

Welcome

**Liberty Utilities Reliability
Reporting Workshop for
2023 Calendar Year**

December 04, 2024



Liberty

Agenda

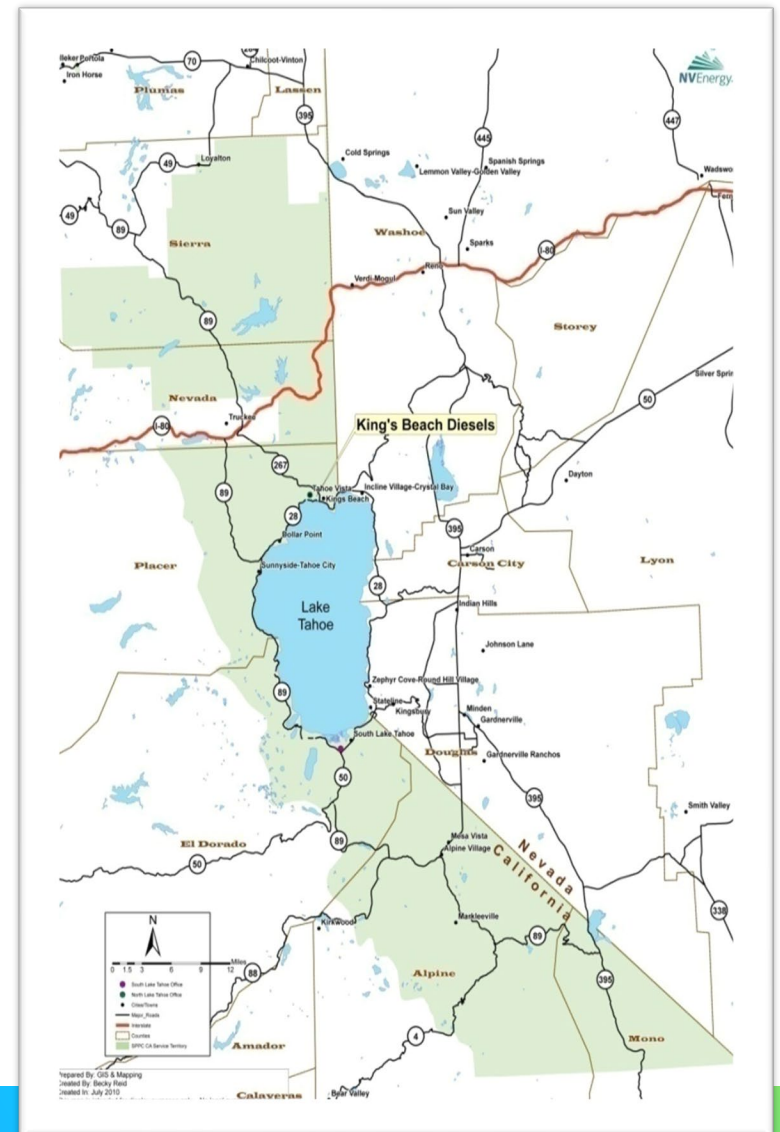
- System Overview
- Key Utility Initiatives
- Reliability Performance
- Questions





Service Territory Overview

- Purchased NV Energy's (SPPCo) California service territory in 2011
- 1,482 square miles; 51,000 customers
- Two office locations: South Lake Tahoe and Tahoe Vista
- Pay \$2.8 million in annual property taxes and franchise fees in 7 counties
- 127 employees currently, with 14 open positions
- Regulated by the California Public Utilities Commission (CPUC)
- Winter Peaking Utility





Service Territory Overview

- 2078 Total Circuit Miles
 - 96 Overhead Transmission
 - 1417 Overhead Distribution
 - 565 Underground Distribution
- 12 Substations
- 12MW of Emergency Diesel Generation
- Max System Load: 144.5 MW (Dec 2012)
- 88% Residential, 12% Commercial





Where Does The Power Come From

2023 POWER CONTENT LABEL					
Liberty Utilities (CalPeco Electric) LLC					
https://www.libertyutilities.com					
Greenhouse Gas Emissions Intensity (lbs CO ₂ e/MWh)		Energy Resources	2023 Liberty Power Mix	2023 CA Power Mix	
2023 Liberty CalPeco	2023 CA Utility Average	Eligible Renewable¹	39.6%	36.9%	
570	373	Biomass & Biowaste	0.0%	2.1%	
		Geothermal	13.9%	4.8%	
		Eligible Hydroelectric	0.0%	1.8%	
		Solar	25.7%	17.0%	
		Wind	0.0%	11.2%	
		Coal	0.0%	1.8%	
		Large Hydroelectric	0.0%	11.7%	
		Natural Gas	0.0%	36.6%	
		Nuclear	0.0%	9.3%	
		Other	0.0%	0.1%	
		Unspecified Power²	60.4%	3.7%	
		TOTAL	100.0%	100.0%	
Percentage of Retail Sales Covered by Retired Unbundled RECs ³ :			1%		
<p>¹The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.</p> <p>²Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.</p> <p>³Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.</p>					
For specific information about this electricity portfolio, contact:		Liberty Utilities (CalPeco Electric) LLC			
		1-800-782-2506			
For general information about the Power Content Label, visit:		https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure-program			





Factors for Customer Satisfaction

- Reliability
- Safe Service
- Outage Notification

Region	Incidents	Aff Served	%	Estimated Restoration Times
Alpine	0	0 477	0%	
El Dorado	0	0 23721	0%	
Mono	0	0 661	0%	
Nevada	0	0 1310	0%	
Placer	0	65 16614	0.4%	
Plumas	0	0 1774	0%	
Sierra	0	0 791	0%	
Total	0	65 45348	0.1%	

Liberty Utilities

News & Events ▾ Energy Efficiency ▾ Renewable Energy ▾ Safety ▾ Emergencies & Outages ▾ Rates ▾ My Account ▾

Home > Residential > Emergencies > Outage Map

Customer Care: 1-800-782-2506 Emergencies & Outages: 1-844-245-6868

Outage Map

We work hard to provide our customers with safe and reliable service. Despite our best efforts to prevent outages, there are factors beyond our control that will occasionally knock out power. Scroll down to view map and outage information; be sure to refresh your page if you have this bookmarked.

We Are Social!
Get connected to Liberty Utilities

Facebook Twitter

Outages Map Report an Outage What To Do Planned Outages Storm Preparation Emergency Disaster Relief





Outage Reporting and Tracking

Please Call 1-844-245-6868

The screenshot shows a web browser window with the following details:

- Address bar: <https://california.libertyutilities.com/south-lake-tahoe/residential/emergencies/electrical/outages-map.html#>
- Map: A map of California showing the South Lake Tahoe area. A green shaded region indicates the outage area, covering parts of Modoc National Forest, Black Rock Desert - High Rock Canyon Emigrant..., and Humboldt-Toiyabe National Forest. Major cities like Redding, Chico, Reno, Carson City, and Sacramento are labeled.
- Table: A summary table of outage statistics by region.

Region	Incidents	Affected	Served	%	Estimated Restoration Times
Alpine	0	0	477	0%	
El Dorado	0	0	23820	0%	
Mono	0	0	662	0%	
Nevada	0	0	1302	0%	
Placer	0	0	16511	0%	
Plumas	0	0	1777	0%	
Sierra	0	0	789	0%	
Total	0	0	45339	0%	





Customer Notifications



Website
libertyutilites.com



Twitter
[@LibertyUtil_CA](https://twitter.com/LibertyUtil_CA)

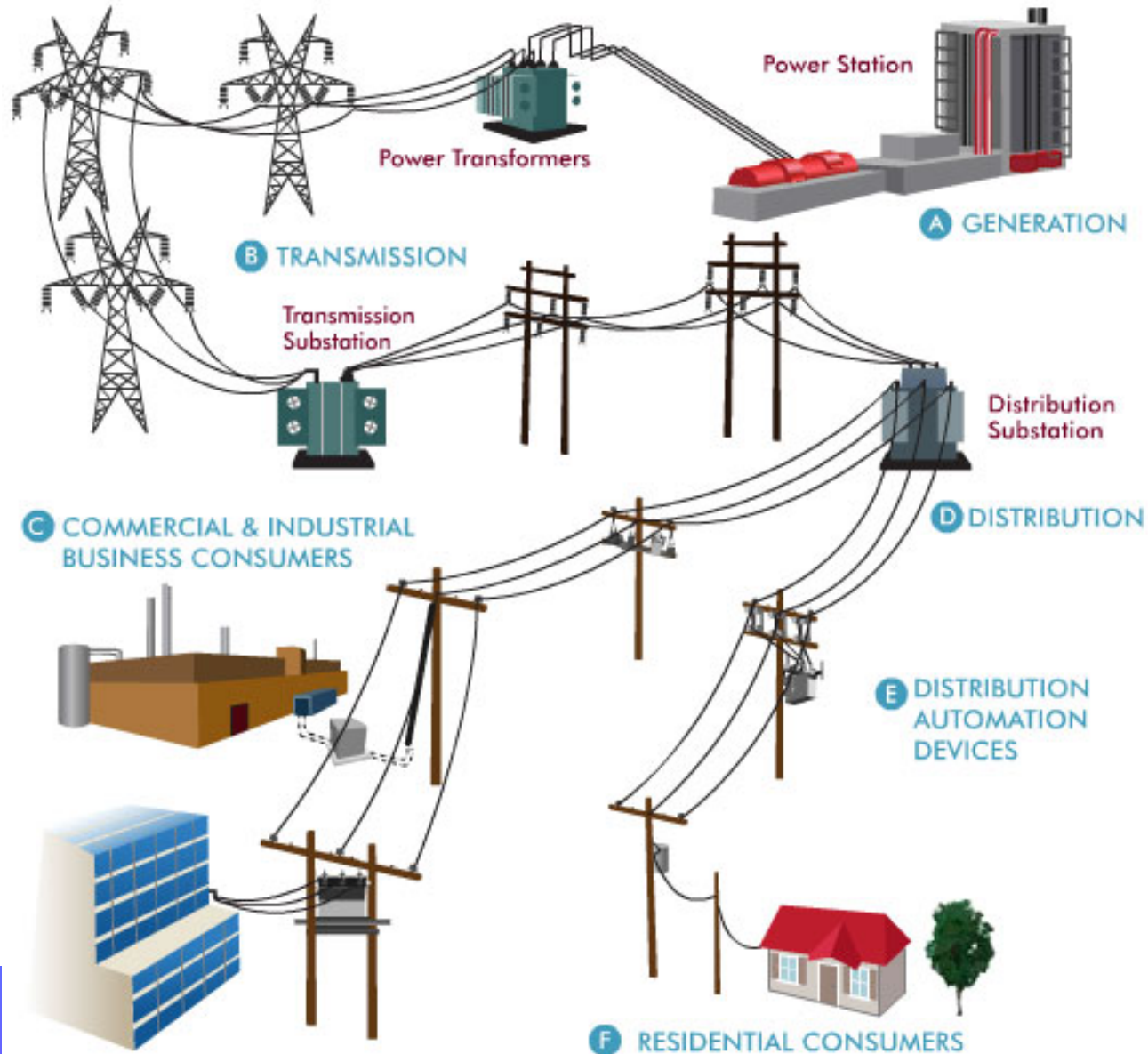


Facebook
Liberty Utilities - Tahoe





Power System Overview





Power Outage Causes

- ❖ Weather (wind, snow, ice build up, lightning)
- ❖ Animals (birds, squirrels, snakes)
- ❖ Third Party Damage (motor vehicle accident)
- ❖ Equipment Failure (cable faults, transformer)
- ❖ Vegetation (trees, wildfire)
- ❖ Loss of Source Power from NV Energy





Momentary vs. Sustained



Momentary

Outages that are less than or equal to 5 minutes in duration

Ex: Tree branches contact a power line, burns the branch clear, and the circuit recloses automatically

Sustained

Outages that are greater than 5 minutes in duration

EX: Tree falls through the power line and must be removed before re-energizing the line



Planned vs Major Outages

Planned Outage

- Outages where a customer or public official has made a request, or Liberty has provided notification
- These are excluded from reliability metrics

Major Event

- Institute of Electrical and Electronic Engineers (IEEE) standard 1366-2012, a set of outages that exceed the historically expected outage duration (SAIDI) for at least one day





Measuring Reliability

Every outage is analyzed to determine the following metrics:

$$\text{SAIDI} = \frac{\text{Total of Customer Interruption Durations}}{\text{Total number of customers served}}$$

$$\text{SAIFI} = \frac{\text{Total Number of Customers Interrupted}}{\text{Total number of customers served}}$$

$$\text{CAIDI} = \frac{\text{Total Customer Interruption Durations}}{\text{Total Number of Customer Interruptions}}$$

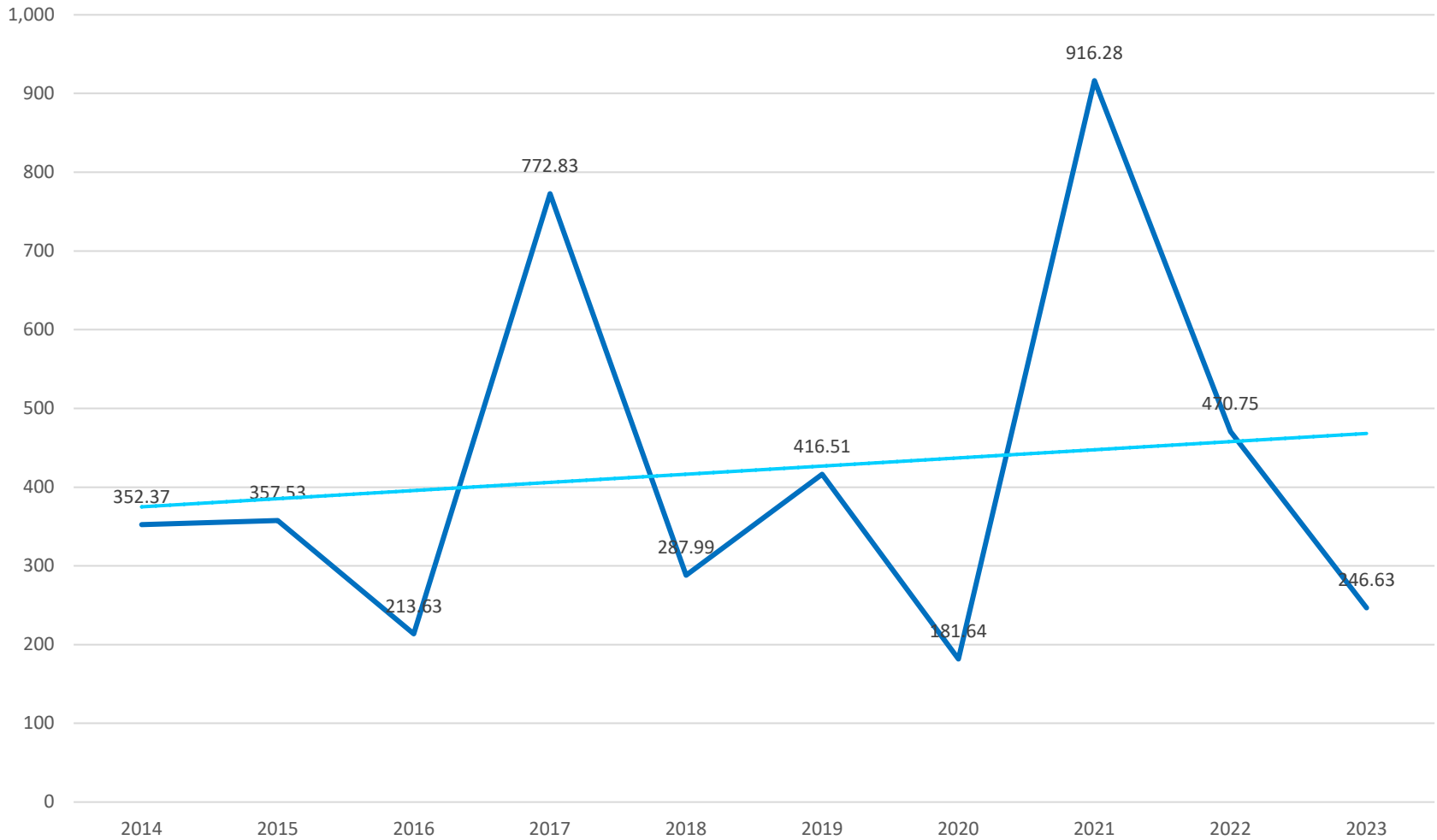
$$\text{MAIFI} = \frac{\text{Tot.No.of Customer Momentary Interruptions}}{\text{Total number of customers served}}$$





SAIDI System Performance

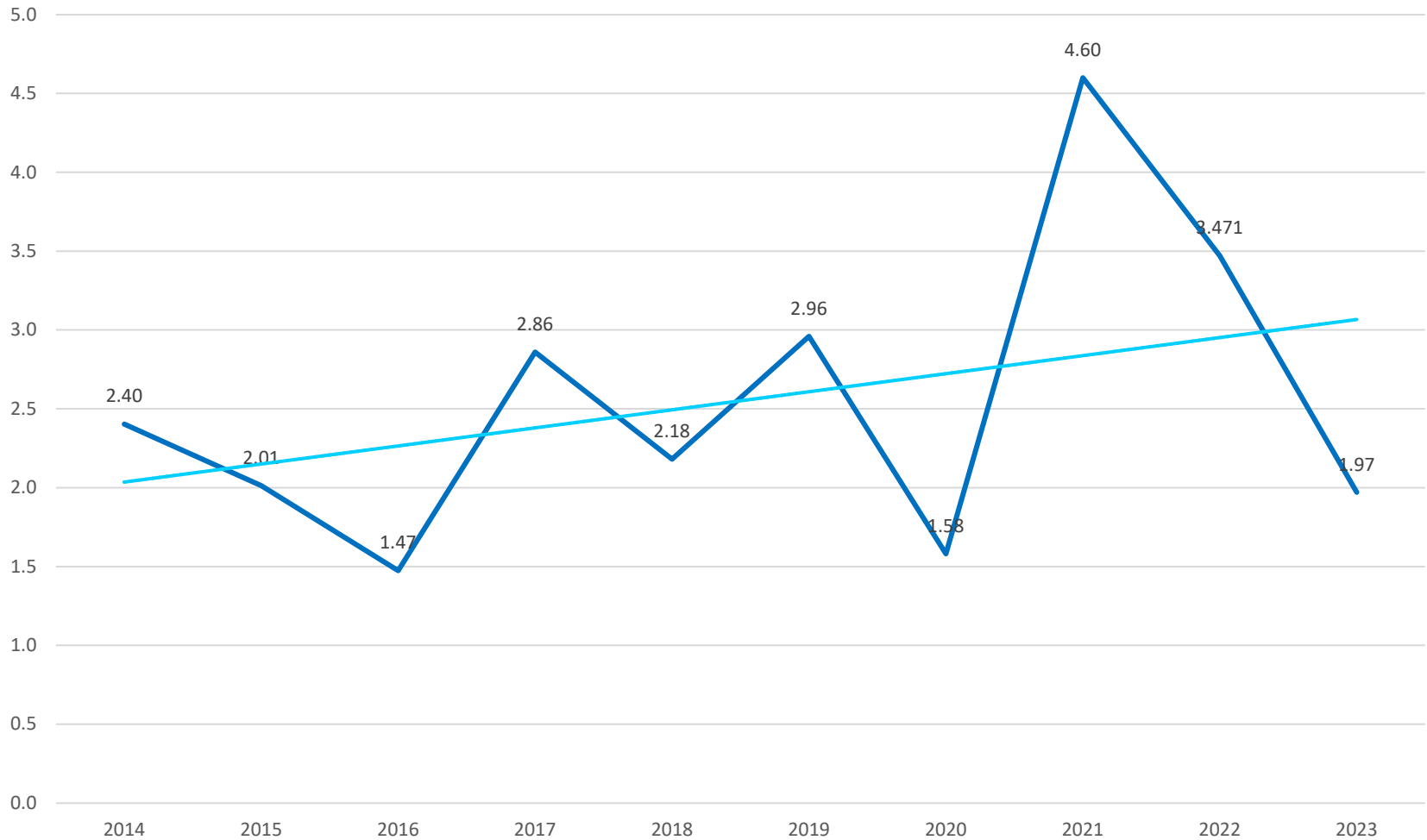
Distribution System Indices MED Excluded (SAIDI)





SAIFI System Performance

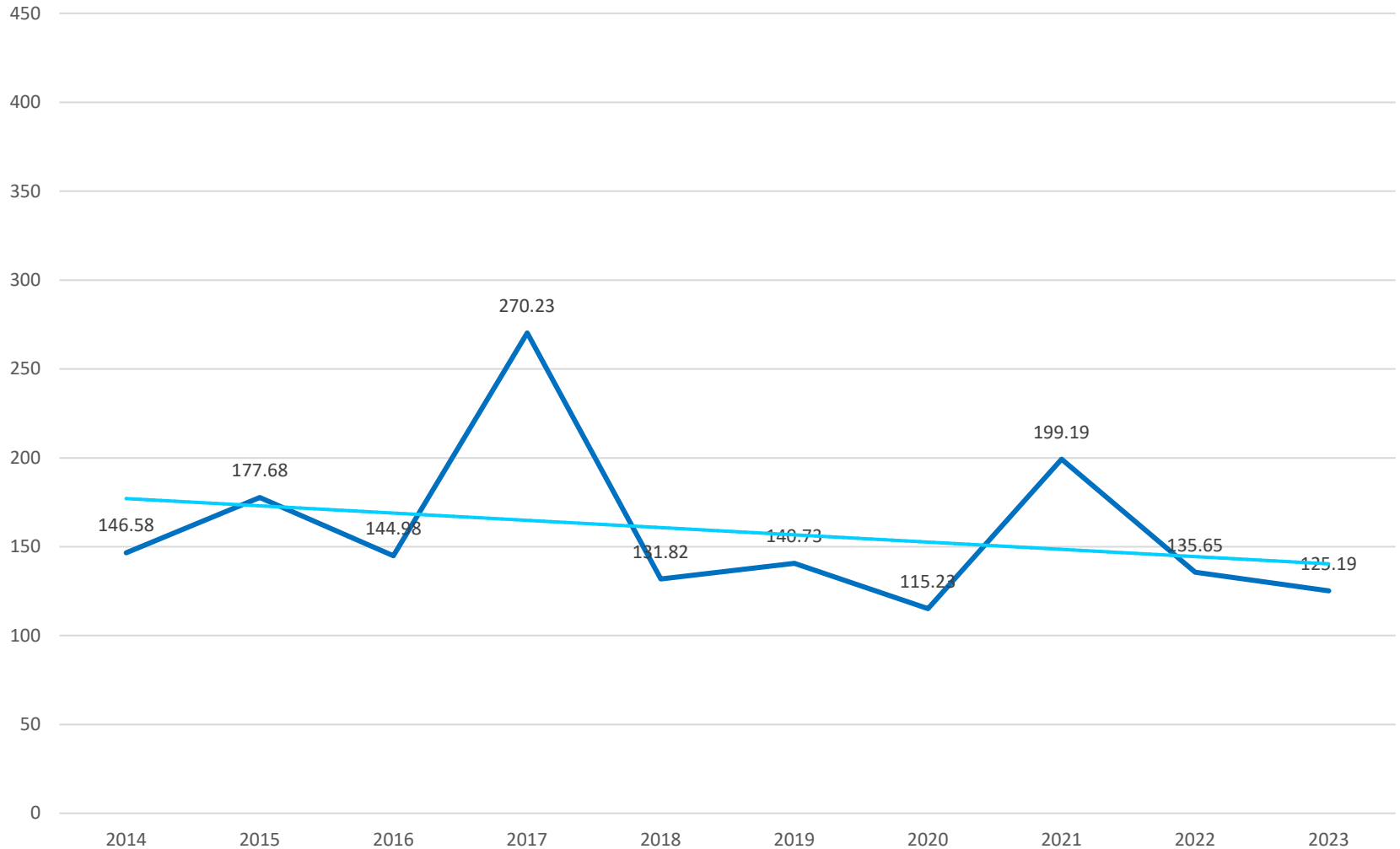
Distribution System Indices MED Excluded (SAIFI)





CAIDI System Performance

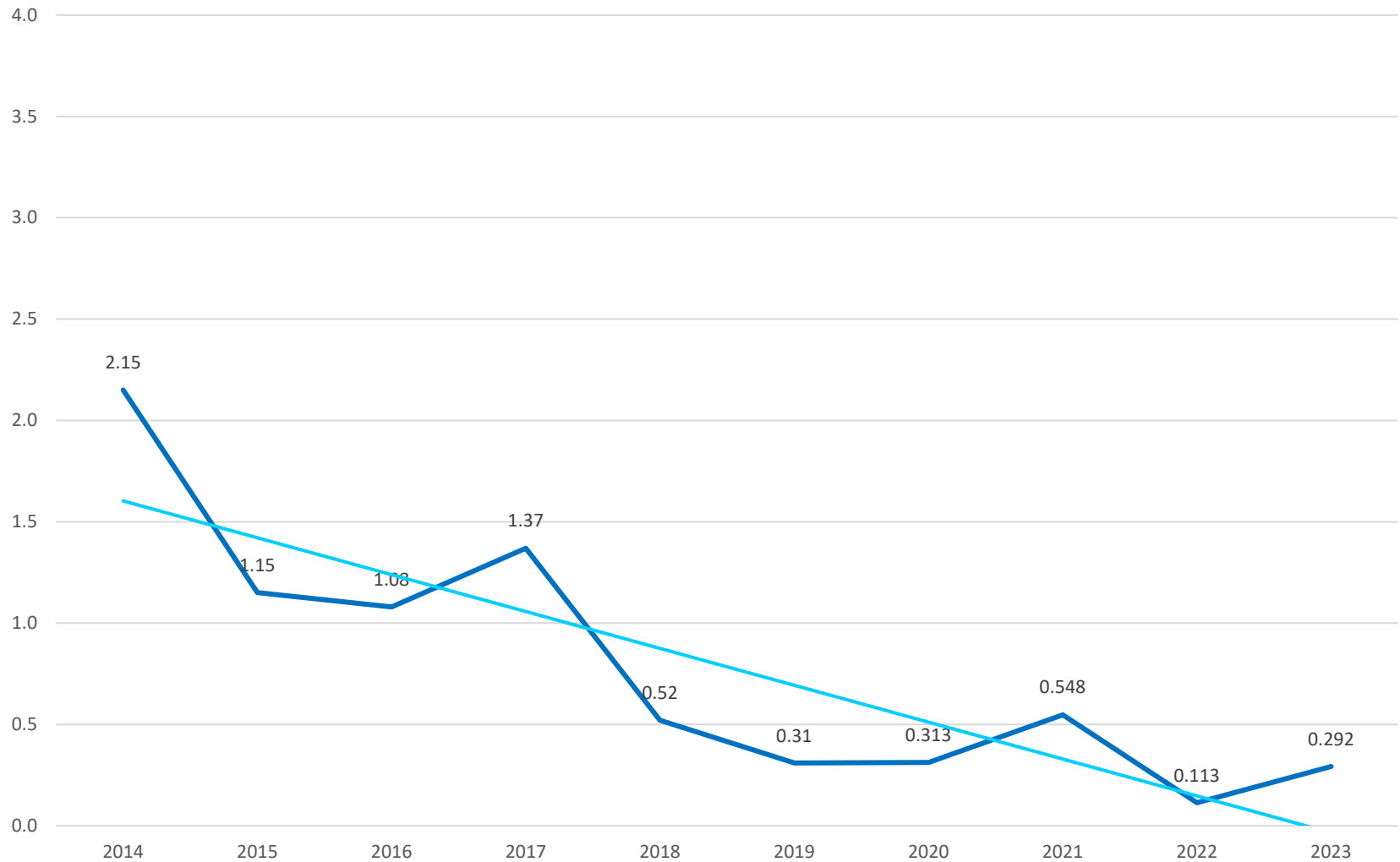
Distribution System Indices MED Excluded (CAIDI)





MAIFI System Performance

Distribution System Indices MED Excluded (MAIFI)





Worst Performing Circuits

Circuit	Customers	Substation	Circuit Miles	OH	UG	Circuit Outages	Circuit SAIDI	Circuit SAIFI
1202*	845	Topaz	59.14	94%	6%	3	2422	7.44
3300*	3603	Meyers	56.66	90.6%	9.4%	5	1592	4.09

Analysis of worst performing circuits excludes planned and Major Event outages.

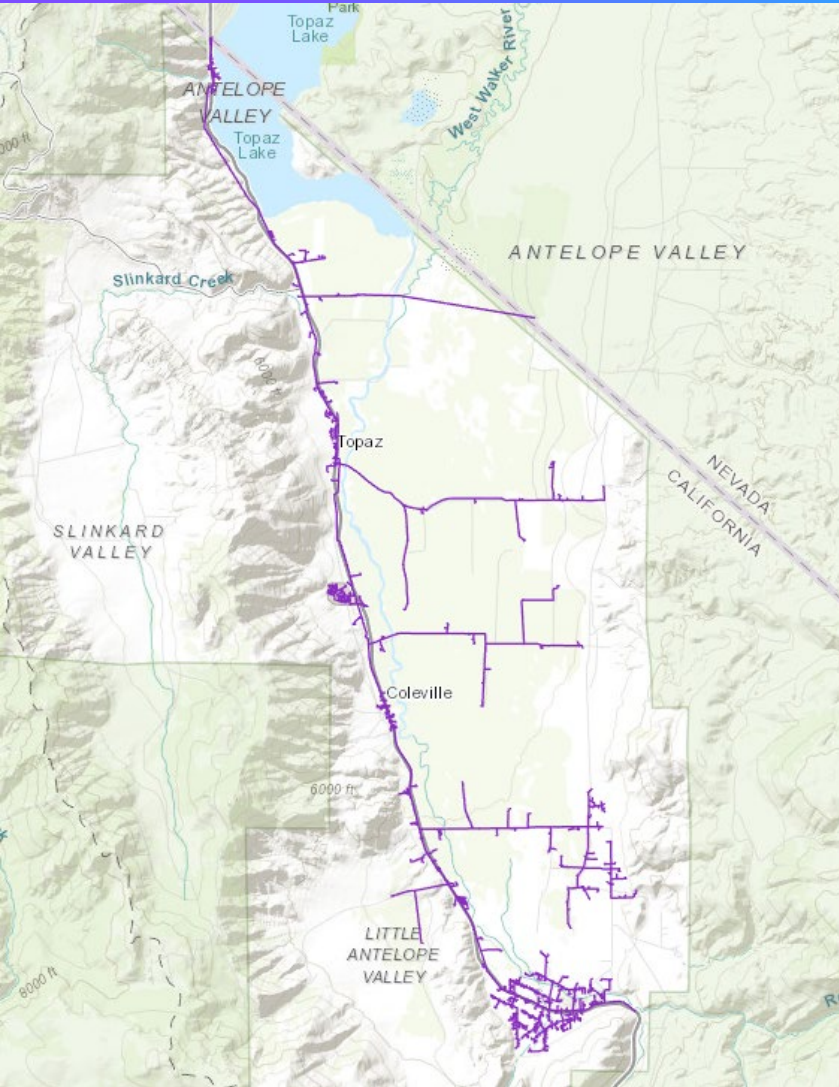
The preferred metric for this analysis is the 3 year average circuit level SAIDI in order to account for population discrepancies between urban and rural circuits.

*Circuit that has been identified as deficient in the previous year's report.





Topaz 1202 Circuit



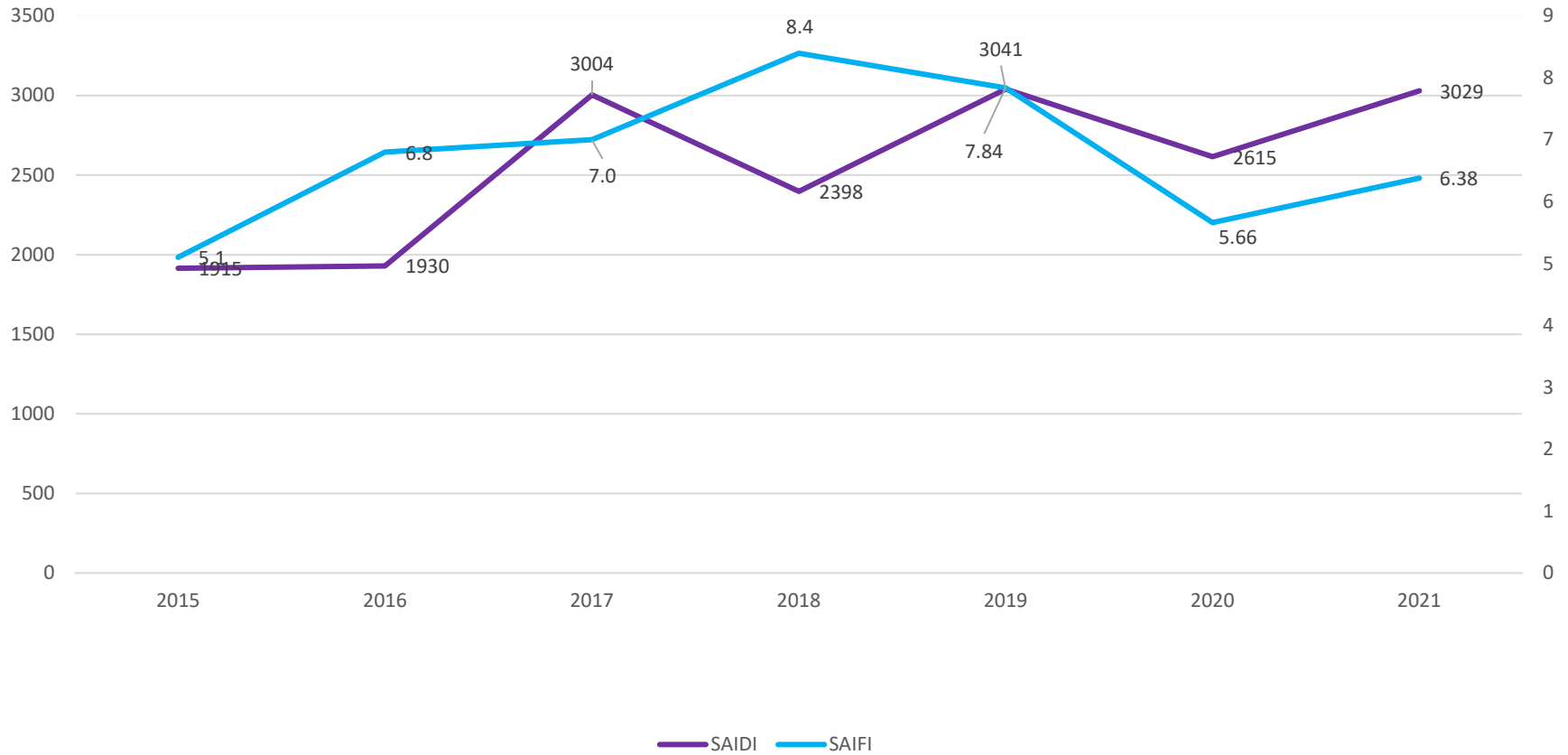
- Services Coleville, Walker
- Approximately 845 customers
- 1,408 poles
- 55.6 miles O/H
- 3.6 miles U/G
- Radial source from Smith Valley, NV





Reliability Trend

Topaz 1202 Reliability Metrics





Significant Outages

May 19, 2023

- ❑ Outage due to equipment failure
- ❑ Circuit breaker operated de-energizing circuit
- ❑ Outage Time – 7 hours 18 minmutes until fully restored

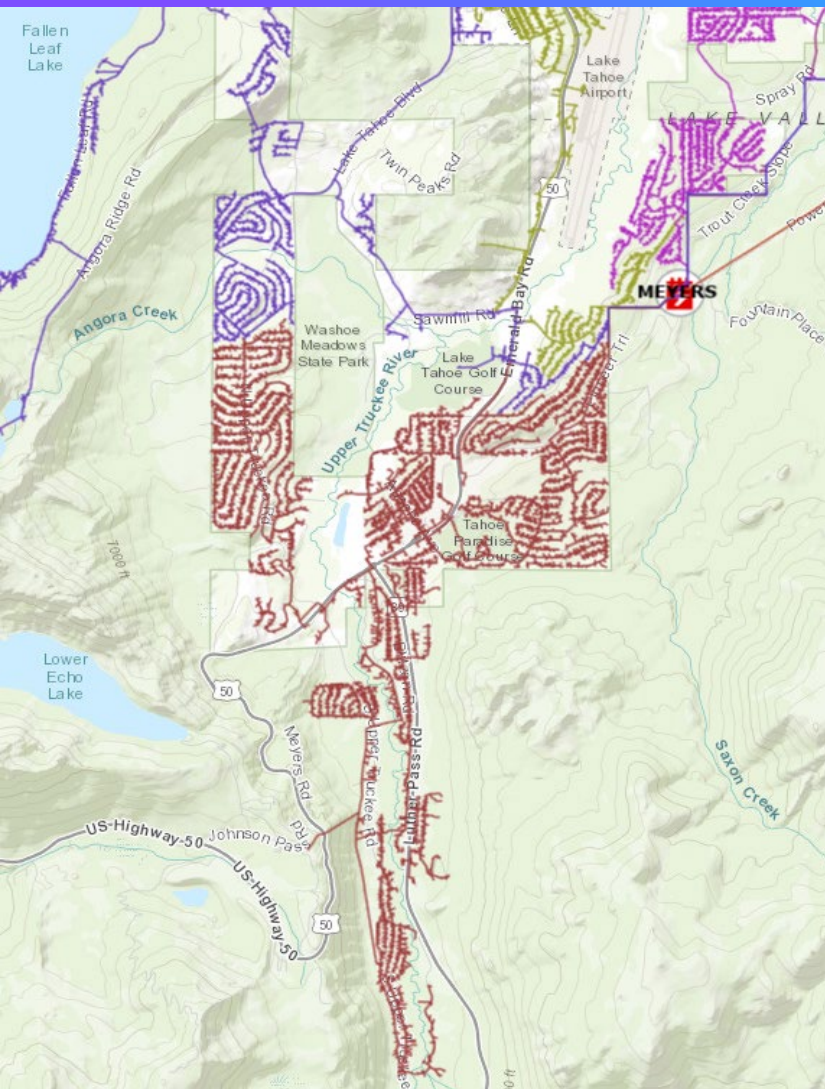
January 15, 2023

- ❑ Outage caused by weather
- ❑ Circuit breaker operated de-energizing circuit
- ❑ Outage Time – 3 hours 37 minutes until fully restored





Meyers 3300 Circuit



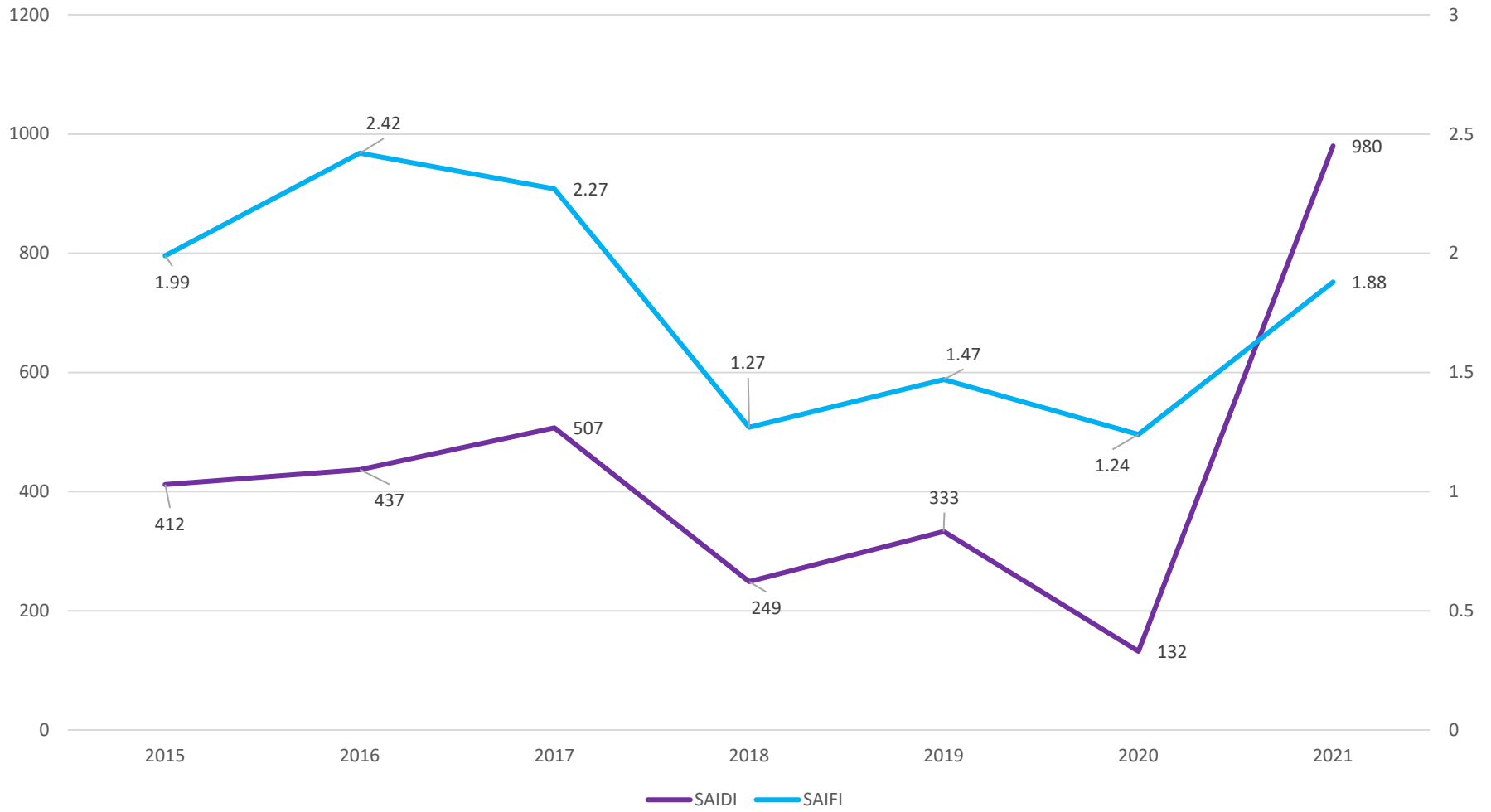
- Services South Lake Tahoe east of Echo Lake
- Approximately 3603 customers
- 2071 Poles
- 51.3 miles O/H distribution
- 5.3 miles U/G distribution
- Sources out of Meyers Substation in South Lake Tahoe





Reliability Trend

Meyers 3300 Reliability Metrics





Significant Outages

January 16, 2023

- Outage caused by storm
- Downed wire due to storm
- Outage Time – 5 hours 27 minute until fully restored

September 13, 2023

- Outage cause by motor vehicle accident
- Majority of the circuit was de energized
- Outage Time – 9 hours 44 minute until fully restored





Reliability Improvements



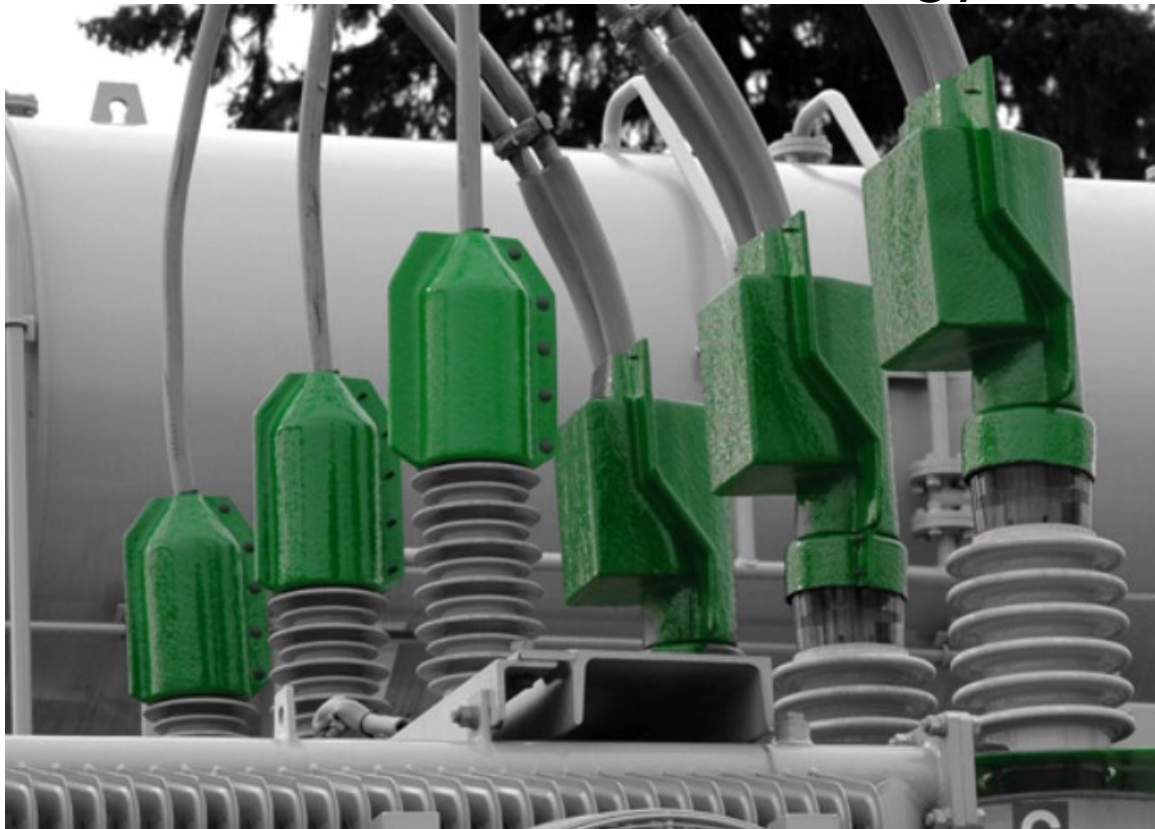
An aggressive Vegetation Management program – about \$13 million per year





Improved Animal Protection

Green Jacket Technology



Installed on all our existing substations to prevent animal contact





Wildfire Mitigation Plans

Several projects are underway to reduce fire risk



Some Projects include:

- Advanced weather monitoring
- Covered Conductor
- Sensitive Relay Profile
- Additional recloser installations



Thank you

Email: PowerQuality@libertyutilities.com

Or call Customer Service at
1-800-782-2506

