions without guesswork. When integrated with a SCADA system, Tantalus's near real-time push technology enables the utility's SCADA system to lower feeder voltages within seconds.
- **Streetlight Control:** Tantalus notes that most public utilities have already begun to deploy LED streetlights. Tantalus has partnered with LED Roadway to enhance our technology offering to our customers. By deploying the Tantalus module in LED streetlights, the Tantalus TUNet AMI can reduce costs and enhance community safety by adding functions such as motion and audio detection.
- **Tantalus Load Management System (TLMS):** TLMS works with HVAC systems, electric water heaters, pool pumps, electric vehicle chargers, and a variety of other large and small loads. The solution supports load control events, static and dynamic rate structures with automatic price response, energy efficiency. It supports customer engagement through a browser-based consumer portal as well as mobile apps for both iOS and Android devices. Devices are reached through a combination of TUNet, Wi-Fi and ZigBee, and no special options are required in the meter to enable HAN functionality in the future.

Additional Meter Reading Capabilities

Electric ERT Technology

Currently Tantalus has a partnership with Itron to read electric ERT technology messaging protocols over TUNet. This capability allows existing R300 Electric ERTs to broadcast consumption data over-the-air to TUNet modules that intercept and then transmit the data to the head end. This "ERT Overlay" concept has been extremely popular with a number of our clients, as it provides a significant AMI benefit at a fraction of the cost. Typically, in an ERT overlay only 1 in 5 meters needs to be replaced, depending on the geography and proximity of adjacent meters. This capability works in tandem with the other ERT commodity reading capabilities listed below.

Water Meter Reading

Tantalus is unique in our unmatched water reading capability. Currently Tantalus has a partnership with Itron to read water ERT technology messaging protocols over TUNet. Additionally, Tantalus has developed the capability to also read communication modules from Badger Orion as well as Neptune Systems.

The capability to read water allows existing 60W and 100W ERT communications devices to broadcast consumption data over-the-air to TUNet modules that intercept and then transmit the data to the head end. This allows utilities to increase the useful life of existing assets, often saving significant amounts of money when compared to a "rip-and-replace" approach. Please see the included "Tantalus ERT Value Proposition" included below.

Gas Meter Reading

Currently Tantalus has a partnership with Itron to read gas ERT technology messaging protocols over TUNet. This capability allows existing 100G ERT communications devices to broadcast consumption data over-the-air to TUNet modules that intercept and then transmit the data to the head end.

Load Management Solution Description:

Tantalus offers its Tantalus Load Management System (TLMS) which consists of a utility software application and a family of load controllers that together manage customer appliances or loads automatically. TLMS is able to manage a diverse set of common load types like central air conditioners and electric water heaters. TLMS is also able to manage a set of high-value loads that is particular to rural utilities and small municipalities, such as whole-home electric heating, electric thermal storage appliances, and agricultural irrigation pumps.

TLMS takes full advantage of TUNet communications. This ensures direct, reliable and fully-interactive communications that are necessary to see the full economic benefits of demand management. Using TLMS, utilities can offer programs to customers that fit their lifestyles and usage patterns, minimize negative impacts, and allow them to interact and manage their participation. The extensive field data collected by TLMS and TUNet Insight drive utility decision-making around program design as well as ongoing operation.

TLMS can work in tandem with Tantalus' AMI solution to support the next generation of technology-enabled rate plans, including Time of Use and Variable Peak Pricing. This combination, known as "Prices-To-Devices" is proven to benefit the utility and program participants significantly.

Distribution Automation Solution Description:

Distribution Automation (DA) gives utilities real-time awareness and control of the distribution grid downline from substations and closer to the customers. By connecting smart distribution devices throughout the field, DA improves power quality, reduces operating costs, and enhances safety.

The TUNet network is able to bring connectivity to DA devices anywhere in their service territory. Rural utilities often have far flung circuits that can take an hour or more for crews to reach when there is an incident. DA equipment can eliminate some of these incidents and reduce the severity of others, and TUNet provides the needed connectivity.

The most advanced electricity distribution networks actively manage voltages across their grids to minimize energy losses and manage energy supply costs, but must do so while ensuring acceptable power quality for customers. To do this, utilities often utilize a complex grid modelling system and must run a safety margin to protect customers that experience voltages different from what the model predicts.

Tantalus offers its CLVR (Closed Loop Voltage Reduction) package, which turns TUNet-connected smart meters across the grid into voltage monitoring DA devices. This completes the ideal voltage management solution by giving utility systems real-time feedback on the actual voltages being experienced by customers. As a result, utilities can avoid the need for grid modelling, and reduce or eliminate the safety margin to get optimal results without risk to its customers.

Grid Optimization Solution Description:

A distribution grid is a massive distributed collection of expensive transformers, wires, poles, and other assets. Investments and expansions are expected to last for decades and are planned to accommodate future growth accordingly. Thousands of miles of line require expensive maintenance on an ongoing basis. Investment planning and maintenance scheduling has traditionally depended on guesswork and resulted in waste. When a transformer becomes overloaded or the need for tree-cutting becomes critical, the result can be a wildfire with devastating consequences.

Tantalus Grid Optimization Analytics collect extensive data from the entire grid edge where the meters and other devices are, and where utility customers actually live and work. This data holds key information about power quality experienced at each location. The insights that can be gleaned from this data help utilities plan investments (such as identifying heavily-loaded transformers and properly-sizing a replacement) and maintenance (such as detecting stretches of powerline being brushed by power lines) so these activities can be prioritized. They have also helped utilities detect and avert safety issues at customer homes.

Collected analytics data can be channeled to third party applications such as widely-used Engineering Analytics packages for further analysis. Tantalus is also readying tools to bring targeted grid optimization insights directly to our utility customers.

Street Lighting and Smart Community Solution Description:

Street lighting is a ubiquitous and energy-intensive feature of municipalities. Lighting control solutions are one of the primary ways that municipalities look to improve efficiency and service delivery to their residents.

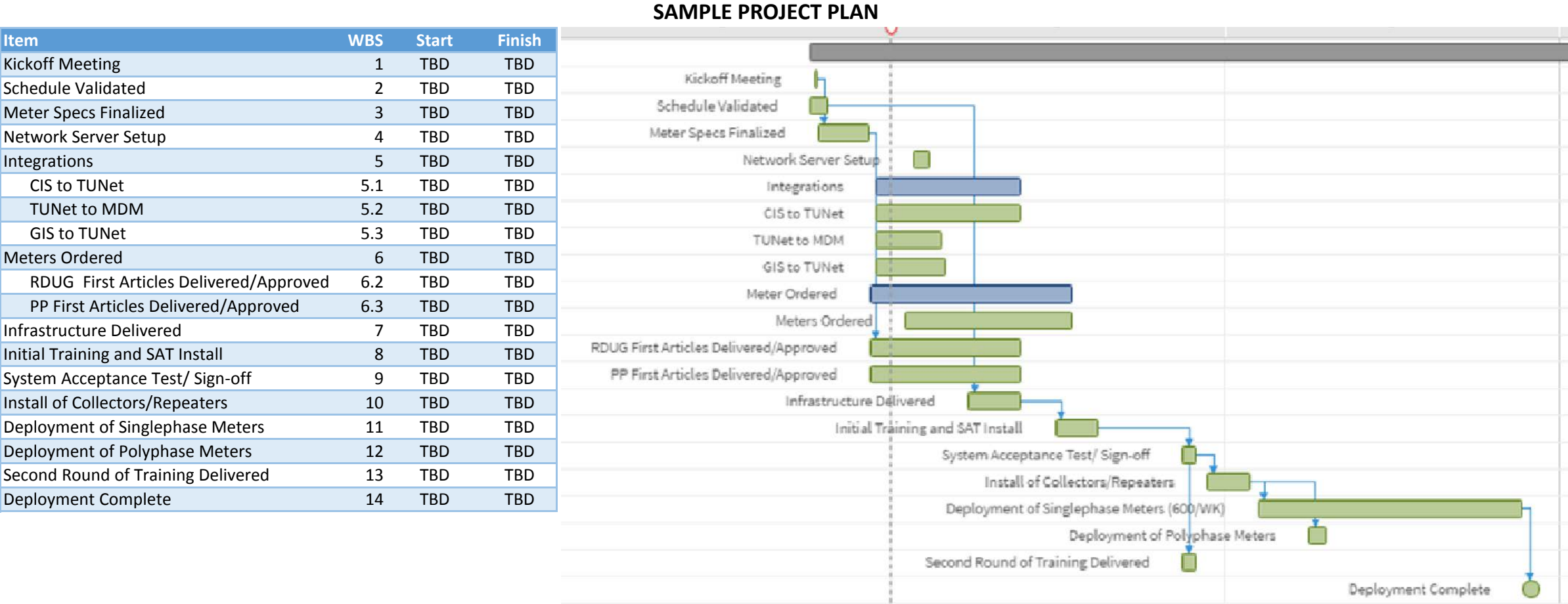
Tantalus offers TRULight Intelligence, a full-featured lighting control solution that also takes advantage of the fact that street lights are widely-distributed and elevated, and so ideally placed to incorporate sensors and act as communication nodes in a smart community solution.

TRULight Intelligence provides monitoring and on/off/dim capabilities to standard LED streetlights, parking lights, security lights, and other lighting assets, substantially reducing lighting energy costs while increasing public safety and lighting asset life by “right-sizing” the amount of illumination according to vehicle & pedestrian traffic and other factors. The browser-based lighting management software provides lighting and health analytics, flexible grouping and lighting profile capabilities, integrated geospatial information and a workflow maintenance management system.

A variety of sensors are available to monitor traffic, noise and air quality. These help municipalities to direct emergency services, manage traffic, and plan future investments that will enhance the safety and quality of life for their citizens.

In addition, most TRULight Intelligence lighting controllers are able to read many common types of electricity, water and gas meters, providing further cost efficiencies for the municipality.

Below is a sample project plan. In collaboration, we will develop a plan based on the specifics of the deployment and further detailed as needed after the Kickoff Meeting. The final plan will be mutually agree to.



TUNet® CONTROL CENTER... now with Insight

Smart Grid command & control center for the Tantalus Utility Network



The TUNet® Control Center (TCC) is a high-performance, multi-application software suite that emphasizes at-a-glance analytics for pro-active and responsive users alike. Its role-based user interface focuses on key performance indicators (KPIs) essential to advanced meter infrastructure (AMI) management.

Built for full smart grid functionality, the TCC supports AMI, distribution automation (DA), demand response (DR) and remote functionality.

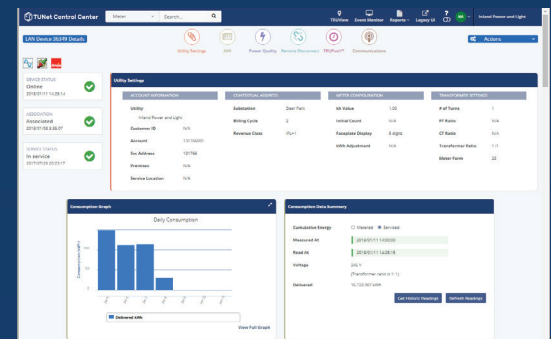
The TCC supports any combination of hosted or onsite virtual systems, and hardware appliances. The system can be scaled to meet the operational needs of single or multi-commodity enterprises, making the investment manageable for utilities of all sizes. Remote functionality, which allows technicians to configure and maintain meters, update device firmware, add softkeys and access other device-specific capabilities, delivers further reductions in operational costs. Billing-related functions, such as remote disconnect/reconnect and service limiting, make it possible to transfer costly truck roll tasks to CSRs at a fraction of the cost.

The TCC is a central repository for data collected from TUNet-enabled meters and network devices. The TCC also seamlessly bridges TUNet devices with back office applications, making it easy to integrate with third-party applications. Data is delivered using industry standards such as MultiSpeak and CMEP for hassle-free integration with applications such as MDM, OMS, Prepay and SCADA.

High reliability can be achieved through Tantalus hosting or hardware redundancy with virtual machine (VM) infrastructure. Insight uses a web browser to securely display consumption, network status, outage alerts and other operational data. With immediate access to valuable infrastructure data, utilities can make insightful, timely and beneficial operational and business decisions.

Tantalus has re-designed the TCC interface to ensure maximum user productivity. In just three clicks, a user can go from the macro system view to the micro device view. The intuitive design makes the interface easy to use with the shortest possible path to vital information. The system is highly configurable, giving users control over what they see and when.

Easy access to timely interval data and alerts enable close monitoring. Insight displays detailed device data including power quality, voltage and outage/restoration status in a user-friendly web browser. Staff can perform on-request reads, view consumption and monitor network performance. All this data makes it possible to provide more consistent, reliable service to customers. ***TUNet Insight puts power in the hands of the utility.***

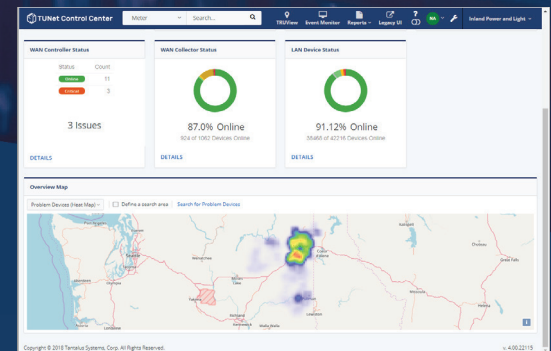
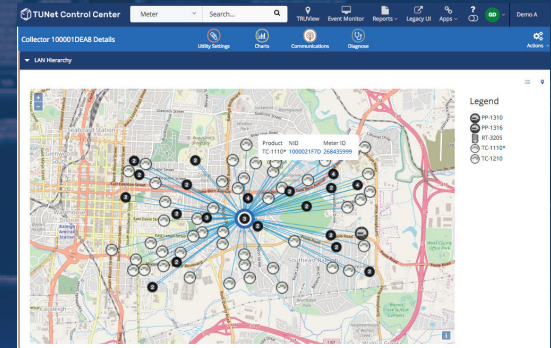


TUNet® CONTROL CENTER

Smart Grid command & control center for the Tantalus Utility Network

TANTALUS ADVANTAGES

- Scalable and capable of supporting more than a million meters
- Pushes event-driven outages to the TCC, which sends email notifications to on-call staff
- Alerts staff to alarms, outages, voltage swells, sags and blinks at a glance
- Displays key performance indicators on the home page
- Facilitates optimum response time and improved customer service through real-time data
- Pushes meter data in intervals, providing CSRs and consumer portals with accurate and up-to-date consumption details
- Supports advanced smart grid functionality including AMI, demand response, distribution automation, remote disconnect, service limiting and load management
- Offers meter data management capabilities (e.g., consumption history, ambient temperature)
- Provides data for multiple departments (engineering, operations, customer service) and/or utilities (electric, water, gas)
- Supports multi-tenant capabilities, allowing utilities to host other utilities
- Uses responsive design to support multi-monitor displays as well as tablets for mobile access
- Supports over-the-air programming so devices can be updated remotely
- Search results can be sorted, filtered and re-arranged to produce custom reports that can be exported as PDF, PNG or CSV
- Presents data in detailed graphs, charts and diagrams that can be customized through filters and by date range, with the option to export as PDF, PNG and CSV
- Maintains a central repository for all data collected from endpoints
- Offers configurable backup options to ensure high data redundancy



Integration / Standards

- Interfaces with a variety of third-party applications including OMS, LMS, GIS, SCADA
- Integrates with engineering, billing, prepayment, MDM, and customer service applications using standards such as MultiSpeak 3, 4.1, CMEP, MDMR and more
- SELinux (Security Enhanced Linux) operating system
- SQLite
- DNP 3.0



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VERSACOMMS GATEWAY

VC-93x Broadband IP Gateway



VC LAN CAPACITY COMPARISON

MODEL	VC-931	VC-932	VC-934
MAX LAN SIZE*	250	500	1,000
MAX ERT ENDPOINTS*	6,000	12,000	24,000

*Maximum capacity of TUNet® or ERT® devices;
*Actual max capacity is dependent on LAN mode/density

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

The VersaComms Gateway product line serves as a core Tantalus backbone for Smart Grid applications including AMI, Demand Response, and Distribution Grid Optimization. Its mix-and-match modular design allows utilities to customize each device with the optimal mix of WAN/FAN/LAN communications.

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

The VersaComms Gateway product series is the most versatile TUNet® gateway available. It provides lightning-fast connectivity and virtually limitless SmartGrid scalability.

The VersaComms Gateway includes a low voltage power delivery system used for power provisioning and backup for externally-mounted telecommunications equipment such as ONTs (Optical Network Terminals), Ethernet routers, WiMAX, cable routers, and UPS modules.

UTILITY ADVANTAGES WITH TUNet® VERSACOMMS GATEWAY

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

LAN Radio	Physical	Environmental
• Frequency range: 902 - 928 MHz; unlicensed • Transmitter power: 1.0 watts (EIRP +33 dBm) • Antenna: Up to 4 chassis-mounted, 1 internal	• Dimensions: 18"H x 12"W x 8"D (46cm H x 31cm W x 20cm D) • NEMA 4X construction	• Operating temperature: -40F to +149F (-40C to +65C) when installed with optional extended temp range battery • Humidity: 5% to 95%
	Auxiliary Load Supported • 20 - 30 W at 11 - 15 VDC	
Power Input	Battery Uptime without Auxiliary Load	Alarms/Indicator Options
• Supply: 90 to 305 VAC at 50/60 Hz • Quiescent consumption: 6-18 watts steady state • Battery backed up for receiving extended outage reports	• 6 - 16 hours	• Power Outage • Discreet External Power Indicator • Low Battery (future) • Tamper/Cover Open (future)
	Battery Uptime at Max Auxiliary Load • 3 hours	

LAN ROUTER

TR-1901 Omni-directional 900 MHz network repeater



The TR-1901 LAN Router extends the reach of the TUNet® 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 Router 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 TUNet®-enabled endpoints as well as with Itron ERT® and Badger Orion® modules.

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

TANTALUS ADVANTAGES

- 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 Radio	Power Input	Approvals/Standards
• Frequency range: 902 – 928 MHz; unlicensed • Transmitter power: 0.9 watts (+29.5 dBm) • Antenna: 5 dBi external omni-directional	• Supply: 100 to 240 V at 50/60 Hz • Quiescent consumption: 4 watts	• FCC for CFR Title 47 Part 15b • NEMA 3R enclosure
Physical	Environmental	
• 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)	• Operating temperature: -22°F to +149°F (-30°C to +65°C) • Humidity: 5% to 95% non-condensing	

Training

Tantalus recognizes the value of knowledge transfer to a successful deployment. Years of experience have taught us that training need to be provided throughout the project in both formal and informal settings. Knowledge transfer starts from the very beginning of project kick-off. Tantalus will familiarize the utility team members with basic information and an overview of the Tantalus TUNet system, technology, and operational concepts to ensure a baseline for everyone involved in the project. This is followed by an extensive training program conducted at the early stages of project deployment utilizing your own Tantalus TUNet network and equipment. Additional training is provided further into the deployment.

The training sessions are flexible and can be broken up into multiple sessions, depending on the required participants. Below is a sample schedule.

Training Outline
Day 1 - Utility Operations/Billing Training
a. TUNet Theory of Operation b. TUNet Utility Web Application Overview c. Remote Disconnects d. Billing and MVRs e. Contextual Addressing and CIS Integration
Day 2 - Deployment Training
a. Deployment Management & Planning b. Endpoints/Meters Overview and Tools c. Network - Account and Company Admin d. Network WAN - Managing the WAN e. Network WAN - Troubleshooting the WAN f. Network LAN - Managing the LAN g. Network LAN - Troubleshooting the LAN h. Network - Dashboard i. Utility - Configuration
Day 3 - Operation and Maintenance
a. Periodic Maintenance Activities b. TRUView GIS Q&A and Discussions: a. Business-Line discussion b. Engineering Analysis c. Technical Support/Tantalus Team Room d. Future items, General Topics, Q&A

In addition to the training provided during implementation, Tantalus provides other opportunities for training and education.

The annual TUNet User Conference provides an extensive selection of instructional and discussion-based sessions which are designed based on feedback from our current customers. They focus on the topics that you want to learn about, in addition to providing valuable information on future enhancements.

In March 2016, Tantalus launched Tantalus University™, a comprehensive training and certification series available to TUNet Users. Tantalus University is designed to provide a full range of advanced training opportunities for TUNet Users across all utility departments. These valuable training courses will ensure that Users are able to maximize value from TUNet AMI investments, optimize system performance, and enhance technical skillsets. Class sizes are limited to ensure that students receive very focused and personalized training. Students who successfully complete Tantalus U courses will be endorsed as Certified TUNet Users. Completion of a Tantalus U Course is currently the only way to receive this designation. A typical agenda for one of the courses is provided below.



NETWORK ADMINISTRATION COURSE AGENDA	
Monday	
8:30 am – 9:30 am	Introduction to TUNet® : Architecture, Evolution & Philosophy, Scalability, Security, IoT Roadmap
9:30 am – 9:45 am	Break
9:45 am – 10:45 am	Key TUNet Concepts : Glossary of Terms, Network Formation, Network Hierarchy, Status, Performance, LAN Modes v. Hardware Revisions
10:45 am – 11:00 am	Break
11:00 am – 12 noon	TCC Essentials : Architecture, ORACLE®, TCC Backup Procedures, Fault Tolerance, Site Requirements, Key System Processes, Time Propagation, Device Authentication
12 noon – 12:30 pm	Lunch served
12:30 pm – 1:30 pm	220 MHz WAN Fundamentals : Fundamentals, Performance, Architecture, Baud Rate Management, Latency Expectations, Recommended Deployment Procedure
1:30 pm – 1:45 pm	Break
1:45 pm – 2:45 pm	220 MHz WAN Base Station : WAN Controller Health Monitoring, WAN Improvements, WAN Collector Health Monitoring, Advanced NC Troubleshooting
2:45 pm – 3:00 pm	Break
3:00 pm – 4:00 pm	220 MHz WAN Collector Deployment : WAN Collector Architecture, Association, Configuration, Deployment, LED Diagnostics, Redeployment Considerations
Tuesday	
8:30 am – 9:30 am	IP WAN Essentials : Collector Types, IP Planning, Association, Security, Firewall Settings, Configuration, Troubleshooting, Latency Expectations

9:30 am – 9:45 am	Break
9:45 am – 10:45 am	IP WAN Collector Deployment : Association Overview, Programming Using DT-400, Deployment Considerations, Using Cellular Backhaul, Post-Installation Checklist
10:45 am – 11:00 am	Break
11:00 am – 12 noon	900 MHz LAN Essentials : FCC Guidelines and Considerations, LAN Mode Evolution, LAN Modes 5 and 6, TUNet LAN Messaging, Contextual Addressing
12 noon – 12:30 pm	Lunch served
12:30 pm – 1:30 pm	900 MHz LAN Association : LAN Portal Association, LAN Device Association, Beacons v. Deployment Mode (LAN Mode 0), Association Validation Rules, Association Failure Types, Remediating Association Issues, Association History
1:30 pm – 1:45 pm	Break
1:45 pm – 2:45 pm	900 MHz LAN Re-association : Types of Re-association, Conditions for Re-association, Managing LAN Modes, Reasons for Re-association and Associated Remediation, Common Misconceptions
2:45 pm – 3:00 pm	Break
3:00 pm – 4:00 pm	WAN Troubleshooting : Metrics to Monitor, WAN Controller Health, Testing WAN Communications, LAN Device Status Messages and Related Actions, Reporting Status Types and Related Actions, Association Status Types Related Actions, Testing LAN Communications

NETWORK ADMINISTRATION COURSE AGENDA

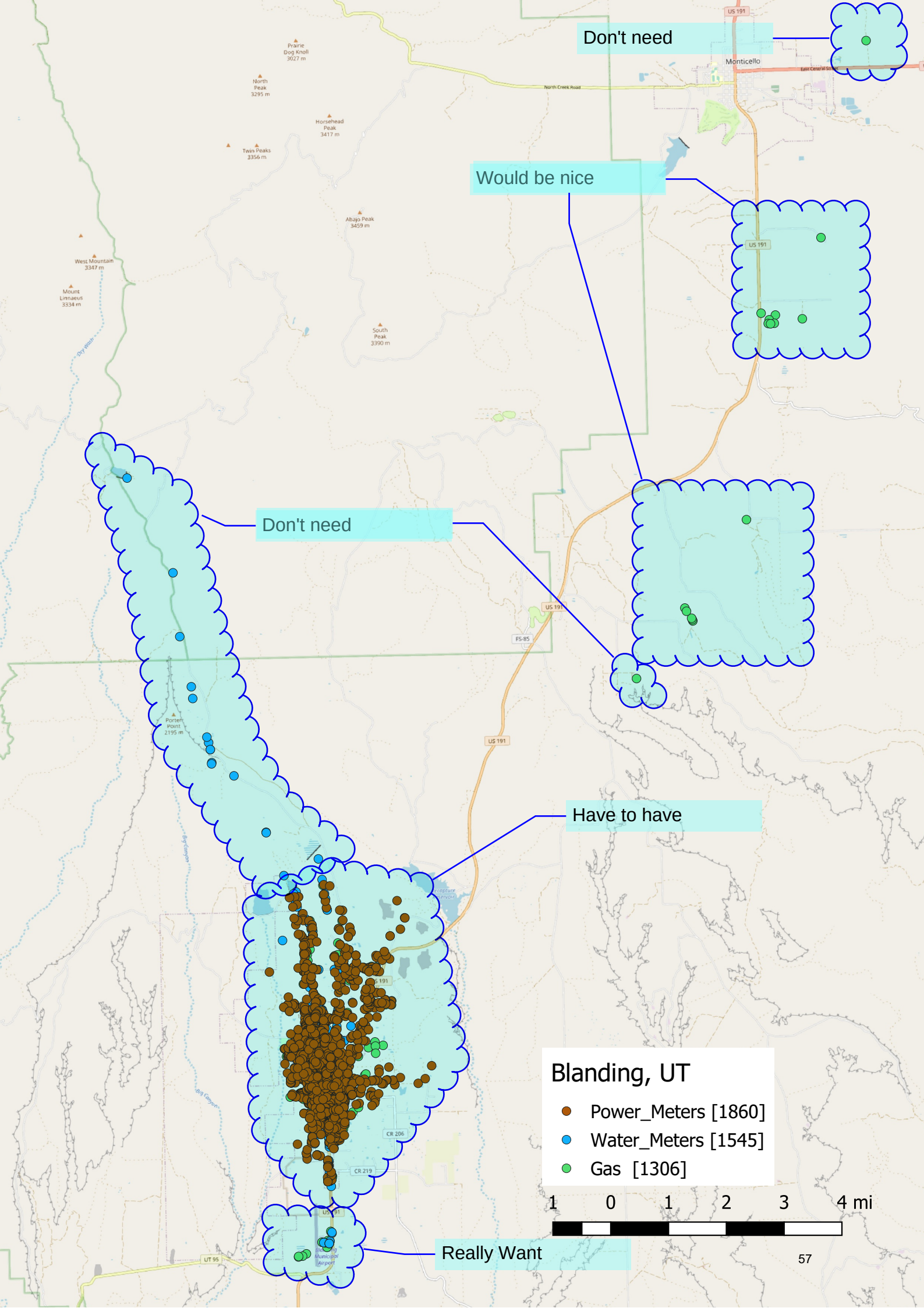
Wednesday

NOTE: This session is interactive. For best results, attendees will need a laptop and remote access to their TRUView system.

8:30 am – 9:30 am	Introduction to TRUView™ : What is TRUView, How it Works, Placing Devices Manually and Through Import
9:30 am – 9:45 am	Break
9:45 am – 10:45 am	TRUView™ Screen Functions : Panning and Zooming, Display Panes (WAN Status, Problem Devices, Filters and Colors, Search, Current Selection), Selectable Objects, Current Selection Icons, Tools Icons
10:45 am – 11:00 am	Break
11:00 am – 12 noon	Working with Display Criteria : WAN Device Filters and Colors (devices, capacity, PER, SNR, Speed), LAN Device Filters and Colors (devices, LAN portals, other devices, ERT support, demand response, remote disconnect, MRR, downstream signal quality, latency), LAN Links, ERT Device Filters and Colors (devices, categories, MRR, tamper status, tracking status, latency, link quality), ERT Links, LAN Device Status Filters
12 noon – 12:30 pm	Lunch served
12:30 pm – 1:30 pm	TRUView™ Troubleshooting Part 1: Working with Problem Devices, Troubleshooting Approach, Real Life Troubleshooting Examples, Navigating the Network Hierarchy
1:30 pm – 1:45 pm	Break
1:45 pm – 2:45 pm	TRUView™ Troubleshooting Part 2: Working with Problem Devices, Troubleshooting Approach, Real Life Troubleshooting Examples, Navigating the Network Hierarchy
2:45 pm – 3:00 pm	Break
3:00 pm – 4:00 pm	TRUView Data Interfaces : ODBC v. WMS/WFS, Importing Geolocation Data, Proper Methodology for Keeping TRUView Current, Third-Party GIS Integration

Thursday

8:30 am – 9:30 am	Maintenance Procedures : Recommended Maintenance Procedures (daily, weekly, monthly, quarterly, annually), Password Management
9:30 am – 9:45 am	Break
9:45 am – 10:45 am	Outage Reporting : Detection, Blink Reporting, Outage Reporting, Restoration Reporting, Impact of Network Topology, Performance, Grid v. Network Hierarchy, Filtering Options, Notification Options, OMS Integrations, Key Benefits
10:45 am – 11:00 am	Break
11:00 am – 12 noon	Endpoint Troubleshooting : Top Down Approach to Troubleshooting Devices with Missing Readings (or non-Responsive), Association Issues, Impacts on WAN Capacity, Poor Collector Performance, Using LEDs and LCDs on TUNet LAN Devices, Range Considerations
12 noon – 12:30 pm	Lunch served





POWER WEST
ENGINEERING



Blanding City, Utah

Tantalus/Itron - ERT Overlay - Data Base Hosted by Tantalus

TUNet Equipment and Services		Really Want		
TUNet WAN/LAN Equipment		Quantity	Unit Price	Ext. Price
	VC-931 Versa Collector	1	\$ 2,302.65	\$ 2,302.65
	VC-934 Versa Collector	2	\$ 4,400.00	\$ 8,800.00
	VC-820 Cellular Modem	3	\$ 1,496.72	\$ 4,490.16
	TR-1901 Pole Mounted 900MHz LAN Repeater	7	\$ 396.71	\$ 2,776.97
	DT-116 Centron Reset Key	1	\$ 41.76	\$ 41.76
	DT-400-VM-BUN Programming Kit	1	\$ 1,957.25	\$ 1,957.25
TUNet Infrastructure Sub Total				\$ 20,368.79
TUNet Endpoint / Meter				
	Itron CENTRON® Meter, Tantalus TUNet Installed C1SX Form 2S, CL200, 240V Residential Meter, Includes TC-1220 Tantalus Module and NSE -201 End Point License	0	\$ 150.00	\$ -
	Itron CENTRON® Meter, Tantalus TUNet Installed C2SXD Form 2S, CL200, 240V, with Remote Disconnect Residential Meter, Includes TC-1220-RD Tantalus Module and NSE -201 End Point License	300	\$ 225.00	\$ 67,500.00
Endpoint and Meter Sub Total				\$ 67,500.00
TUNet Server & Software				
	SV-4001 Tantalus Annual Database Hosting - Year 1 Only	1	\$ 3,600.00	\$ 3,600.00
	TCC-2001 TUNet Control Center Head End Software	1	\$ 41,400.00	\$ 41,400.00
	TAL-400-1 TUNet Application Existing Electric ERT Readg - One Time	1560	\$ 2.40	\$ 3,744.00
	TAL-410-1 TUNet Application Existing Water/Gas ERT Read - One Time	2798	\$ 2.40	\$ 6,715.20
Server and Software Total				\$ 55,459.20
TUNet System Services				
	SV-1000 Deployment Services, daily rate (Project Management, Project Engineering, Field Services, Deployment, Training, Travel Expenses, does not include meter /RT/ collector installation)	1	\$ 44,320.00	\$ 44,320.00
TUNet System Services Sub Total				\$ 44,320.00
Tantalus Project Grand Total - Full Deployment			\$	187,647.99

TUNet System Annual Fees - Starting Year 2 of Deployment (Billed by Tantalus)				
	SM-4000 Annual Maintenance TUNet ERT Read (Based on List Price)	1	\$ 2,633.00	\$ 2,633.00
	SM-2001 NS-2001 TUNet software maintenance, 1 yr, X-class Includes all annual Tantalus & 3rdparty licenses	1	\$ 4,200.00	\$ 4,200.00
	SL-1001 Service Level, Standard - Maintenance and Support (<16,000 meters) TCC-2001	1	\$ 6,250.00	\$ 6,250.00
	SV-4001 TCC Hosting Services (TCC-2001 Platform) - Annual	1	\$ 3,600.00	\$ 3,600.00
GRAND TOTAL - TUNet System Annual Fees				\$ 16,683.00

Optional Project Product, Software, and Services

Itron / Tantalus Meter Options	QTY	Price	Ext. Price
Itron C2SXD 2S CL200 240V w/ Disconnect w/ Tantalus Module & License Installed	1	\$ 225.00	\$ 225.00
Itron C2SXD 12S CL200 240V w/ Disconnect w/ Tantalus Module & License Installed	1	\$ 300.00	\$ 300.00
Itron C2SX, FM2S, CL200, 3 Wire, 240V Meter w/ Tantalus Module & License Installed	1	\$ 190.00	\$ 190.00
Itron C2SX, FM2S, CL320, 3 Wire, 240V Meter w/ Tantalus Module & License Installed	1	\$ 235.00	\$ 235.00
Itron C1SX 2S CL200 240V w/ Tantalus Module & License Installed	1	\$ 150.00	\$ 150.00
Itron C1SX 2S CL320 240V w/ Tantalus Module & License Installed	1	\$ 220.00	\$ 220.00
Itron C1SX 3S w/ Tantalus Module & License Installed	1	\$ 220.00	\$ 220.00
Itron C1SX 4S w/ Tantalus Module & License Installed	1	\$ 220.00	\$ 220.00
Itron C1SX 12S w/ Tantalus Module & License Installed	1	\$ 220.00	\$ 220.00
Itron Centron Poly 3 - 9S w/ Tantalus Module & License Installed	1	\$ 485.00	\$ 485.00
Itron Centron Poly 3 - 14S w/ Tantalus Module & License Installed	1	\$ 485.00	\$ 485.00
Itron Centron Poly 3 - 15S w/ Tantalus Module & License Installed	1	\$ 485.00	\$ 485.00
Itron Centron Poly 3 - 16S CL200 w/ Tantalus Module & License Installed	1	\$ 485.00	\$ 485.00
Itron Centron Poly 3 - 16S CL320 w/ Tantalus Module & License Installed	1	\$ 485.00	\$ 485.00
Minimum Order Quantity is 4 Meters (1Box)			

Pricing Notes & Assumptions:

Itron ERT - Assumed that all are R300/R400 on elec and 60 and/or 100W on water and/or 100G on gas.

Prices are in US Dollars and are exclusive of taxes, duties, freight, or insurance.

Price does not include shipping. All products are shipped FOB Origin.

Tantalus service time billed on milestones. If additional days are necessary, customer will be billed at the rate of \$1,500 per day.

Tantalus' pricing and technical responses are subject to due diligence, finalization of work scope, project schedule and negotiation of mutually acceptable terms and conditions

We are willing to discuss all reasonable alternatives.

Our offer is based on the Tantalus Network Systems Agreement.

This quotation may contain allowances, discounts and / or promotional pricing. Prices quoted are valid for 90 days from the date of this quote.

Additional equipment purchases and services shall be invoiced at Tantalus's then current List Price unless parties agree to alternative pricing.

With the exception of meters, modules, and ERTS shipped by Itron, prices do not include shipping. All products are shipped FOB Origin.

Tantalus Standard Terms and Conditions apply.

Annual System Support is available in both Premium and Standard Level.

Meter pricing assumes the client will purchase meters with integrated TUNet modules directly from Itron representative - Power West Engineering

Support and Maintenance prices subject to increase as more applications are added in the future.

Service time does not include installation of meters, collectors, repeaters, or other infrastructure equipment.

Tantalus' network is designed to provide full connectivity and is based on customer supplied site location data.

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

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

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

Pricing. The prices provided to Customer under the Quotation attached to these Terms may contain promotional or one-time pricing. Future prices shall be as set forth on Power West Engineering / Tantalus' then current price list and do not include taxes. In addition, Tantalus shall bear the costs and charges to ensure that all Network Equipment purchased by Customer is cleared for importation into the United States, if applicable, and delivered to the Shipping Point. Customer will be responsible for and pay all applicable federal, state, municipal or other governmental sales use, excise, value-added taxes, occupational or other taxes, tariffs, duties and surcharges now in force or enacted in the future which are associated with the provision of Network Equipment and Services by Tantalus, excluding taxes on Power West Engineering / Tantalus' income generally. The price of Maintenance and Support Services shall be as set forth in Addendums B-2 to that certain Maintenance and Support Agreement dated _____ by and between Power West Engineering / Tantalus and Customer. in

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

Payment. Customer agrees to pay an advance payment (the "Deposit") equal to twenty-five percent (25%) of the total purchase price of the Network Equipment and Services specified on each Purchase Order. The Deposit will be due and payable, notwithstanding the absence of the applicable Tantalus' / Power West Engineering invoice, within ten (10) days of the date of the Tantalus' / Power West Engineering order acknowledgement issued in connection with an accepted Purchase Order. Failure to pay the Deposit by such due date shall result in the cancellation of the Purchase Order by Power West Engineering / Tantalus, without requirement

for any further action, or notice to Customer, by Power West Engineering / Tantalus. Notwithstanding the foregoing, if Customer places a single blanket Purchase Order that is at least 12 months in duration and represents greater than thirty percent (30%) of their total customer base, the Deposit amount will be reduced to ten percent (10%) on that Purchase Order are also at least 12 months in duration and greater than thirty percent (30%) of their total customer base.

Payment Terms. Power West Engineering / Tantalus shall invoice Customer for Network Equipment and Services purchased upon delivery of Services and such Network Equipment to Customer at the Shipping Point. Deposit amounts paid will be reflected as a credit to the total purchase price due and owing upon delivery completion of the total Purchase Order. Payment terms are net thirty (30) days from date of Power West Engineering / Tantalus' invoice. All payments shall be in U.S. dollars, unless otherwise agreed to between Power West Engineering / Tantalus and Customer. In addition to any other remedies Power West Engineering / Tantalus may have for late payments, Customer will be charged interest at 1½% per month (equivalent to an annual rate of interest of 18%), payable monthly on all overdue amounts.

Customer shall also be responsible for collection costs associated with the late payment, if any, including reasonable attorney's fees. Payments will be applied first to interest payable and then principal owing. Power West Engineering / Tantalus may modify the preceding payment terms if, in its reasonable opinion, the payment record or financial condition of Customer so justifies. Power West Engineering / Tantalus shall issue periodic invoices to Customer for all Maintenance and Support Services and Third-Party Products, as applicable, in accordance with the terms set forth in the Maintenance and Support Agreement as fees for such goods and services are incurred.

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

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

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

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

Confidentiality. Each party shall treat as confidential all Confidential Information of the other party, shall not use such Confidential Information except as expressly set forth herein or otherwise authorized in writing, shall implement reasonable procedures to prohibit the disclosure, unauthorized duplication, misuse or removal of the other party's Confidential Information and shall not disclose such Confidential Information to any third party except as may be necessary and required in connection with the rights and obligations of such party under these Terms, and subject to confidentiality obligations at least as protective as those set forth herein. Without limiting the foregoing, each of the parties shall use at least the same procedures and degree of care which it uses to prevent the disclosure of its own confidential information of like importance to prevent the disclosure of Confidential Information disclosed to it by the other party under these Terms and Conditions, but in no event less than reasonable care. The receiving party will not commingle or mix the other party's Confidential Information with other information.

Authorized Disclosure. In addition, each party shall be entitled to disclose the other party's Confidential Information to the extent such disclosure is necessary to comply with reporting requirements for public companies and as requested by the order or requirement of a court, administrative agency, or other governmental body; provided, that the party required to make the disclosure shall: (i) provide prompt, advance notice thereof to enable the other party to seek a protective order or otherwise prevent such disclosure; and (ii) seek treatment of the Confidential Information to the highest level of protection afforded under relevant laws and policies.

Remedies. If either party breaches any of its obligations with respect to confidentiality, or if such a breach is likely to occur, the other party shall be entitled to all relief, remedies and recourses available at law or in equity. In addition to all other remedies available at law and at equity, the other party shall be entitled to seek specific performance or a restraining order, decree or injunction.

Warranty. With respect to new Network Equipment, for a period of one (1) year from the date of shipment of each unit of Network Equipment to Customer from Shipping Point, Power West Engineering / Tantalus warrants that: (i) each unit of Network Equipment will be free from defects in material, workmanship and manufacture under normal use and service, (ii) title to each unit of Network Equipment shall be free and clear of all liens, financial encumbrances and security interests,

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

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

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

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

Relief for patent and copyright matters. Power West Engineering / Tantalus, at its expense, shall defend any court suit brought against Customer by a third party alleging that units of Network Equipment purchased by Customer infringe US or Canadian patent or copyright. Tantalus' obligation to defend is effective only if Customer is not in breach of any of these Terms and of any other agreement between the parties, and if Power West Engineering / Tantalus is notified promptly and given complete information, assistance and authority by Customer to conduct the defense. If any unit of Network Equipment: (a) is adjudicated by a court of competent jurisdiction after appeals therefrom are exhausted, as infringing any US or Canadian patent or copyright or has its use enjoined by such court, Tantalus will, at its election: (i) procure for the Customer the right to continue using said unit; (ii) replace it with non-infringing and functional equivalent; (iii) modify it to become non-infringing; or (iv) if none of the aforementioned options are reasonably available, refund to Customer all amounts paid for the infringing Network

Equipment, Power West Engineering / Tantalus' obligation to defend sole right to settle. Power West Engineering / Tantalus' obligation to defend does not apply to the following: (A) Network Equipment based on a design, specifications or instructions supplied or requested by Customer; (B) use of Network Equipment in combination with any other hardware or software not provided by Power West Engineering / Tantalus, if infringement would not have occurred but for such combination; (C) use of any release of Licensed Software or any firmware other than the most current release made available to Customer; (D) use of Network Equipment other than as permitted under these Terms, or as intended by Power West Engineering / Tantalus, if the infringement would not have occurred but for such use; or (E) modifications made to Network Equipment not made by Power West Engineering / Tantalus or approved by Power West Engineering / Tantalus. The foregoing states Power West Engineering / Tantalus' entire liability with respect to intellectual property infringement by any unit of Network Equipment.

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

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

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

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

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

Termination. Either party may terminate these Terms effective upon the delivery of written notice of such termination to the other party, if the other party: (i) becomes insolvent, is generally not paying its debts as such debts become due, makes an assignment for the benefit of creditors, is the subject of any voluntary or involuntary case commenced under the federal bankruptcy laws, as now constituted or hereafter amended (which, in the case of involuntary bankruptcy, is not dismissed within 30 days), or of any other proceeding under other applicable laws of any jurisdiction regarding bankruptcy, insolvency, reorganization, adjustment of debt or other forms of relief for debtors, has a receiver, trustee, liquidator, assignee, custodian or similar official appointed for it or for any substantial part of its property, or is the subject of any dissolution or liquidation proceeding; (ii) breaches its obligations related to confidentiality; or (iii) is in default in any material respect in the performance of any its obligations under of these Terms, provided

that the party not at fault has given the other and such other party has not a default; provided however if the defaulting party is Customer and such default is attributable to or includes Customer's failure to pay any amount when due, then the aforementioned 45-day cure period will be reduced to five (5) days. Either party may terminate these Terms, at any time and for any reason, on ninety (90) days' prior written notice to the other party, provided however that if terminated by Customer, Tantalus shall take commercially reasonable efforts to cancel any deliveries to Customer which are scheduled to be made after the termination date. Customer shall be responsible for actual costs reasonably incurred in performing before termination, including the cost of Network Equipment released or received by Customer, or that has been shipped within 45 days, prior to the date of the notice. Prior to the effective termination of these Terms, all of the terms and conditions of, and the respective rights and obligations of the parties to, these Terms will remain completely valid and enforceable; provided however that, in the event Tantalus terminates these Terms for cause, then any deliveries of Network Equipment and Services to Customer which are scheduled to be made subsequent to the effective date of termination shall be cancelled. Termination is not the sole remedy available under these Terms and, whether or not termination is affected; all other legal remedies will remain available. Notwithstanding anything to the contrary in these Terms, no expiration or termination of these Terms by either party shall affect (A) any rights or obligations of either party: which are vested pursuant to these as of the effective date of such expiration or termination, and (B) any other provisions intended by the parties to survive such expiration or termination including, but not limited to, Purchase Orders accepted pursuant to these Terms.

Dispute Resolution. Except for Disputes related to nonpayment or as otherwise provided in this Section, neither Party shall resort to formal litigation proceedings until the Parties have attempted to resolve the Dispute through non-binding mediation. The Party raising a Dispute shall submit to the other Party a written notice and supporting material describing all issues and circumstances related to the Dispute (a "Dispute Notice"). A designated senior management representative of each Party shall attempt to resolve the Dispute. If the Parties' Representatives fail to resolve the Dispute within thirty (30) days from receipt of a Dispute Notice, the Dispute shall be referred to a mediator in the jurisdiction provided for in these Terms as mutually agreed between the Parties. The Parties covenant that they will use commercially reasonable efforts in participating in the mediation. The Parties agree that the mediator's fees and expenses and the costs incidental to the mediation will be shared equally between the parties. The Parties further agree that all offers, promises, conduct, and statements, whether oral or written, made in the course of the mediation by any of the Parties, their agents, employees, experts, and attorneys, and by the mediator and any employees of the mediation service, are confidential, privileged, and inadmissible for any purpose, including impeachment, in any litigation, arbitration or other proceeding involving the parties, provided that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in the mediation. If the Parties cannot resolve any Dispute for any reason, including, but not limited to, the failure of either party to agree to enter into mediation or agree to any settlement proposed by the mediator, within thirty (30) days after the later of the referral to a mediator or the mediation proceeding, either Party may file suit in a court of competent jurisdiction in accordance with these Terms. These Terms shall not be construed to prevent a Party from instituting litigation proceedings earlier than as indicated in these Terms to: (a) avoid the expiration of any applicable limitations period, (b) preserve a superior creditor position or (c) seek injunctive relief to prevent irreparable harm, including without limitation, harm caused by a breach of confidentiality obligations.

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

Severability. If any provision or term of these Terms is determined to be invalid or unenforceable, the invalidity or unenforceability of that provision or term will not affect the validity or enforceability of the remaining provisions and terms or the validity or enforceability of that provision or term in any other jurisdiction. Upon such determination that any term or other provision is invalid, illegal or incapable of being enforced, the parties hereto shall negotiate in good faith to modify these Terms so as to affect the original intent of the parties as closely as possible in an acceptable manner to the end that transactions contemplated hereby are fulfilled to the extent possible.

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

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

West Engineering / Tantalus and Customer waive trial by jury in any such suit, action or proceeding.

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

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

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

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

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

Definitions and Interpretation. "Affiliate" means, with respect to any Party, any legal entity that such Party owns, is owned by, or is under common control with such Party. For purposes of the foregoing definition of "Affiliate", the terms "control" and "own" mean possessing a 50% or greater interest in an entity or the right to direct the management of the entity. "Business Day" means any day that is not a Saturday, Sunday or a Power West Engineering / Tantalus authorized "holiday". "Confidential Information" of a party is information (in tangible or intangible form) that it owns or has license for, and discloses to the other party, that: (i) derives economic value, actual or potential, from not being generally known to, and is not readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its confidentiality; and includes technical information (such as formulas, data, programs, methods, techniques and processes), business information (such as information about finances, customers and potential customers, marketing plans and business strategies), and the terms of these Terms; but Confidential Information does not include information that the receiving party establishes:

(i) it developed independently; or (ii) was generally available to the public through no fault of its own; or (iii) was possessed by it before its receipt thereof from disclosing party; or (iv) was acquired from a third party without the breach of any confidentiality obligation; or (v) five (5) years after its disclosure, does not constitute a trade secret under relevant laws and policies. Confidential Information shall also include all notes, copies and summaries, in any media, and recollections of a receiving party of Confidential Information. "Destination" means Customer's designated destination point for the delivery of Network Equipment. "Dispute" means any dispute, controversy, difference or claim, arising under or in connection with these Terms, including its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims. "Excusing Event" means any (i) Force Majeure; (ii) failure, act or omission of Customer or its agents, employees, suppliers, subcontractors or consultants, including without limitation improper performance of Customer's responsibilities under these Terms, or unreasonable delay or failure of Customer to approve changes that are relevant to an applicable failure; (iv) failure, act or omission of any third party (including any third-party supplier) or its agents, employees, suppliers, subcontractors or consultants; or (v) failure of any components (hardware, software, network, maintenance) provided and/or maintained by Customer. "EULA" means **Definitions and Interpretation.** "Affiliate" means, with respect to any Party, any legal entity that such Party owns, is owned by, or is under common control with such Party. For purposes of the foregoing definition of "Affiliate", the terms "control" and "own" mean possessing a 50% or greater interest in an entity or the right to direct the management of the entity. "Business Day" means any day that is not a Saturday, Sunday or a Tantalus authorized "holiday". "Confidential Information" of a party is information (in tangible or intangible form) that it owns or has license for, and discloses to the other party, that: (i) derives economic value, actual or potential, from not being generally known to, and is not readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its confidentiality; and includes technical information (such as formulas, data, programs, methods, techniques and processes), business information (such as information about finances, customers and potential customers, marketing plans and business strategies), and the terms of these Terms; but Confidential Information does not include information that the receiving party establishes: (i) it developed independently; or (ii) was generally available to the public through no fault of its own; or (iii) was possessed by it before its receipt thereof from disclosing party; or (iv) was acquired from a third party without the breach of any confidentiality obligation; or (v) five (5) years after its disclosure, does not constitute a trade secret under relevant laws and policies. Confidential Information shall also include all notes, copies and summaries, in any media, and recollections of a receiving party of Confidential Information.

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For clarity, and notwithstanding anything to the contrary, the initial Deployment Services do not include integration or installation of field equipment i.e., meters, collectors, repeaters, etc., Third Party Products, or Maintenance and Support Services. integration to existing vendor supported interfaces are included in the initial Deployment Services. or the avoidance of doubt, custom services, including custom integration s between TUNet and Third-Party Products that are not existing vendor supported interfaces, are not included in the initial Deployment Services and are subject to additional fees and written agreement between Power West Engineering / Tantalus, Customer and any applicable third party in the form of a written change order. **"Licensed Software"** means all Tantalus software and firmware residing on, or provided in connection with, each unit of Network (equipment purchased under these Terms, together with all software documentation related thereto and any and all updates thereto. The terms and conditions of the (EULA will apply to the Licensed Software provided to Customer. **"Licensed Software Maintenance Services"** shall have the meaning ascribed to them in Addendum of the (EULA. **"Maintenance and Support Services"** means the recurring Licensed Software Maintenance Services and Technical Support provided by Power West Engineering / Tantalus to Customer pursuant to the Maintenance and Support Agreement dated entered by and between Power West Engineering / Tantalus and Customer. **"Network Equipment"** means the equipment manufactured by or for Power West Engineering / Tantalus for use as part of TUNet and its associated Licensed Software that are or will be under these Terms physically deployed in the Customers service territory. For clarity, Network Equipment does not include the system backhaul, network operations center, meters or any Third-Party Products. **"Purchase Orders"** means purchase orders issued, from time to time, by Customer to Power West Engineering / Tantalus pursuant to which Customer will purchase Network Equipment and Services in accordance with these Terms and Conditions of Sale. Each Purchase Order will be deemed to include these Terms, even if not specifically stated on the Purchase Order. **"Shipping Point"** means the designated depot or depots in North America selected by Power West Engineering / Tantalus as its shipping point for Network Equipment. **"Specifications"** means the design, performance and regulatory requirements for each Network Equipment, as such may be amended from time to time by Power West Engineering / Tantalus, which Specifications will assume and require the installation, maintenance and operation of such Network Equipment in accordance with the Standards. **"Standards"** means the applicable industry standards necessary for the proper installation, maintenance and operation of Network Equipment and TUNet, as may be amended from time to time by Power West Engineering / Tantalus, including, without limitation, the maintenance of a distribution system meeting industry standards with respect to grounding and power quality and the use of water pits for the installation of Network Equipment that properly drain and are not otherwise defective. **"Statement of Work (SOW)"** means a document that defines the scope of work to be completed, the timelines for the overall project, provides visibility into the interdependencies required, and will assist all parties in understanding and executing their respective roles, responsibilities and tasks to successfully deploy TUNet. Upon commencement of the initial Deployment Services, Power West Engineering / Tantalus and Customer will work cooperatively to develop and finalize a Statement of work. **"Technical Support"** means the technical support services described in the Maintenance and Support Agreement. **"Third Party Product"** means any products, software, materials, information or services that are manufactured, provided and/or licensed by, or otherwise proprietary to, a person or entity other than Power West Engineering / Tantalus. **"TUNet"** means Tantalus proprietary TUNet smart grid network provided by Tantalus pursuant to these Terms and does not include Third Party Products. **Interpretation Not Affected by Headings, etc.** The division of these Terms into sections and other portions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation hereof. **Number, etc.** unless the content otherwise requires, words importing the singular shall include the plural and vice versa and words importing any gender shall include all genders. **Date or Any Action**, in the event that any date on which any action is required to be taken hereunder by any of the parties hereto is not a Business Day, such action shall be required to be taken on the next succeeding day which is a Business Day.

Authorship. Authorship of these Terms will have no bearing on the construction of any terms hereof or ambiguities thereof.

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

AGREED and ACCEPTED:

Power West Engineering / Tantalus Systems Inc.

By: _____

Name: _____

Title: _____

Date: _____

Blanding City, Utah

By: _____

Name: _____

Title: _____

Email: _____

Date: _____