2025 PERFORMANCE MEASURES

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The color assigned for each measure is a subjective evaluation of both the quarterly results, shown in the quarterly squares as well as the year-to-date review for the calendar year compared to established targets, shown in the large box. The legend below provides general guidance for assigning colors.

- Positive performance - positive year review and exceeding quarterly expectation
- Improvement needed - concern about year review and less than quarterly expectation
- Adverse performance - negative year review and negative quarterly performance
- Data not available or no activity during the quarter

Performance Measure Title

Telephone Service Level (Customer Service Queue)

2025 Status			
Q1 ✓	Q2	Q3	Q4
Outlook: ✓			

Definition

Measures the timeliness of answering calls routed to the Customer Service queue and the effectiveness of department staff in terms of monitoring and managing the call queue. Staff strives to answer most calls within 120 seconds.

How Performance Measure is Computed

The performance measure is calculated by dividing the number of calls answered within 120 seconds by the total number of calls answered that month. The monthly percentage is graphed and analyzed on an XmR chart. Current central line and process limits are calculated based on data from June 2024 through March 2025. (For more information on XmR charts, see Appendix A.)

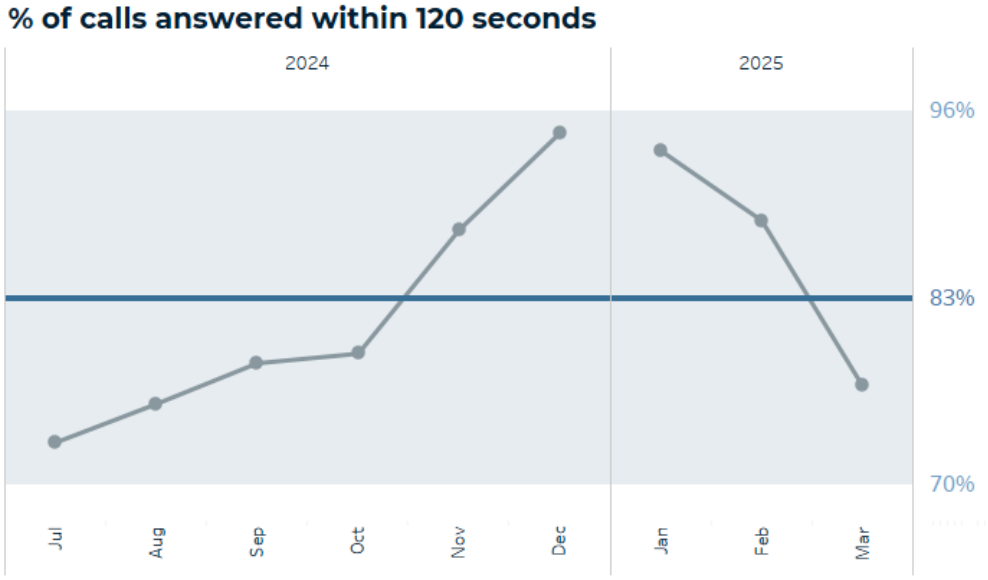
Performance Rating	
Green ✓	performance within limits, no unfavorable signal
Yellow △	showing an unfavorable signal, no action needed to correct
Red ✗	showing an unfavorable signal, action needed to correct

Performance Measure Objectives

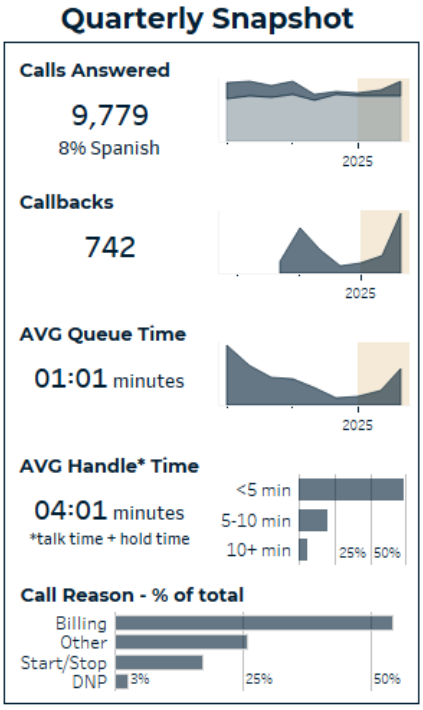
The current objective is to carefully monitor the Customer Service queue and maintain telephone service levels within normal limits amid evolving business practices. Managing the queue will allow staff to assess performance expectations and then set future goals that are informed and appropriate. Staff will also track and present supplementary phone queue data in addition to the XmR chart. While these additional metrics do not directly influence performance ratings, they provide valuable insights into aspects of the queue experience beyond call response times, helping to inform and refine future objectives.

Quarterly Performance Summary

The revised telephone service level was within normal limits during Q1. The central line is currently set at 83% with normal performance expected within ±13% of that. The rating for the quarter is green and the outlook is positive. Supplementary metrics showed an increase in all categories, primarily due to high bills and disconnects coming out of winter. The primary reason customers called was billing issues or questions.



Additional Comments
N/A



Responsible Manager: Annette Cobb Data Provider: Kristen Demory Report Date: 4/21/2025

Performance Measure Title

Electronic Payments

2025 Status			
Q1 ✓	Q2	Q3	Q4
Outlook: ✓			

Definition

Measures the percentage of total payments made to the District using electronic payment channels. Payment channels currently offered by the District include: Auto Pay, the SmartHub website and mobile application, the Integrated Voice Recognition (IVR) telephone system, Pay Now (one time payment via website), payment kiosks, and a customer's bank website. Providing multiple electronic payment channels is a customer convenience that can lead to increased satisfaction and further the District's efforts in customer engagement. Increasing the number of electronic payments can lower costs by reducing staff time and possible errors associated with manual processes.

How Performance Measure is Computed

Electronic payment percentage is calculated as the total number of electronic payments divided by the total number of all payments made that month. The monthly percentages are graphed and analyzed on an XmR chart. Current central line and process limits are calculated based on data from November 2023 through September 2024. (For more information on XmR charts, see Appendix A.)

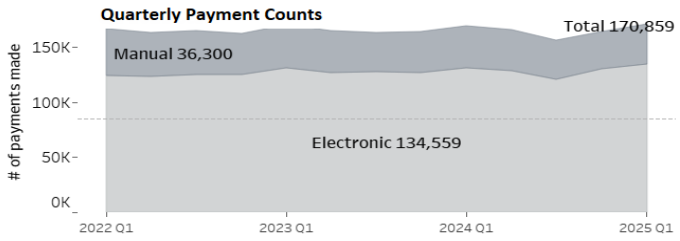
Performance Rating	
Green ✓	performance within limits, no unfavorable signal
Yellow △	showing an unfavorable signal, no action needed to correct
Red ✗	showing unfavorable signal, action needed to correct

Performance Measure Objectives

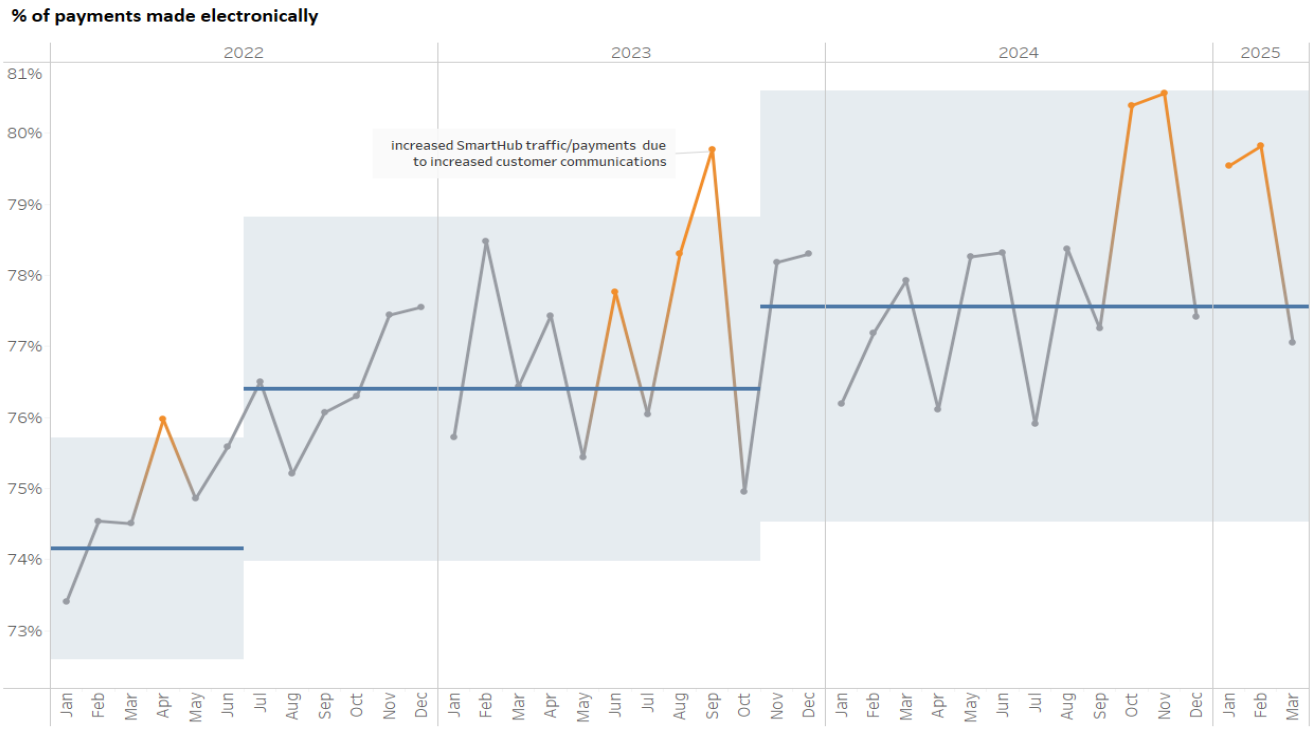
The current objective is to maintain performance within normal limits for at least six months. Customer adoption of several electronic payment channels is driving a continual upward trend that has repeatedly exceeded the upper limit. However, it is expected that the measure will eventually find a consistent level of performance. When the trend naturally levels out, staff will discuss further objectives.

Quarterly Performance Summary

Customer utilization of electronic payments was within normal limits during Q1, with a favorable short run signal resulting from continued customer adoption of Auto Pay and SmartHub App. The central line is currently set at 78% of customer payments made electronically, with normal performance expected within ± 3% of that. The rating for the year is green and the outlook is positive.



Payment Channels		# of payments this quarter	% of total	% of Total Change since 2024
Manual		36,300	21%	▼2%
Electronic	Auto Pay Self Serve	53,285	31%	▲1%
	SmartHub App Self Serve	24,889	15%	▲1%
	Pay Now Self Serve	20,473	12%	▲1%
	SmartHub Web Self Serve	19,589	11%	▼1%
	Bank Website	8,267	5%	▸0%
	IVR Self Serve	7,300	4%	▼1%
	Kiosk Self Serve	756	0%	▸0%



Responsible Manager: Annette Cobb Data Provider: Kristen Demory Report Date: 4/7/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title

Service Order Time Tracking

Definition

Once a new or altered service is eligible for energization*, the following items will be measured:
1) Length of time it takes the Operations Center to energize a new service once Engineering has transitioned the electronic service order to them in the Work Management system, after the customer has met the criteria described by the * below.
2) Length of time it takes to set up the customer account in the Customer Information System (CIS) system for billing after Operations transitions it over to them from the Work Management system.
3) Total services include electric metered services and production meters installed for solar customers. Solar services are net metered customers with a second separate production meter for energy produced.
Eligible for energization is based on the customer meeting the following criteria: trench has been inspected on an underground service, fees have been paid, L & I state approval has been received, and customer is ready for power. The District has no control over the time span to energize a new or altered service until the criteria has been met.

How Connection Performance Measure is Computed - Table

After Engineering has released all holds in the Work Management system, the service order is transitioned to Operations. Performance is measured from the date received by Operations in CIS and the completion date of when the meter was set (energized).

How CIS System Performance Measure is Computed - Table

This performance is measured from the date Customer Service receives the electronic Service Order from Operations, to the date Customer Service closes the electronic service order. This shows the average number of days for Customer Service to set up the customer account.

Goal

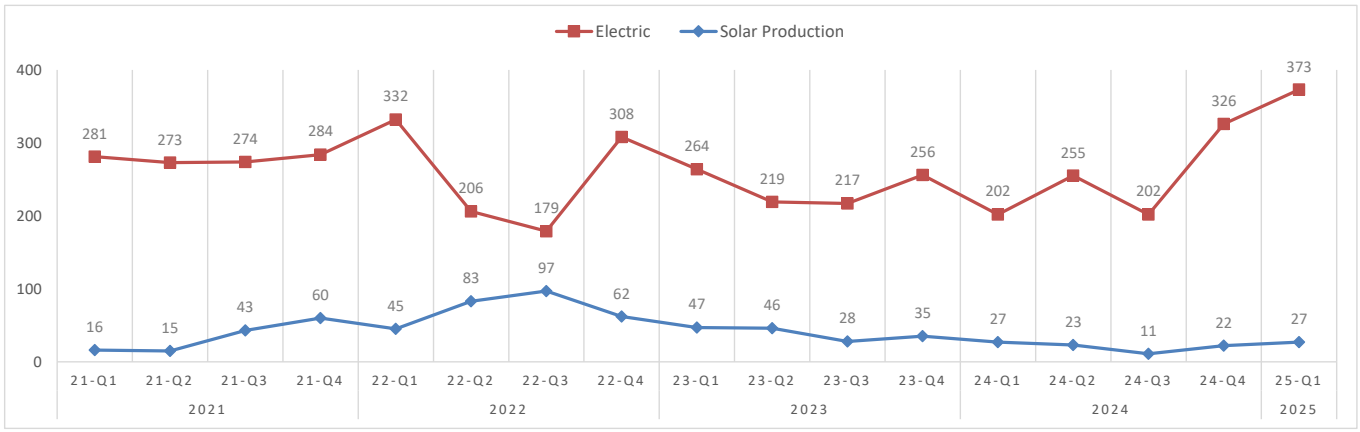
The goal is to energize new services within an average of 7 days after customer criteria has been met, then have the Service Order transitioned from Operations to Customer Service and have new accounts set up in CIS within an average of one week (5 days).

Rating Criteria:	Operations	Customer Service	Combined Rating
	7 days or less	5 days or less	Both green
	8 - 9 days	6 - 7 days	Either is yellow
	> 9 days	> 7 days	Either is red

	Q1		Q2		Q3		Q4	
In Days	Goal	Actual	Goal	Actual	Goal	Actual	Goal	Actual
Connection (Chart)	7	3.4	7		7		7	
CIS System	5	3.9	5		5		5	
Total new services count		229						

Quarterly Performance Summary

During the first quarter of 2025 it took on average 3.4 days for a new service to be energized once the customer had met all requirements, meeting the criteria of 7 days or less. The time from the service order being available to Customer Service to the account being activated was 3.9 days, meeting the criteria of 5 days or less. There were a total of 400 new services energized (373 electric, 27 solar production) in the quarter. We are green for the quarter and green for the outlook.



	2021	2022	2023	2024	2025
Electric	1112	1025	956	985	373
Solar Production	134	287	156	83	27
Total Services	1246	1312	1112	1068	400

Responsible Manager: Michelle Ness
Data Providers: Brenda Webb

Report Date: 4/30/2025

Performance Measure Title

Rate Comparisons

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Definition

This indicator compares the District's Residential monthly base charge and average monthly bill to other utilities in the Northwest. A benchmarking base amount of 1,300 kWh (energy), 7 kW (demand), and 30 days (base charge) is used for comparison purposes.

How Performance Measure is Computed

Gather current rates from 34 utilities throughout the Northwest and graph Benton PUD in relation to these utilities. Utilities selected for comparisons are a combination of Public Utility Districts, Cooperative Utilities, and Investor-Owned Utilities.

Goal

Performance will be measured based on a quarterly rate comparison. A green rating will be assigned if the District's average monthly bill is below the median, a yellow rating will be assigned if the District's average monthly bill is in the quartile above the median, and a red rating will be assigned if the District's average monthly bill is in the highest quartile. In addition, the average residential increases over a five year period as compared against the CPI-U annually will be factored into the rating and outlook. The Residential monthly base charge is shown for comparison purposes only.

Residential Average Monthly Bill

	Goal	Actual
Q1	< $136	$115
Q2		
Q3		
Q4		

Residential Monthly Base Charge Comparison

	COSA	Median	Actual
Q1	$38	$25	$19
Q2			
Q3			
Q4			

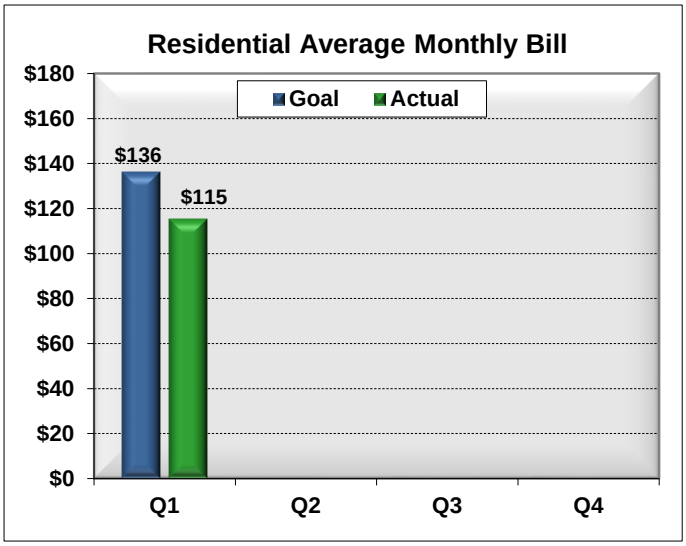
BPUD Avg Yearly Residential Rate Increase Compared to CPI-U*

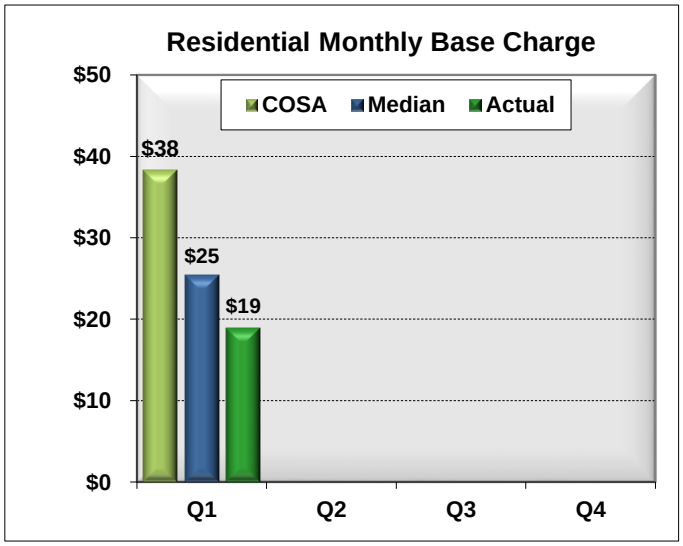
	BPUD Avg Yearly % Increase	CPI-U* Avg Yearly % Increase
5 Year	0.0%	4.2%
10 Year	1.4%	2.9%
15 Year	2.1%	2.6%

*Consumer Price Index for All Urban Consumers (CPI-U) U.S. city average series for all items, not seasonally adjusted. The above percentages utilize the October to October CPI-U.

Quarterly Performance Summary

During Q1 2025 the District's Residential rates were below the median of comparable utilities for the average monthly bill so a green rating was assigned. In Q1, eight of the bench mark utilities had a residential rate changes; Eugene Water Elec. (6.9% overall increase), Inland Power (6.0% overall increase), Klickitat PUD (3.5% overall increase), Lewis PUD (7.1% overall increase), Mason PUD #3 (5.2% overall increase), Portland General Electric (8.4% overall increase), Puget Sound Energy (20.7% increase in energy), and Skamania PUD (3.7% overall increase).

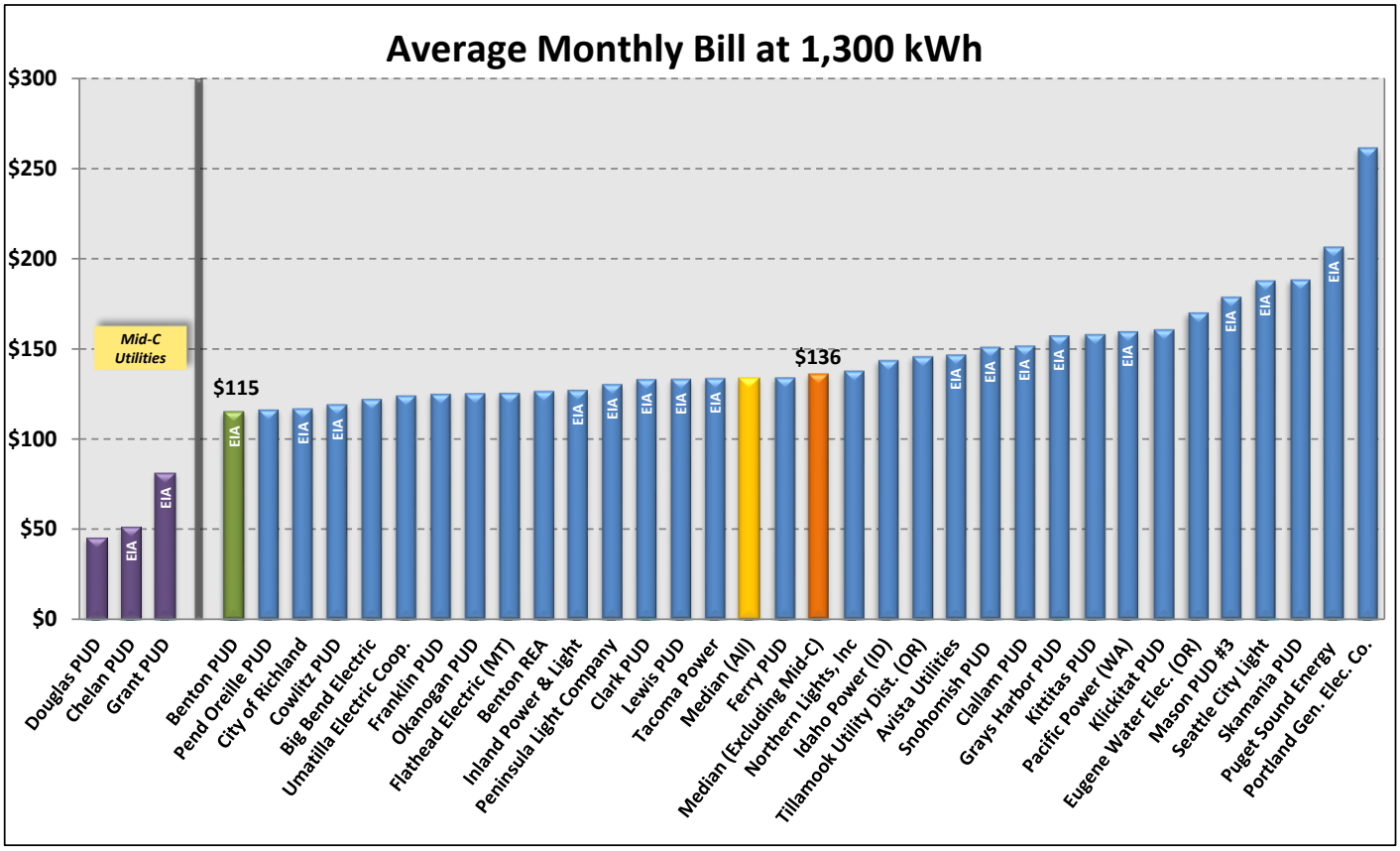


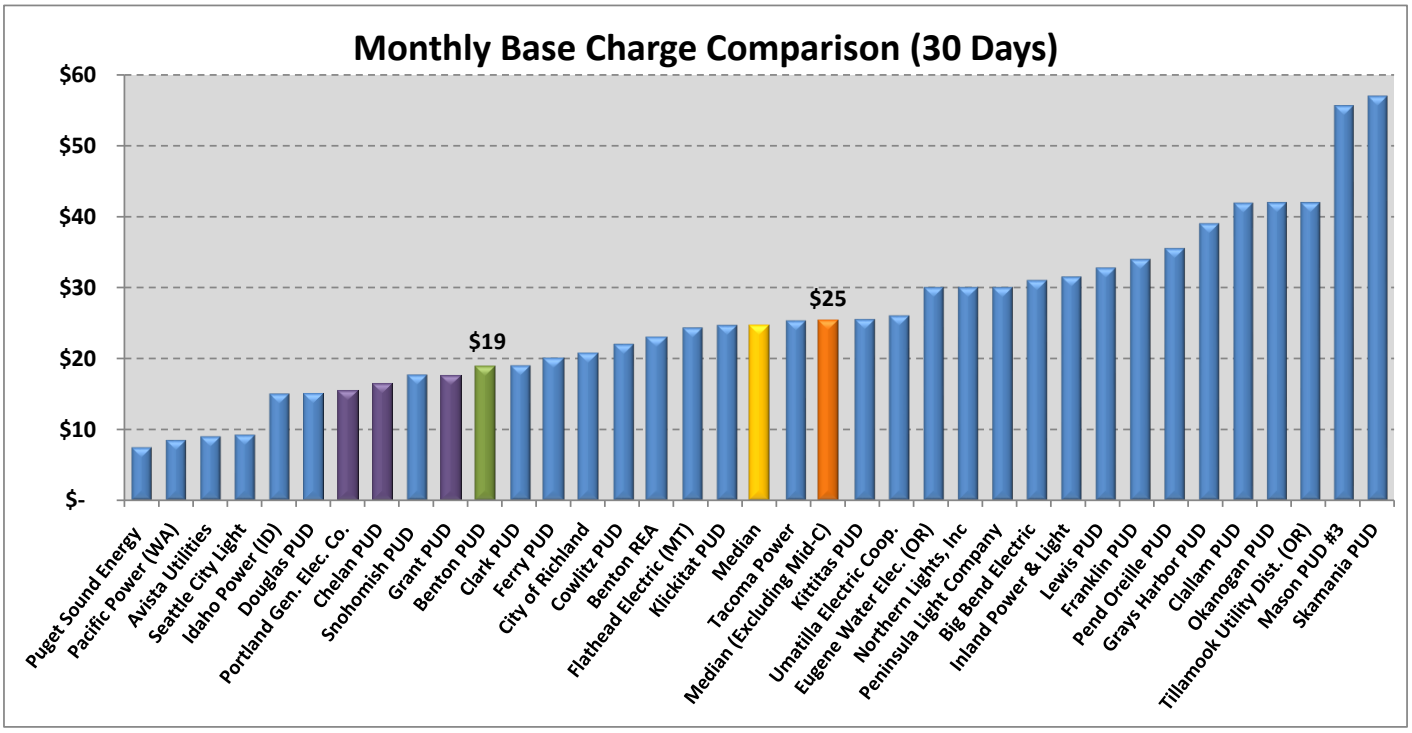


Responsible Manager: Keith Mercer

Data Provider: Katie Grandgeorge

Report Date: 4/23/2025





Average bill information has been calculated by Benton PUD staff using data from other utilities' websites. This bill calculation is Benton PUD's best effort to provide comparable information. Mid-C Utilities are utilities that own major hydro facilities.

Performance Measure Title

2025 Status			
Q1	Q2	Q3	Q4
●			
Outlook: ●			

Back Bills and Billing Corrections Due to District Errors

Definition

Back bills and bill corrections can have a significant impact on customers and on District staff. While some back bills are due to customer error (signing up for service at the wrong apartment or mislabeled meter bases), other back bills are preventable. Some examples of avoidable back bills include equipment failure that is overlooked for a period of time and results in a back bill of more than one month, or not transferring a low income discount when a customer moves. Only preventable back bills due to staff error, or those that were caused by equipment failure not detected in a timely manner, will be counted in this performance measure. When a significant back bill occurs, the rating could be assigned a yellow or red rating depending on the severity of the back bill. This rating would be assigned regardless of the number of back bills during the period.

How Performance Measure is Computed

On a quarterly basis, the number of back bills caused by the following reasons will be reported: defective meter, incorrect multiplier, service orders not processed in a timely manner, data entry error in CIS, missing low income discount, incorrect bill cycle, switched meters and data entry errors. Back bills are processed by the Billing Specialist and will be tracked in a spreadsheet that captures the number of back bills falling into these categories, and the nature of the back bill (i.e. customer error or District error). Each customer affected by a back bill will be counted as "1". For example, all customers affected by a District-caused meter switch will be counted.

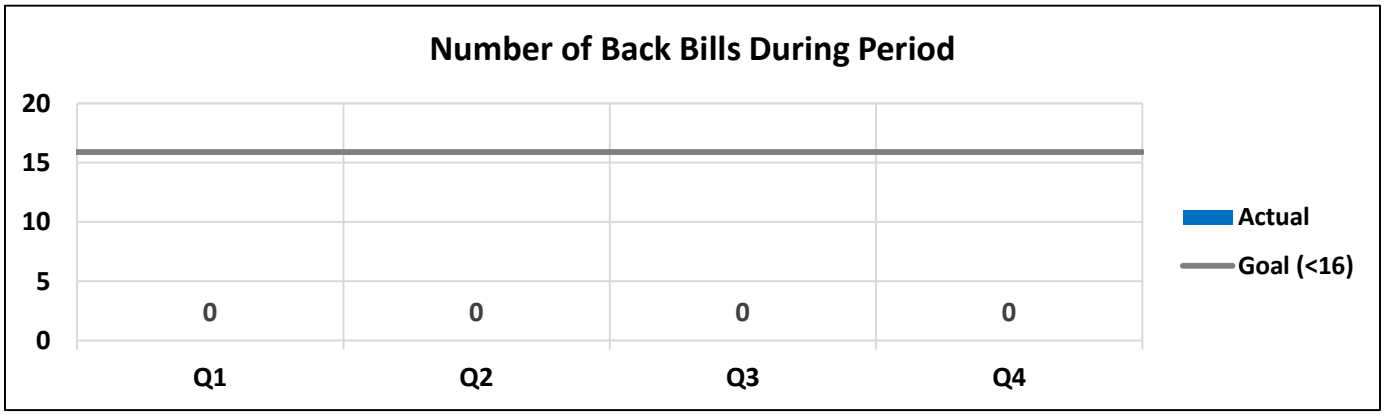
Goal

Fewer than 16 back bills each quarter.

		Number of Back Bills	
	Number of Bills Issued	Goal	Actual
Q1	145,532	<16	0
Q2	0	<16	0
Q3	0	<16	0
Q4	0	<16	0

Performance Rating	
Green ●	Fewer than 16
Yellow △	Between 16-24
Red ◆	Greater than 24

There were no reportable back bills in Q1 2025.



Responsible Manager: Annette Cobb

Data Provider: Annette Cobb

Report Date: 4/21/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title

Unrestricted Reserves / Days Cash on Hand

Definition

Days Cash on Hand measures the number of days an enterprise can cover its operating expenses using unrestricted cash and investments and assuming no additional revenue is collected. Total Unrestricted Reserves include Minimum Operating Reserves and Designated Reserves, such as the Power Market Volatility Account, Customer Deposits Account, and Special Capital Account, as defined in the District's Financial Policies adopted by Resolution 2657 and reported in the monthly financial statements. Beginning in 2015, Minimum Operating Reserves are defined as 90 days cash on hand. This ratio is useful for measuring the relative strength of a utility's financial liquidity. It must be evaluated in conjunction with identified immediate risks to cash flow and compared to the number of days it takes for the utility to raise its rates and begin to receive additional revenues.

How Performance Measure is Computed

Days Cash on Hand is computed by multiplying the total unrestricted cash and investments by 365 and then dividing that result by the total operating expenses (excluding depreciation and amortization). Operating expenses will be based on the latest forecast at the end of each quarter.

Goal

The District's current Financial Policies establish a Minimum Operating Reserve of 90 Days Cash on Hand and require financial plans to maintain Days Cash on Hand to achieve or maintain the Targeted Bond Rating (median of public power utilities). Targeted Days Cash on Hand shall consider relevant and recent benchmark data published by rating agencies for similar rated utilities as well as input from the District's Financial Advisor and recent experience with Rating Agencies. Staff's recommended Targeted Days Cash on Hand is 104 days (Minimum Operating Reserves (90 days) plus the Power Market Volatility Account (14 days). This measure will be rated "green" if the Days Cash on Hand is at or above the recommended range (104 days), "yellow" if the year-end forecast for Days Cash on Hand is between the Minimum Operating Reserve (90 days) and the recommended range (104 days) or over 145 days with no forecasted drawdown, and "red" if the Days Cash on Hand is lower than the Minimum Operating Reserve. A "green" rating may be designated if reserves are over 145 days as a result of a bond issue and/or the financial forecast shows a rate increase in the next year.

DCOH	District Minimum	District Target	Actual
Q1	90	104 to 145	156
Q2	90	104 to 145	
Q3	90	104 to 145	
Q4	90	104 to 145	

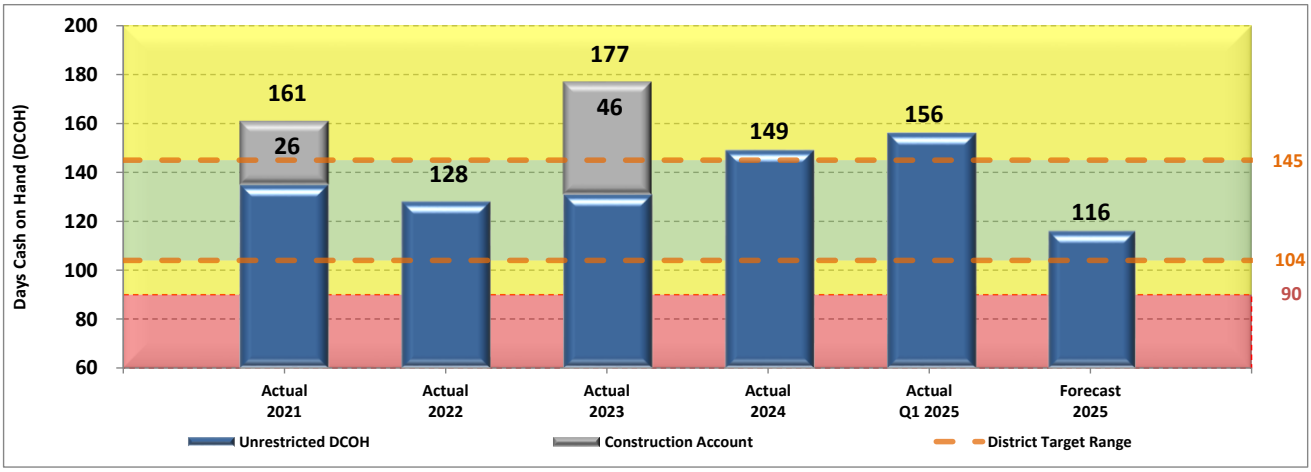
Reserves	Minimum	Budget	Actual
Q1	$33.12M	$53.25M	$56.91M
Q2			
Q3			
Q4			

Designated Reserves - Year-end Forecast*	
Description	DCOH
Minimum Operating Reserves	90
Power Market Volatility	14
Special Capital	0
Customer Deposits	2
Climate Commitment Act	10
Undesignated Reserves	0
Current 2025 Year-end Forecast	**116**
Construction Account	0
Total Year-End Forecast	**116**

*Designated reserve breakdown is decided by the Commission

Quarterly Performance Summary

At the end of Q1, the District reported 156 total Days Cash on Hand (DCOH). However, a green rating has been assigned due to the $6.5 million BPA invoice for February, which was issued later than usual and not due until April. Under normal circumstances, this invoice would have been paid in March, resulting in a lower month-end reserve balance and 138 total DCOH. Additionally, it is common for the District's unrestricted reserves to decline in the first quarter, primarily due to the annual state privilege tax payment of approximately $3.0 million made in February. DCOH levels naturally fluctuate throughout the year and across years, influenced by variables such as gross power costs, O&M expenditures, and retail revenues. The outlook is rated green.



Responsible Manager: Keith Mercer

Data Provider: Katie Grandgeorge

Report Date: 4/23/2025

Performance Measure Title

O&M / Net Capital

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Definition

This indicator measures the District's actual operations and maintenance (O&M) expenses vs. budget and the actual net capital expenditures vs. budget on a year-to-date basis. O&M expenses include transmission, distribution, broadband and all District internal costs and exclude power supply costs, taxes, depreciation, interest expense and other non-operating expenses. O&M and capital expenditures are a subset of all expenditures incurred by the District. While all costs are controllable by the District in the long-term, management has more direct control of these costs over the short-term and may more immediately impact District financial results through decisions in these areas.

How Performance Measure is Computed

The official budget that is approved by the Commission for the calendar year will represent the standard against which actual results are measured. The original budget is amended by the Commission during the 4th quarter of each year. Year-to-date O&M expenses and net capital expenditures will be compared to budget at the end of each quarter.

Goal

Meet the year-to-date budget projections.

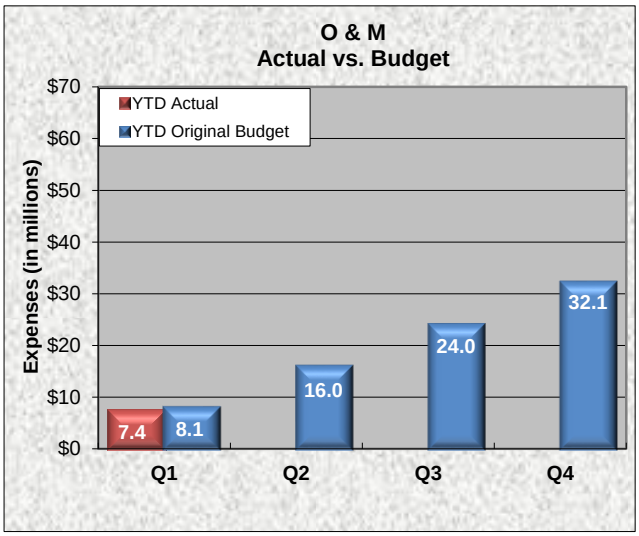
in millions

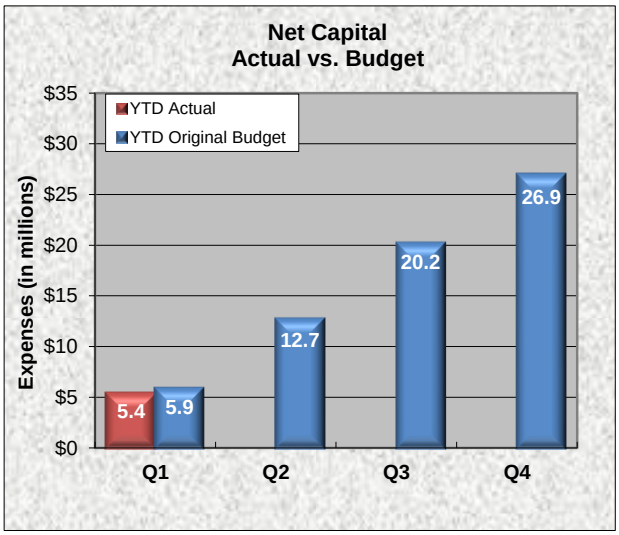
	O & M				Net Capital		
	YTD Original Budget	YTD Actual	% of Total Budget*		YTD Original Budget	YTD Actual	% of Total Budget*
Q1	$8.069	$7.359	23%	Q1	$5.920	$5.358	20%
Q2	$16.010		0%	Q2	$12.735		0%
Q3	$23.995		0%	Q3	$20.180		0%
Q4	$32.072		0%	Q4	$26.920		0%

** % of total original budget, **actuals do not include pension expense*

Quarterly Performance Summary

The numbers included in this calculation are based on preliminary financial data. O&M expenses of $7.4 million through the first quarter are 8.8% or about $0.7 million under the the original budget. A large portion of the variance to budget is under-runs in system costs (electric construction contracts and small tools & materials) and dues & assessments. Net capital expenditures of $5.4 million through the first quarter are 9.5% or $0.5 million under the original net capital budget. The variance is primarily related to repair and replace projects (cable replacement and other maintenance). These measures are rated green for the quarter and outlook.





Responsible Manager: Kent Zirker
Data Provider: Janelle Herrington

Report Date: 4/29/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title
O&M Costs per Customer

Definition
This performance measure will track the District's non-power operating and maintenance (O&M) costs per customer, excluding broadband and reimbursable mutual aid costs and including bad debt expense. O&M expenses are a subset of all expenditures incurred by the District. While all costs are controllable by the District in the long-term, management has more direct control of O&M costs over the short-term and may more immediately impact District financial results through decisions in these areas.

How Performance Measure is Computed
Actual O&M expenses, excluding broadband and reimbursable mutual aid costs and including bad debt expense, as reported in the financial statements will be divided by the average number of active service agreements on a rolling 12-month basis. Results at the end of each quarter will be compared to the 2025 calculated budget of $535 per customer. The 2025 calculated amount was developed from the 2025 budget of $532 per customer incremented by $200,000 or $3 per customer to allow for variations in the level of internal labor charged to capital projects vs expense. A rating of green will be assigned if the O&M costs per customer are less than 2% above budget; a rating of yellow will be assigned if the O&M costs per customer are more than 2% but less than 3% above budget; a rating of red will be assigned if the O&M costs per customer are more than 3% above budget.

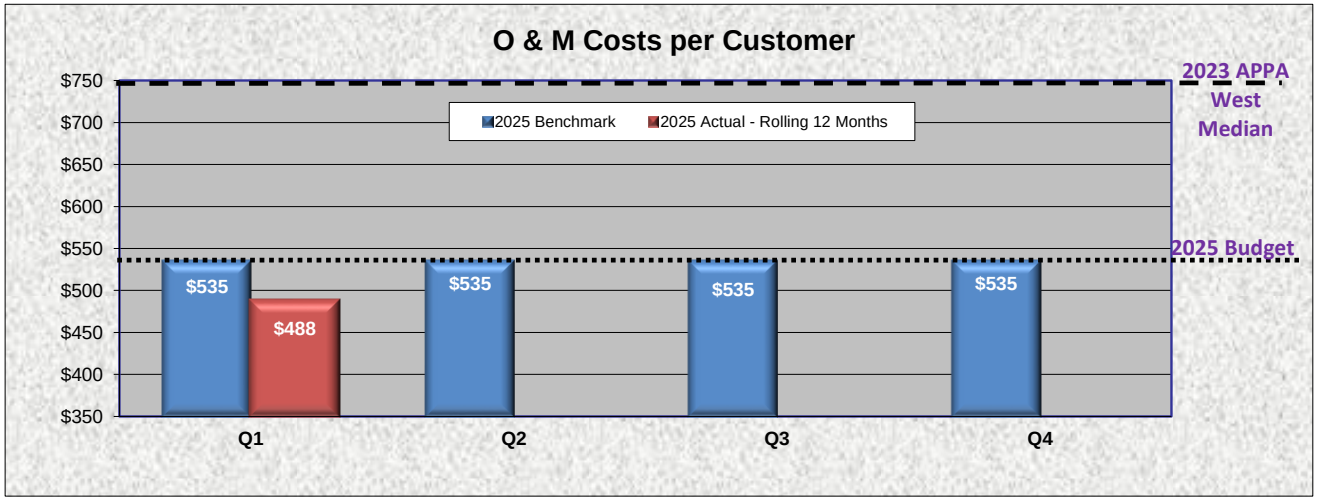
Goal
Maintain or decrease the O&M costs per customer as compared to the 2025 budget of $535 per customer.

	O & M	
	2025 Budget	2025 Actual
Q1	$535	$488
Q2	$535	
Q3	$535	
Q4	$535	

Information Only	Stated Year Dollars	2025[(1)] Dollars
Benton PUD - CY 2023 Actual*	$443	$470
Benton PUD - CY 2024 Actual*	$463	$477
Benton PUD - CY 2025 Budget*	$535	$535
APPA - 2022 West median[(2)]	$605	$661
APPA - 2023 West median[(2)]	$700	$743

** includes bad debt expense, does not include GASB pension entry*
(1) Escalated at 3% per year
(2) Selected Financial and Operating Ratios of Public Power Systems survey
(Note: accounting for payroll taxes and benefits may vary among utilities)

Quarterly Performance Summary
The numbers included in this calculation are based on preliminary financial data. O&M costs per customer on a rolling 12-month basis at the end of the first quarter were $488, which is 8.8% below the budget amount. The budget amount is calculated based on information from the original budget. A large portion of the variance to the original budget is under-runs in general administration expenses, outside services, and system costs. The District continues to be well below the APPA West median of $743.



Responsible Manager: Kent Zirker

Data Provider: Janelle Herrington

Report Date: 4/29/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook:			

Performance Measure Title

Accounts Receivable Collections

Definition

Percentage of accounts receivable that are outstanding and less than 60 days after billing.

How Performance Measure is Computed

The percentage is calculated by dividing the amount of accounts receivable under 60 days by the total amount of accounts receivable for electric customers. This measure does not include miscellaneous accounts receivable, such as power billings or cost reimbursements.

Goal

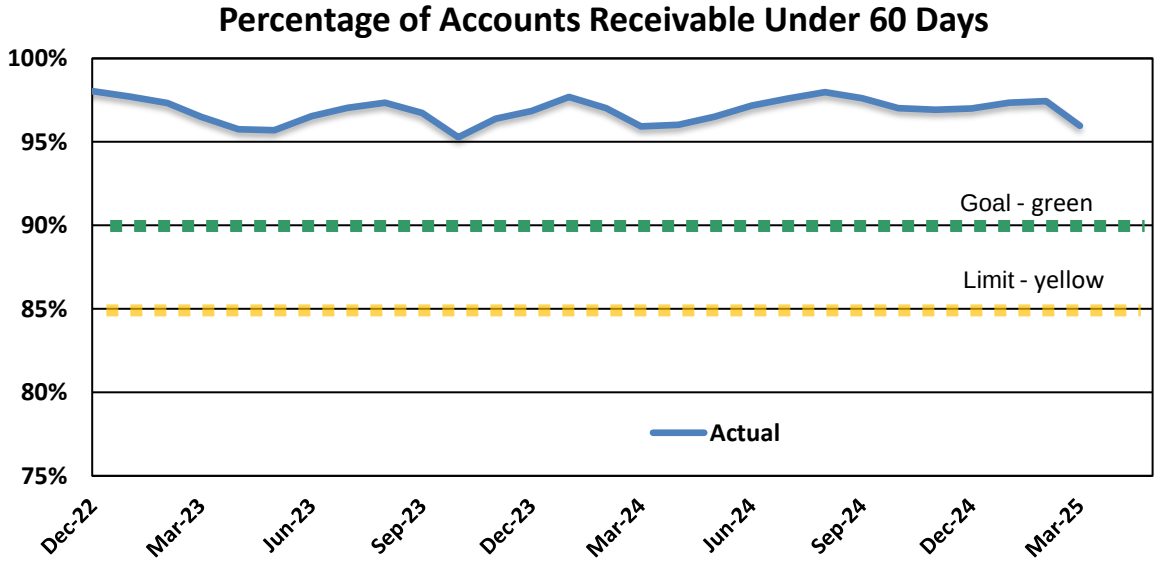
The goal is to increase the percentage of accounts receivable under 60 days to a level of 90% or more of the total accounts receivable. A green rating will be achieved if the actual results are at 90% or higher; a yellow rating will be assigned if the actual results are between 85% to 90%; a red rating will be assigned if the actual results are below 85%.

			Actual
Q1	90%	Q1	96%
Q2	90%	Q2	
Q3	90%	Q3	
Q4	90%	Q4	

Performance Rating	
Green	>= 90%
Yellow	85% - 89%
Red	< 85%

Quarterly Performance Summary

The monthly percentage of outstanding accounts receivable under 60 days including inactive accounts were 97%, 97%, and 96% respectively during Q1. The quarter and outlook are rated green.



Responsible Manager: Annette Cobb

Data Provider: Kent Zirker

Report Date: 4/18/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title

Safety

Definition

The measure will benchmark reportable injuries or illnesses as recorded on the OSHA 300 log. The summary will specify incidents and look for trends and opportunities to correct through training, retraining, work procedure changes, engineering controls or other reasonable actions to address.

How Performance Measure is Computed

We will use the OSHA Form 300A "Summary of Work Related Injuries and Illnesses" for safety benchmarking against the Bureau of Labor Statistic numbers published each year. The basic requirement for recording an illness or injury is if it results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed health care professional. The incidence rates are calculated according to the following formula: (N/EH) x 200,000 where N = number of incidents for the previous 12-months and EH = total hours worked by all employees during the same 12-month period. The 200,000 is the constant for 100 full-time workers working 40 hours per week for 50 weeks per year.

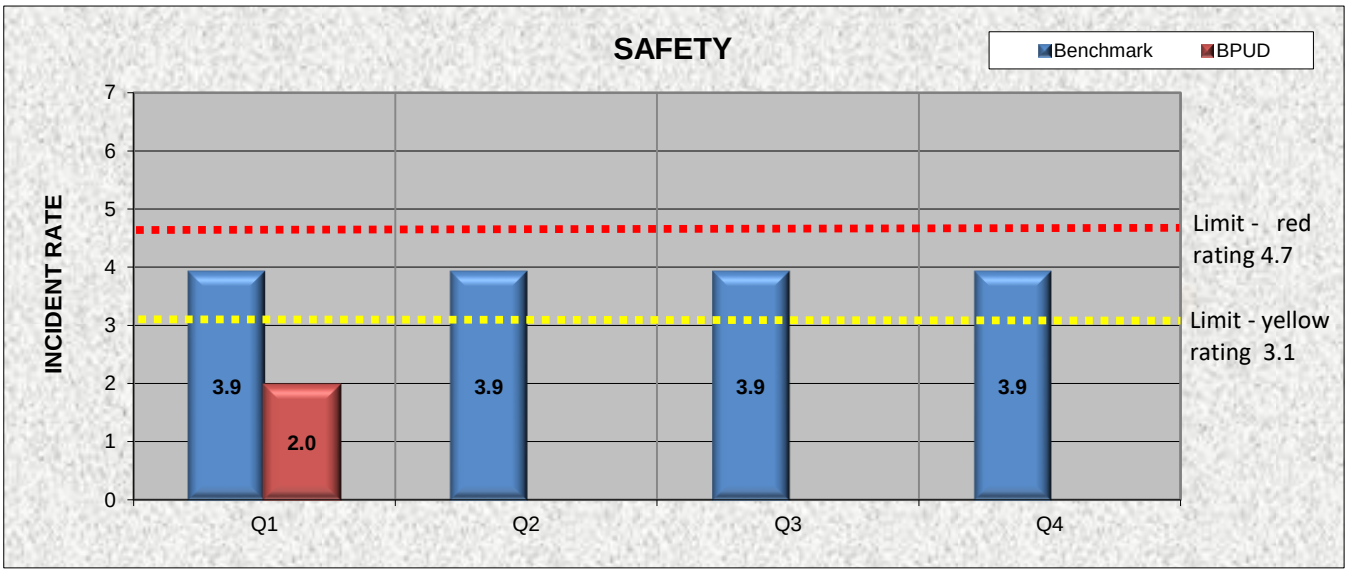
Benchmark (not to exceed)

The benchmark is to be less than the Total Recordable Cases as published annually by the Bureau of Labor Statistics. This figure changes annually as a result of OSHA 300 log reports. This measure will be rated green if BPUD calculated reportable incidents are below 80% of the benchmark, yellow if they are between 80%-120% of the benchmark, and red if they are over 120% of the benchmark or as a result of a serious injury and/or Labor and Industries citation.

	Benchmark	BPUD
Q1	3.9	2.0
Q2	3.9	
Q3	3.9	
Q4	3.9	

Quarterly Performance Summary

There were three incidents reported on the OSHA 300 form in the last 12 months (April 1, 2024 - March 31, 2025):
~ 02.13.25: Journeyman Lineman was stripping wire and cut thumb with knife. – No lost time
~ 12.17.24: Journeyman Lineman cut right hand while skinning jacketed wire - no lost time
~ 09.24.24: Mechanic strained right elbow pulling copper wire - no lost time



Responsible Manager: Steve Hunter

Data Provider: Gabrielle Purdom

Report Date: 4/17/2025

Performance Measure Title

2025 Status			
Q1 ✓	Q2	Q3	Q4
Outlook: ✓			

Safety Meeting and Training Attendance

Definition

This performance measure reflects the results achieved in meeting the safety program training and participation goals for the quarter. The training goal includes those trainings sponsored by the District and where attendance is required. The participation aspect includes non-training activities that depend upon employee involvement. The goal is to ensure the majority of scheduled participants attend the trainings or meetings while allowing flexibility for those on protected leave. Failing to achieve the goals may reflect other legitimate schedule conflicts, ineffective course frequency or length, priority-setting improvements needed for participants and/or their managers, or other interfering factors.

How Performance Measure is Computed

The target is derived each quarter based on the group participation goals approved by the Central Safety Committee and Leadership Team. It is the percentage of training/meeting attendendance against the expected attendance, as well as the number of Operations crew reports turned in. The rating is set so all of the meeting and training attendance averaged together must equal 90% or above to achieve a green rating. A yellow rating reflects an average between 80-89% , and a red rating is less than 80% average attendance.

Performance Rating:	Green: ✓ AVG ≥ 90%	Yellow: △ AVG = 80-89%	Red: ✗ AVG < 80%

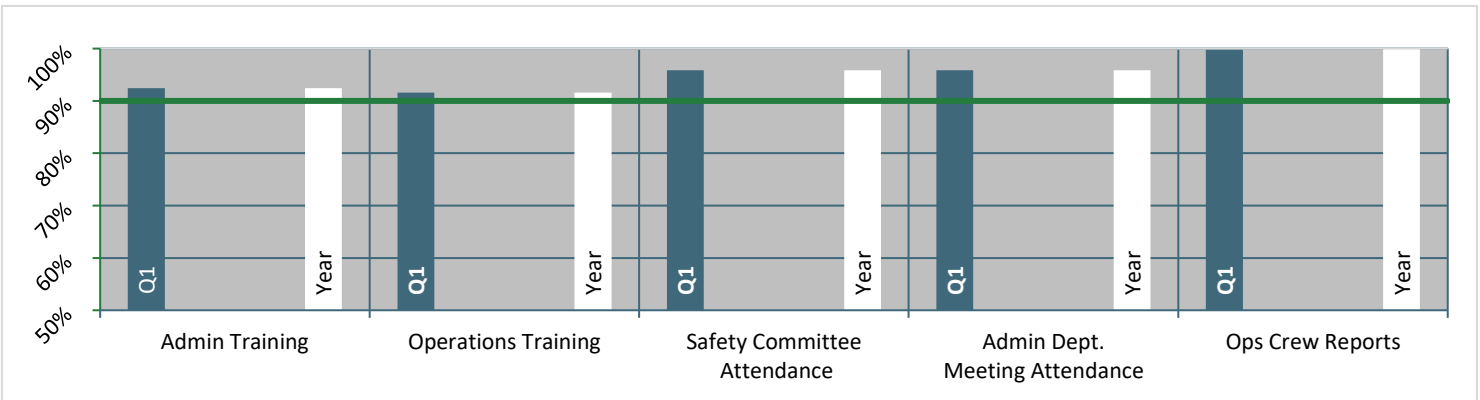
Goal

Achieve minimum 90% or greater average attendance and participation at safety-related trainings and meetings.

	Training Attendance			Participation				Goals
	Admin Training	Ops Training	AVG	Committee Attendance	Admin Dept Attendance	Ops Crew Reports	AVG	Overall AVG
Q1	**92%**	**92%**	**92%**	**96%**	**96%**	**100%**	**97%**	**95%**
Q2								
Q3								
Q4								
Year	92%	92%	92%	96%	96%	100%	97%	95%

Quarterly Performance Summary

The outlook for the quarter and overall year is green. In the first quarter, the Administrative and Operations groups averaged 95% across the safety training and participation goals set for both groups. For the quarter, 92% of Operations participated in crew/shop trainings and covered Flagging Recertification, Regulators/Reclosers/Capacitors, and Lockout-Tagout. 100% of Crew Reports were returned. The Admin biannual safety training was on Office Ergonomics and was completed by 92% of Admin staff. 96% of Admin staff reviewed monthly safety information. The Safety Committees averaged 96% attendance overall.



Responsible Manager: Karen Dunlap

Data Provider: Kristen Demory

Report Date: 4/25/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title

Conservation Plan 2024-2025 Biennial Actuals/Target

Definition

The District will monitor quarterly conservation achievements and compliance with the Energy Independence Act (EIA) target of 1.11 aMW which was established through the Amended Conservation Potential Assessment presented to the Commission on April 23, 2024.

How Performance Measure is Computed

Status is determined by the two target levels in the chart below. Projected final year end savings that are above the EIA Target is green, between the EIA Target and Carryover level is yellow, below the Carryover level is red. Quarterly status is calculated by prorating all current conservation to a 24 month period and adding it to NEEA savings. (Note: Although NEEA actual savings are not received until April-May for the previous year, an estimate of 50% of NEEAs estimated savings are used in the chart until actuals are received). Projected savings are based on Energy Programs budget estimates divided into monthly allocations for all sectors except Industrial. Projections from the Industrial sector are based on pending projects reported to the District by the ESI program.

Goal

Ensure the District is on track to meet the 2024-25 conservation biennial target. Green Outlook rating is the "Projected Final Savings" meeting or exceeding the EIA target. Yellow rating is between the EIA Target and Carryover level. Red rating is below the Carryover level.

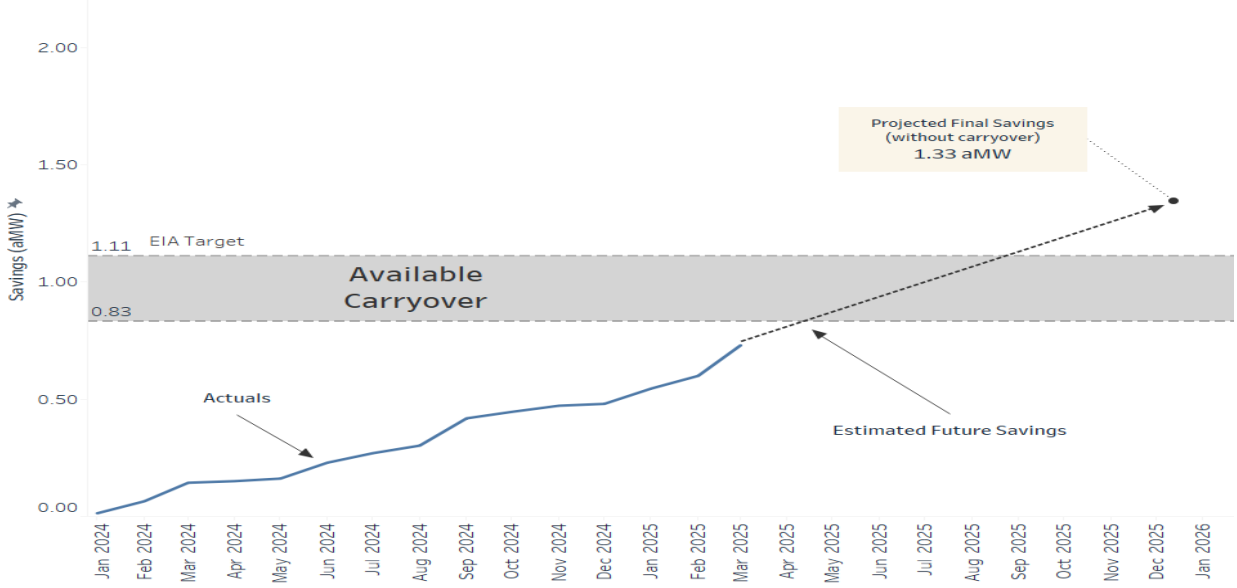
2024	Q1		Q2		Q3		Q4	
	Proj	Actual	Proj	Actual	Proj	Actual	Proj	Actual
Residential	0.019	0.013	0.019	0.018	0.019	0.027	0.021	0.016
Commercial	0.063	0.038	0.063	0.063	0.063	0.055	0.058	0.040
Industrial	0.085	0.080	0.085	0.000	0.085	0.094	0.075	0.006
Agricultural	0.023	0.013	0.023	0.000	0.023	0.013	0.008	0.000
U.S.E.	0.000	0.000	0.000	0.004	0.000	0.000	0.036	0.000

2025	Q1		Q2		Q3		Q4		Total	
	Proj	Actual	Proj	Actual	Proj	Actual	Proj	Actual	Proj	Actual
Residential	0.018	0.016	0.018		0.018		0.018		0.054	0.091
Commercial	0.029	0.057	0.029		0.029		0.029		0.086	0.252
Industrial	0.072	0.055	0.078		0.078		0.078		0.233	0.234
Agricultural	0.007	0.020	0.000		0.000		0.000		0.000	0.047
U.S.E.	0.017	0.101	0.000		0.000		0.000		0.000	0.105
							NEEA*		0.228	
							Total aMW		1.330	

*Based on 50% of NEEA provided estimate for 2024 and 2025.

Quarterly Performance Summary

Quarter one saw the completion of the Voltage Optimization project which resulted in savings greater than 0.10 aMW, making it the largest project of the biennium. The size of the project allowed the Projected Final Savings for the District to rise from 1.28 aMW to 1.33 aMW. An unexpected agricultural sprinkler project in excess of $60,000 also aided in the surplus. The residential sector was the second lowest of the biennium for standard and low income combined, and the commercial projects remained high in quantity but still somewhat low in savings compared to past years. Overall, the District outlook to reach the biennium EIA target remains positive.



Responsible Manager: Chris Johnson

Data Provider: Terry Mapes

Report Date: 4/8/2025

Performance Measure Title

Broadband Network Reliability Report

All Green	=	
Any Yellow	=	
Any Red	=	

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Definition

This report reflects Benton's network performance, identified by two (2) primary categories and two (2) subcategories.

3 - 9s		4 - 9s		5 - 9s	
99.9	=G	99.99	=G	99.999	=G
99.85	=Y	99.985	=Y	99.9985	=Y
99	=R	99.9	=R	99.99	=R

Primary categories

Core - Backbone Network
Distribution - Tail circuit and Customer Fiber

Subcategories

Dark Fiber - Non-lit services
Wireless Carrier - Services provided to Wireless Carriers (T-Mobile, US Cellular, AT&T, Sprint and Verizon)

The District's Broadband network consists of these four (4) segments and each of these segments will be measured independently as a part of the total network reliability. The measure of value and performance of a network is determined by the reliability of the network and at the extent to which it can maintain an adequate level of "up" time and service to the end users. The measurements and tracking process will allow the Broadband technical and management staff to determine the level of service and value of the network to the Retail Service Providers and the end users they serve. The results of the measurements will be part of the rate setting structure, level of service guarantees provided to RSPs and performance of staff.

Performance Objectives

Target performance for Core network is 5-9's, Distribution at 3-9's, Cellular Carriers at 4-9's & Dark Fiber at 4-9's.

Core Network

	Goal	Actual
Q1	99.999%	100.000%
Q2	99.999%	
Q3	99.999%	
Q4	99.999%	

Distribution Network

	Goal	Actual
Q1	99.9%	99.9999981%
Q2	99.9%	
Q3	99.9%	
Q4	99.9%	

Cellular Carriers

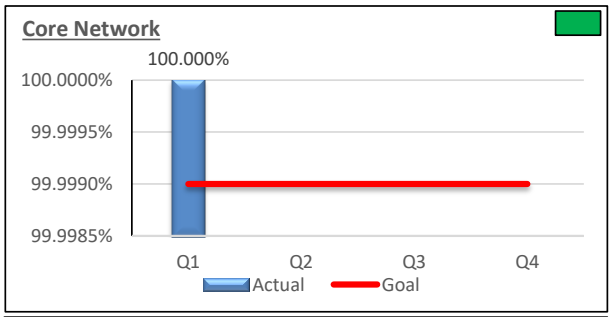
	Goal	Actual
Q1	99.99%	99.999913%
Q2	99.99%	
Q3	99.99%	
Q4	99.99%	

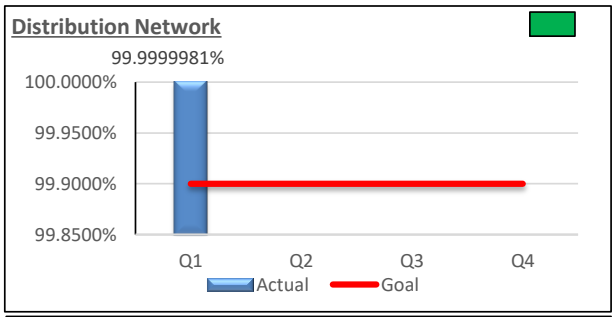
Dark Fiber

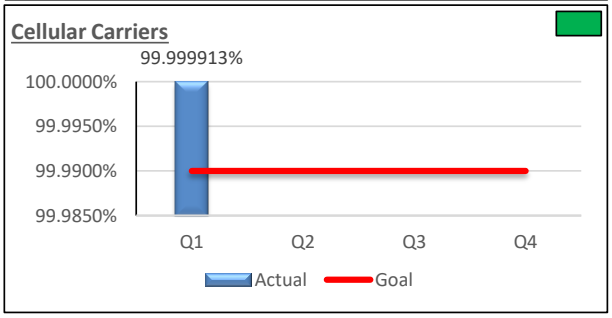
	Goal	Actual
Q1	99.99%	100.00%
Q2	99.99%	
Q3	99.99%	
Q4	99.99%	

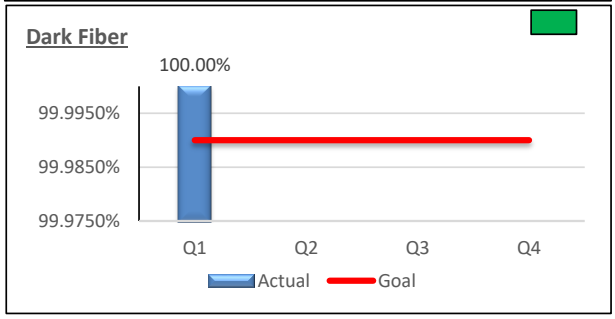
Quarterly Performance Summary

The performance measure is rated green for the Quarter. On March 27th, a third-party provider was installing equipment at the Apel co-location facility and caused an electrical circuit breaker to trip causing a communication outage that affected 29 sites for a total 50 minutes. The Network Operation Center (NOC) escalated the outage response to the provider's on-site engineers who restored the breaker to operational status.









Responsible Manager: Chris Folta
Data Provider: Adrian Mata
Report Date: 4/23/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title

Electric Reliability

Definitions

SAIFI - System average interruption frequency index
Indicates how often the average customer experiences a sustained (greater than or equal to 5 minutes) interruption.

$$SAIFI = \frac{\Sigma \text{ Number of Customer Interruptions}}{\text{Number of Customers Served}}$$

SAIDI - System average interruption duration index
Indicates the total duration of interruption for the average customer during a predefined period of time.

$$SAIDI = \frac{\Sigma \text{ Customer Interruption Duration}}{\text{Number of Customers Served}}$$

CAIDI - Customer average interruption duration index
Indicates the average time required to restore service.

$$CAIDI = \frac{\Sigma \text{ Customer Interruption Duration}}{\Sigma \text{ Number of Customer Interruptions}} = \frac{SAIDI}{SAIFI}$$

Major Event Day - A day in which the daily system SAIDI exceeds a Major Event Day threshold value (TMED). Statistically, days exceeding the TMED threshold are days on which the energy delivery system experiences stresses significantly beyond those that are typically expected.

How Performance Measure is Computed

Interruption information is logged into the District's Outage Management System (OMS), either automatically from the District's SCADA system or manually. Tableau is used to calculate and report statistics for interruptions lasting longer than five mintues, excluding planned outages and customer problems.

Charts are presented that include and exclude Major Event Days (MEDs). The MED data is provided as it is the summation of our customer's experience. These large MED outages are often events that interrupt the District's electrical service but may not be the result of an electrical fault or equipment failure on the District's electrical system. Events such as BPA transmission outages or weather events that overwhelm the District's ability to rapidly respond.

The second set of charts excludes MED outages and provides a reportable quarterly metric reflecting outages caused only by electrical faults or equipment failures on the District's electrical system. This allows the District to identify actionable trends in SAIFI, SAIDI, and CAIDI values for outages that occured on the District's electrical system.

Goal

Compare recent 12-month performance to a goal equal to a four year (2005-2008) historical average. The performance rating will be "green" if the index is up to 20% above the goal, "yellow" if between 20% and 40% above and "red" if greater than 40% above the goal.

Quarterly Performance Summary

Time Period: 12-month time period from April 2024 to March 2025.

	MEDs Included	MEDs Excluded	Goal	Rating
SAIFI	**0.43**	**0.33**	**0.5**	
SAIDI	**43.1**	**29.8**	**60**	
CAIDI	**100.7**	**91.0**	**120**	

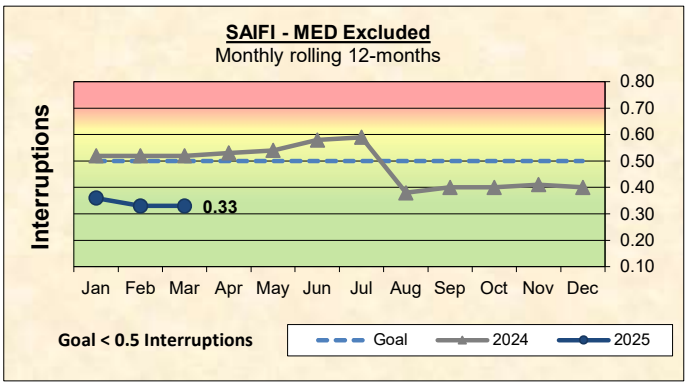
Over the 12-month time period from April 2024 to March 2025, **SAIFI of 0.33** interruptions is less than the goal of 0.5, resulting in a green rating. **SAIDI of 29.5** minutes is less than the goal of 60, resulting in a green rating. **CAIDI of 91.0** minutes is less than the goal of 120, resulting in a green rating.

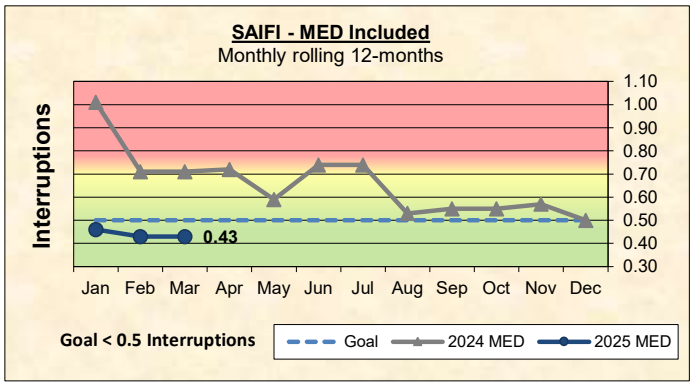
For the non-MED data, SAIFI decreased for the current quarter, meaning the average customer experiences an outage about every 36 months for general outages. SAIDI decreased to 29.8 minutes and had been trending closer to a 50 minute average for the last couple years. CAIDI decreased to 91.0 due to SAIDI decreasing faster than SAIFI. Q4 is being given a green rating.

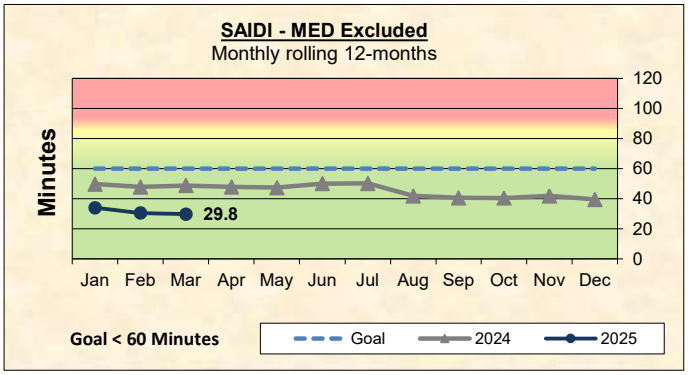
With MED data included, SAIFI decreased to **0.43**, SAIDI decreased to **43.1**, and CAIDI decreased to **100.7**.

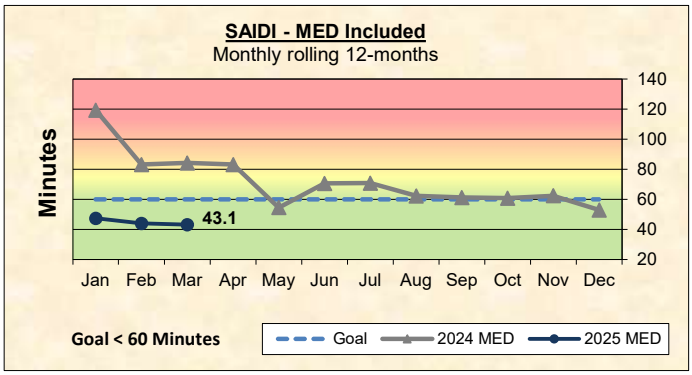
A SAIFI of 0.50 means every single one of our customers could have expected an outage within the last 27 months. In reality we had a subset of our customers who experienced multiple outages in the last 24 months. With MED's included our customers experienced an average restoration time of 1 hour and 41 minutes.

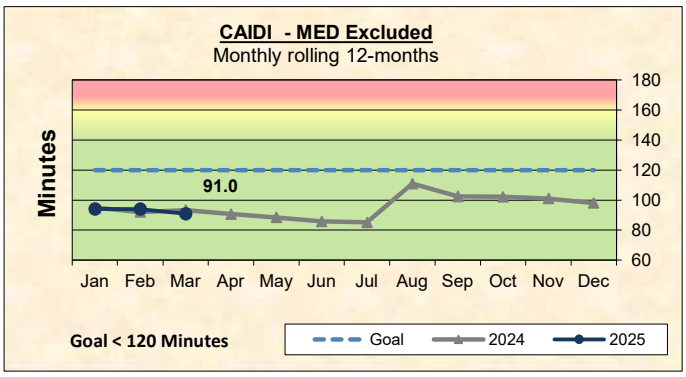
Responsible Manager: Evan Edwards
Data Provider: Dax Berven
Report Date: 4/18/2025

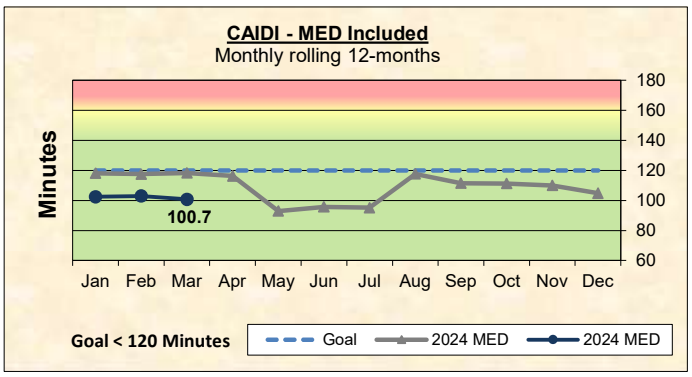












Responsible Manager: Evan Edwards

Data Provider: Dax Berven

Report Date: 4/18/2025

2025 Status			
Q1	Q2	Q3	Q4
Outlook			

Performance Measure Title
Electric System Outages

Definitions

Outage - Interruption of electrical service, for greater than or equal to 5 minutes, to one or more customers, excluding planned outages.
Cause - The reason the outage occurred.
Region - The geographic zone, as defined by the District's Geographical Information System, where the outage occurred.
Customer - A metered electrical service point for which an active bill account is established at a specific location.
Customer Minutes Out - The number of customers interrupted in an outage multiplied by the duration of the outage in minutes.
MED - Major Event Day

How Performance Measure is Computed

Outage information is logged into the District's Outage Management System (OMS). Every outage that occurs has an associated cause, region, number of customers affected and the number of customer minutes out. The outage data is queried from the OMS database using reporting tools and entered into a spreadsheet for summation and graphing purposes. The data is reported for a rolling 12-month time period, which removes any seasonal variation when looking for trends. This data is similar to the data used for calculating the quarterly performance measure titled "Reliability Indices". The reliability indices are useful as a performance indicator and for benchmarking purposes, but they do not provide the detail required to fully understand what factors are influencing reliability.

Goal

To identify electric system outage trends by cause and region over a 12-month time period. Trends in the negative direction will result in a yellow rating; otherwise a green rating will apply. No red ratings will be used.

Quarterly Performance Summary

Rolling 12 Months Reported Quarterly (No MED)

Outage Statistics	2024-Q1	2024-Q2	2024-Q3	2024-Q4	2025-Q1
Outage Count	535	514	480	502	480
Customers Out	28,356	31,861	21,784	23,223	18,943
Customer Minutes Out	2,684,132	2,754,394	2,306,008	2,245,781	1,690,366

Rolling 12 Months Reported Quarterly (MED)

Outage Statistics	2024-Q1	2024-Q2	2024-Q3	2024-Q4	2025-Q1
Outage Count	552	531	497	518	496
Customers Out	39,804	41,348	31,271	29,032	24,752
Customer Minutes Out	4,557,104	3,838,290	3,389,904	3,017,302	2,461,887

Non-MED Data Summary: For the non-MED data, outage counts, customers, and customer minutes out decreased over the previous 12 month window. All three have been generally trending down over the past 4 quarters.

MED Data Summary: The MED data incorporates the following event:

June 2nd, 2024 - Grandview - Red Mountain Transmission Outage (Helicopter Impact)

This event increased the outage counts, increased customers out by about 30%, and increased customer minutes out by about 45%.

Outages by Cause	2024-Q1	2024-Q2	2024-Q3	2024-Q4	2025-Q1
Equipment	262	267	270	264	269
Animals	87	82	75	89	98
Weather	24	21	14	18	10
Foreign Interference	123	112	97	103	79
Vegetation	23	20	14	17	14
Undetermined	16	12	10	11	10
Total	**535**	**514**	**480**	**502**	**480**

Outage Statistics	2024-Q1	2024-Q2	2024-Q3	2024-Q4	2025-Q1
Equipment	273	273	276	269	274
Animals	88	82	75	89	98
Weather	24	21	14	18	10
Foreign Interference	123	123	108	114	90
Vegetation	23	20	14	17	14
Undetermined	21	12	10	11	10
Total	**552**	**531**	**497**	**518**	**496**

Cause Summary: For the non-MED data outages caused by Animals and Equipment increased. Outages caused by Weather, Foreign Interference, Vegetation, and Undetermined events decreased.

With MED data included Animal, Weather, Vegetation, and Undetermined outages were flat and Equipment and Foreign Interference outages increased.

Outages by Region	2024-Q1	2024-Q2	2024-Q3	2024-Q4	2025-Q1
East Kennewick	214	206	184	175	167
West Kennewick	166	160	160	161	155
Benton City & Prosser	125	125	117	140	130
River & Hanford	30	23	19	26	28
Total	**535**	**514**	**480**	**502**	**480**

Outages by Region	2024-Q1	2024-Q2	2024-Q3	2024-Q4	2025-Q1
East Kennewick	224	207	185	175	167
West Kennewick	169	160	160	161	155
Benton City & Prosser	128	129	121	144	134
River & Hanford	31	35	31	38	40
Total	**552**	**531**	**497**	**518**	**496**

Region Summary: Across the non-MED data East Kennewick, West Kennewick, and the Benton City & Prosser areas saw a decrease in outage counts, the River & Hanford saw an increase. East Kennewick, West Kennewick, and the River & Hanford areas saw a decrease in customers out, the Benton City & Prosser areas remained flat. East Kennewick, West Kennewick, and the River & Hanford areas saw a decrease in customers minutes out, the Benton City & Prosser areas increased. When MED data is included the impact is seen generally in the Benton City & Prosser areas.

When MED data is included the impact is seen generally in the Benton City & Prosser area.

Responsible Manager: Evan Edwards
Data Provider: Dax Berven
Report Date: 4/18/2025

Outage Data

Rolling 12-Months, Reported Quarterly

Figure 1.1 - Outage Count (No MED)

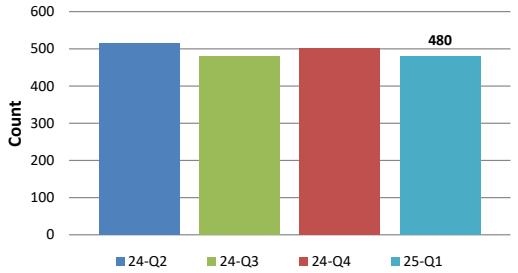


Figure 1.2 - Outage Count by Cause (No MED)

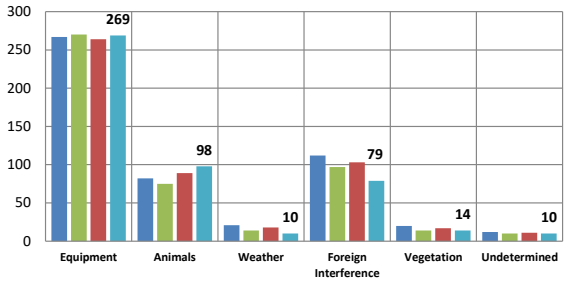


Figure 1.3 - Outage Count by Region (No MED)

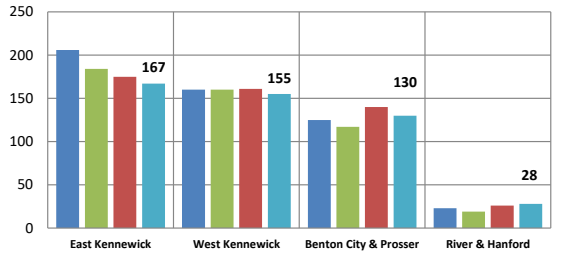


Figure 1.1 - Outage Count (MED)

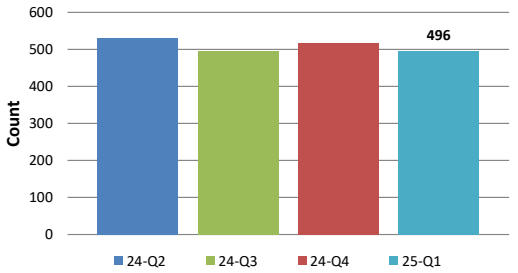


Figure 1.2 - Outage Count by Cause (MED)

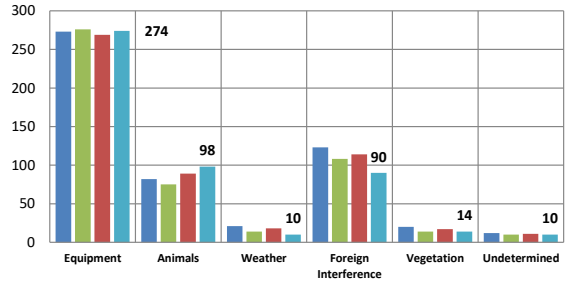


Figure 1.3 - Outage Count by Region (MED)

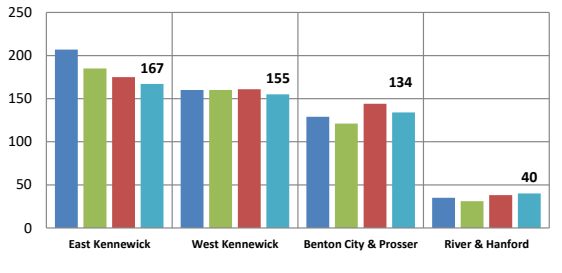


Figure 2.1 - Customers Out (No MED)

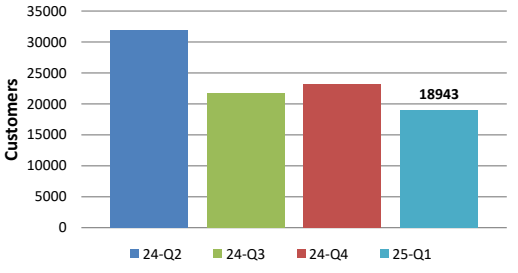


Figure 2.2 - Customers Out by Cause (No MED)

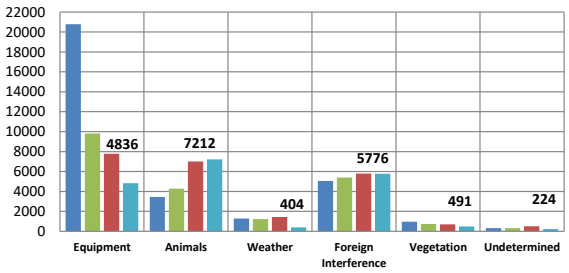


Figure 2.3 - Customers Out by Region (No MED)

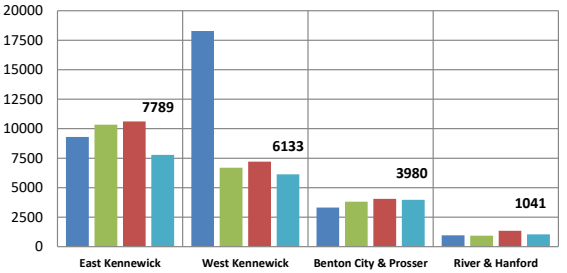


Figure 2.1 - Customers Out (MED)

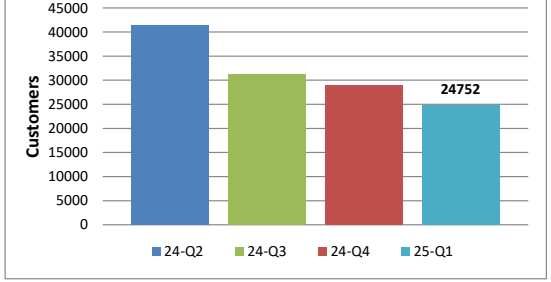


Figure 2.2 - Customers Out by Cause (MED)

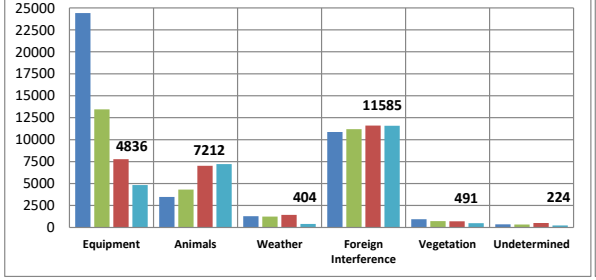
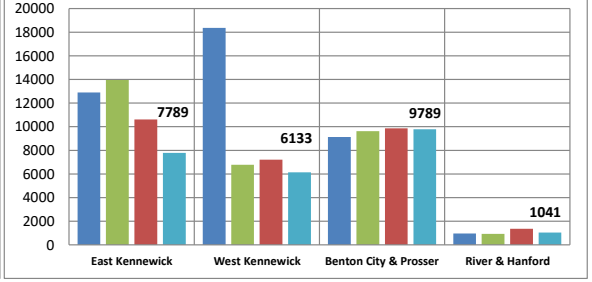


Figure 2.3 - Customers Out by Region (MED)



4/18/2025 DAB

Outage Data

Rolling 12-Months, Reported Quarterly

Figure 3.1 - Customer Minutes Out (k-Min) (No MED)

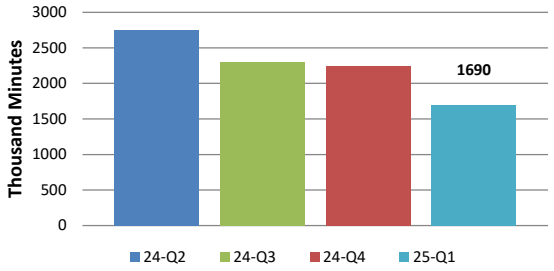


Figure 3.2 - Customer Minutes Out by Cause (k-Min) (No MED)

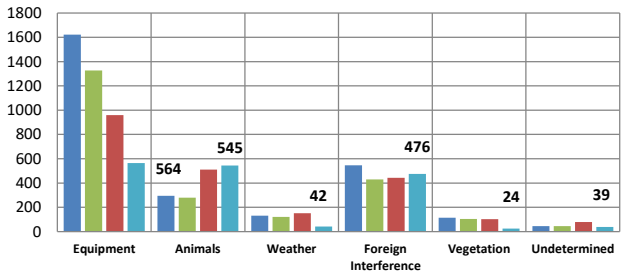


Figure 3.3 - Customer Minutes Out by Region (k-Min) (No MED)

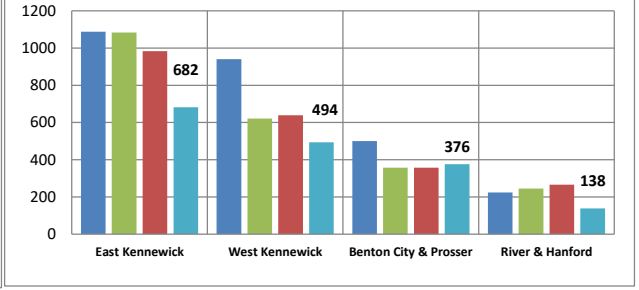


Figure 3.1 - Customer Minutes Out (k-Min) (MED)

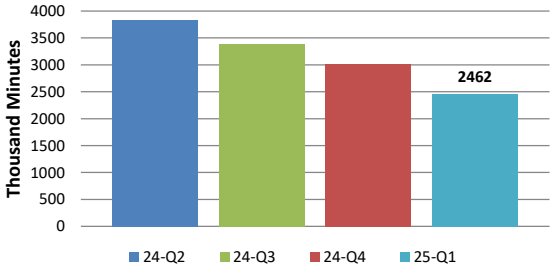


Figure 3.2 - Customer Minutes Out by Cause (k-Min) (MED)

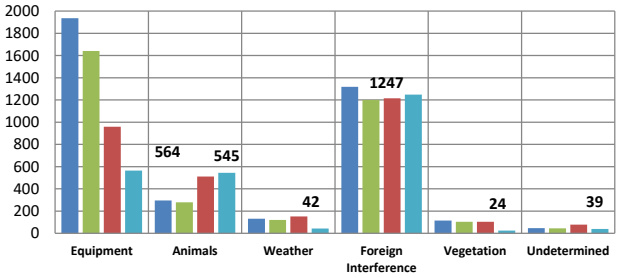
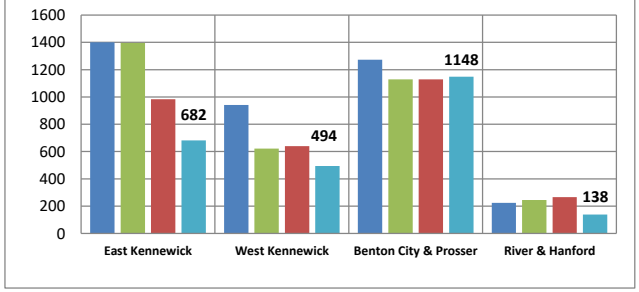


Figure 3.3 - Customer Minutes Out by Region (k-Min) (MED)



4/18/2025 DAB

Select Year:	Select Quarter:
2025	1

Enterprise Application Reliability

Year Status			
Q1	Q2	Q3	Q4
✓			

Outlook
✓

1 Yellow or all Green =	✓
2 Yellow or 1 Red =	▲
2 Red =	✗

Definition

Measures the reliability of seven enterprise software applications: HPRM (document management system), iVUE (customer information system, financials and payroll, outage management system, document vault, and work scheduling), GIS (mapping system), SCADA (electrical system monitoring and operations system) and AMI (automated metering system). We will also measure the reliability of the databases that support these applications, along with cloud applications critical to the functions of the District. The measure of value and performance of software applications is determined by the reliability and maintaining an adequate level of "up" time and service to the end users. The measurements will allow management staff to determine the level of service and value of each application to the end users they serve.
*note for the applications to be considered available, all parts must be available as defined by each system owner

How Performance Measure is Computed

Target performance for each application has been defined by the respective System Owner and is indicated in the "Goal" columns below. All goals are based on 24x7 availability. Each system has a Scheduled Maintenance Window for allowed after hours maintenance that will be excluded from the measurements.

Goal

Maintain an adequate level of "up" time and service to end users.

Performance Metric Results

The performance measure is rated green for the quarter with a green outlook. The AMI system was down for a total of 30 minutes in the first quarter to complete a restart of services; however the performance goal was still met.

Enterprise Reliability

5 Year Trends

24x7 Applications Uptime % 2025 Q1

	Green Rating > 99.99% 0-13 mins	Yellow Rating 99.96%-99.98% 14-25 mins	Red Rating <=99.95% >26 mins	
5 Year Trends	21-Q1 21-Q2 21-Q3 21-Q4 22-Q1 22-Q2 22-Q3 22-Q4 23-Q1 23-Q2 23-Q3 23-Q4 24-Q1 24-Q2 24-Q3 24-Q4 25-Q1 25-Q2 25-Q3 25-Q4			Current Quarter
Apps Team Data..	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓			100.00%
GIS (MapWise)	✓ ✗ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓			100.00%
HPRM	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✗ ✓ ✓ ✓			100.00%
iVue	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓			100.00%
SCADA	✓ ✓ ✓ ✓ ▲ ✓ ✓ ✓ ✗ ✓ ✓ ✗ ✓ ✓ ✓ ✓ ✓			100.00%

Cloud Applications Uptime % 2025 Q1

	Green Rating > 99.90% 0-131 mins	Yellow Rating 99.85%-99.89% 132-199 mins	Red Rating <=99.84% >199 mins	
5 Year Trends	21-Q1 21-Q2 21-Q3 21-Q4 22-Q1 22-Q2 22-Q3 22-Q4 23-Q1 23-Q2 23-Q3 23-Q4 24-Q1 24-Q2 24-Q3 24-Q4 25-Q1 25-Q2 25-Q3 25-Q4			Current Quarter
AMI	✓ ✓ ✓ ✗ ✓ ✓ ✗ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✗ ✓ ✓			99.99%
Cloud Applications	✓ ✓ ✓ ✓ ✓ ✓ ✗ ✓ ✓ ✓ ▲ ✓ ✓ ✓ ✗ ✓ ✓			100.00%

Select Year:	Select Quarter:
2025	1

Infrastructure Component Reliability

Year Status			
Q1	Q2	Q3	Q4
▲			
Outlook			
✓			

1 Yellow or all Green = ✓

2 Yellow or 1 Red = ▲

2 Red = ✗

Definition

Measures the reliability of eight key Infrastructure components: Network (Core business computer network), NoaNet Service (Outside Internet provider), Kennewick-Prosser communications link, TEA/SCADA Network (The Energy Authority and SCADA communications), SAN (Storage Area Network), VDI (Virtual Desktop Infrastructure), Phones (Phone System), and Exchange (Email System). The measure of value and performance of infrastructure components is determined by the reliability and maintaining an adequate level of "up" time and service to the end users. The measurements will allow management staff to determine the level of service and value of each application to the end users they serve. Below is a chart to explain the thresholds in minutes of unplanned downtime.

How Performance Measure is Computed

Target performance for each component has been defined by the respective System Owner and is indicated in the "Goal" column below. All components are based on 24x7 availability.

Goal

Maintain an adequate level of "up" time and service to end users.

Performance Metric Results

The performance measure is yellow for the quarter and green for the outlook. There was one unexpected downtime for the infrastructure measure during the 1st quarter.

On January 22, 2025, a planned maintenance change by RingCentral caused a call routing loop, resulting in inbound and outbound call failures for all their customers. The incident lasted 7 hours. The rollback was only partially effective due to cascading network effects, requiring additional remediation steps. Recovery involved shifting traffic, restarting components, and close monitoring. In response, RingCentral has audited their change management process, enhanced loop detection, and improved fault isolation.

Infrastructure Reliability

5 Year Trends

24x7 with 99.99 % Uptime 2025 Q1

	Green Rating > 99.99% 0-13 mins	Yellow Rating 99.96%-99.98% 14-25 mins	Red Rating <=99.95% >26 mins																
5 Year Trends	21-Q1	21-Q2	21-Q3	21-Q4	22-Q1	22-Q2	22-Q3	22-Q4	23-Q1	23-Q2	23-Q3	23-Q4	24-Q1	24-Q2	24-Q3	24-Q4	25-Q1	25-Q2	25-Q3	25-Q4	Current Quarter
Exchange	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓				100.00%
Kennewick to Pro..	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓				100.00%
SAN	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				100.00%
VDI	✓	✓	✗	✓	✓	✓	✓	✓	✗	▲	✓	✓	✓	✓	✓	✓	✓				100.00%

24x7 with 99.95% Uptime % 2025 Q1

	Green Rating > 99.95% 0-65 mins	Yellow Rating 99.90%-99.95% 65-129 mins	Red Rating <=99.90% >130 mins																
5 Year Trends	21-Q1	21-Q2	21-Q3	21-Q4	22-Q1	22-Q2	22-Q3	22-Q4	23-Q1	23-Q2	23-Q3	23-Q4	24-Q1	24-Q2	24-Q3	24-Q4	25-Q1	25-Q2	25-Q3	25-Q4	Current Quarter
Phones	✓	✓	✓	✓	✓	✓	✓	▲	✓	✓	✓	✓	✓	✓	✓	✓	✗				99.54%

24x7 with 99.90% Uptime % 2025 Q1

	Green Rating > 99.90% 0-131 mins	Yellow Rating 99.85%-99.89% 132-199 mins	Red Rating <=99.84% >199 mins																
5 Year Trends	21-Q1	21-Q2	21-Q3	21-Q4	22-Q1	22-Q2	22-Q3	22-Q4	23-Q1	23-Q2	23-Q3	23-Q4	24-Q1	24-Q2	24-Q3	24-Q4	25-Q1	25-Q2	25-Q3	25-Q4	Current Quarter
Network	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				100.00%
NoaNet Service	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				100.00%
TEA-SCADA Network	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	▲	✓	✓	✓	✓	✓				100.00%

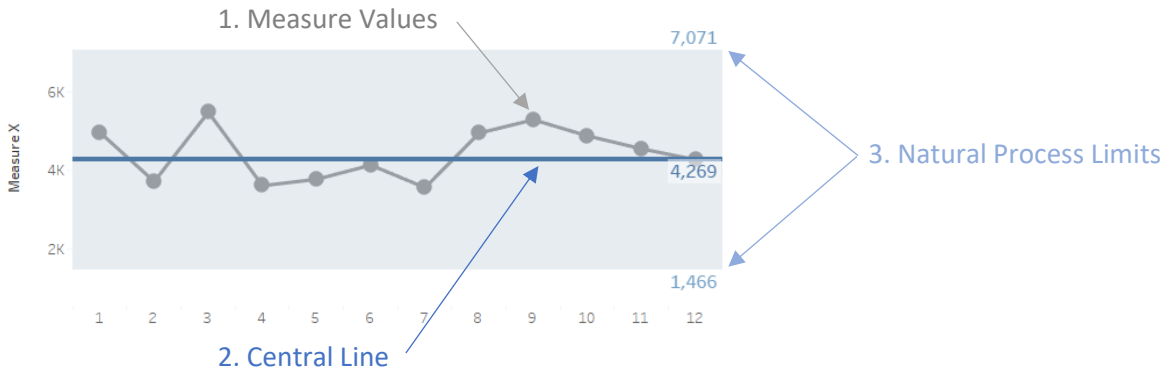
Appendix A

Using XmR Charts for Performance Measurement

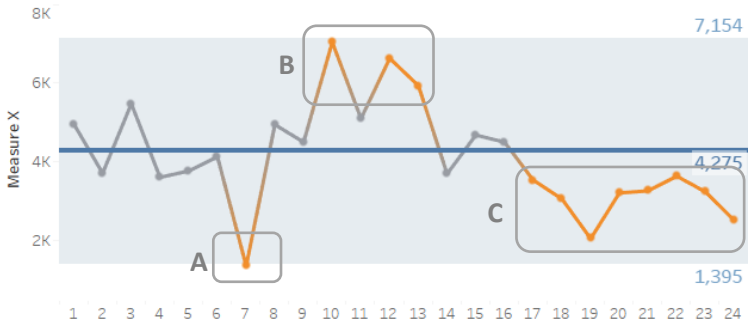
Introduction - This reference was created to support the District's performance measures that utilize XmR charts (a.k.a. process behavior charts). The District's use of XmR charts is intended to be consistent with the recommendations of Stacey Barr, author of the Measure Up Blog.[1] The basic features of XmR charts are explained, but to learn more, readers should refer to the footnotes for Stacey's blog articles. If the footnote hyperlinks are not available to the reader, the articles may be found by accessing the blog website and then using the keyword search tool.

Why use an XmR chart? - To bring focus to the "signals" of performance rather than the "noise" of normal variation.[2] It is an alternative that addresses the limitations of other analysis methods.[3, 4]

What is an XmR chart? - An XmR chart identifies signals of a change in performance by monitoring a measure in the context of its baseline level of performance (Central Line) and its normal variation (Upper and Lower Natural Process Limits).[5] The chart below represents the "X" portion of an XmR chart.[6]



What are the signals on an XmR chart? [7]



3 types of signals:

A. **Outlier** - A point outside of the Natural Process Limits.

B. **Short Run** - At least 3 out of 4 consecutive points closer to the same Natural Process Limit than to the Central Line.

C. **Long Run** - At least 8 consecutive points all on the same side of the Central Line.

How to set targets on an XmR chart? - Refer to these blog articles.[8, 9]

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[1] https://www.staceybarr.com/measure-up/
[2] Why Statistical Thinking is ESSENTIAL to Great KPIs
[3] 5 Analysis Methods That Make Us Misinterpret KPIs
[4] Why KPI Thresholds Are a Really Bad Idea
[5] Three Things You Need On Every KPI Graph
[6] How to Build an XmR Chart for Your KPI
[7] 3 Essential Signals to Look for in Your KPIs
[8] Three Types of Useful KPI Targets
[9] Principles to Design a PuMP Performance Dashboard