

April 28, 2021

# VIA ELECTRONIC FILING

Utah Public Service Commission Heber M. Wells Building, 4<sup>th</sup> Floor 160 East 300 South Salt Lake City, UT 84114

Attention: Gary Widerburg Commission Administrator

**RE: Docket No. 21-035-28** – Rocky Mountain Power's Service Quality Review Report

In compliance with the Commission's June 11, 2009 order in Docket No. 08-035-55 and December 20, 2016 order in Docket Nos. 13-035-01 and 15-035-72, and pursuant to the requirements of Rule R746-313, PacifiCorp d.b.a. Rocky Mountain Power ("RMP" or "Company") submits the Service Quality Review Report for the period January through December, 2020.

The Company respectfully requests that all formal correspondence and requests for additional information regarding this filing be addressed to the following:

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Data Request Response Center PacifiCorp 825 NE Multnomah, Suite 2000 Portland, OR 97232

Informal inquiries may be directed to Jana Saba at (801) 220-2823.

Sincerely,

420 Joelle Steward

Vice President, Regulation

Enclosures



# UTAH SERVICE QUALITY REVIEW

January 1 – December 31, 2020 Report



January 1 – December 31, 2020

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# **Executive Summary**

Rocky Mountain Power developed its Customer Service Standards and Service Quality Measures nearly 20 years ago. The standards were developed as a way to demonstrate to customers that the Company is serious about serving them well and willing to back its commitments with cash payments in cases where the Company falls short. The standards also help remind employees about the importance of good customer service. The Company developed these standards by benchmarking its performance against relevant industry reliability and customer service standards. In some cases, Rocky Mountain Power has expanded upon these standards. In other cases, largely where the industry has no established standard, Rocky Mountain Power developed its own metrics, targets and reporting methods.

Rocky Mountain Power continues to deliver favorable network performance as measured by System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). The Company extended its year-on-year improvement achieved by completion of reliability projects and efforts that have been put in place. In Docket No. 20-035-22, the Division of Public Utilities (DPU) reviewed Rocky Mountain Power's 2019 service quality and recommended the Public Service Commission of Utah (Commission) establish a work group to review RMP's reliability baseline standards related to SAIDI and SAIFI and make recommendations. The Commission accepted this recommendation and directed RMP and DPU to convene a work group, open to interested parties, to examine RMP's reliability baseline standards and to make recommendations. In accordance with the Commission directive, the parties convened a workgroup that met to discuss new baseline performance standards, which are reflected in this report.

Rocky Mountain Power recognizes the continued impact of any outage to its customers. Utah customers experienced three major outage events involving a 5.7 magnitude earthquake, severe weather and a catastrophic windstorm. While these represent extreme events, Rocky Mountain Power recognizes the significant negative impacts to our customers, communities and other important stakeholders.

Our goal continues to be supplying safe, reliable power to Utah. We are dedicated to learning from our past service experiences and continuing to make improvements to our operations and customer service to ensure we meet Utah's needs.

Below is a summary of our year-end 2020 performance serving the customers of Utah.



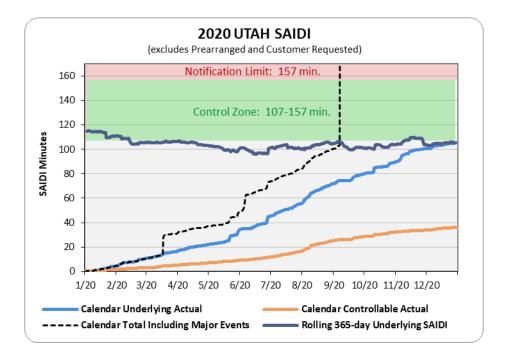
# **1** Reliability Performance

For the reporting period, the Company's performance was on target for delivering System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). The Company met with the Commission and modified the baseline performance range. It was determined, based on historical performance, that the range should be reduced (SAIDI reduced from 137-187 to 107-157 minutes and SAIFI reduced from 1.0-1.6 to 0.9-1.2 events). These changes can be seen in sections 1.1 and 1.2. In addition, section 1.3 provides details regarding major event and significant event customers experienced. Finally, sections 1.4 and 1.5 shows Company outage response performance.

# 1.1 System Average Interruption Duration Index (SAIDI)

Over time the Company has made system changes to minimize how many customers are affected for any given outage. This approach has resulted in improvements to both outage duration and outage frequency, and has yielded improved performance as delivered to customers, as generally shown in the graphic below and in 1.2. The total value includes underlying and major events.

SAIDI	Reporting Period
Total	683
Underlying	106
Controllable Distribution	36

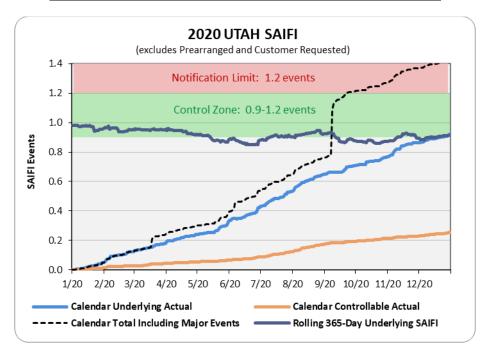




January 1 – December 31, 2020

# 1.2 System Average Interruption Frequency Index (SAIFI)

SAIFI	Reporting Period
Total	1.430
Underlying	0.925
Controllable Distribution	0.254





# **1.3** Major and Significant Event Days

There were three major events<sup>1</sup> and six significant event days<sup>2</sup> during the reporting period. New to the report this year, Rocky Mountain Power has included regional major events to show events that are statistical outliers that may not show up on a state level. These events are still included in the underlying metrics and are found in section 1.1. Finally, sections 1.4 and 1.5 shows company outage response performance.

#### **Major Event Descriptions**

Major Events										
Date	Cause	Status	Docket	SAIDI						
March 18, 2020	Earthquake	Approved	<u>20-035-19</u>	14.6						
June 5-8, 2020	Weather - Windstorm	Approved	<u>20-035-36</u>	12.8						
September 7-16, 2020	Weather – Windstorm	Approved	<u>21-035-15</u>	548.7						
Total										

## • March 18, 2020

On March 18, 2020, at 7:09 AM, a 5.7 magnitude earthquake in Magna, Utah shook the Wasatch Front and caused widespread outages to Rocky Mountain Power customers across the Salt Lake and Tooele Valleys. The earthquake triggered multiple substation protective relays to operate and isolate transformers to prevent further damage. Moreover, the earthquake caused numerous distribution lines to fall or twist together. The damage to company facilities resulted in 56,421 customer interruptions.

#### • June 5-8, 2020

A storm system moved across the state of Utah beginning June 5, 2020 and extending over a three day period. The storm brought strong winds and precipitation to the region causing widespread outages to Rocky Mountain Power customers. The damage to company facilities resulted in 50,451 customer interruptions.

#### • <u>September 7-16, 2020</u>

On the afternoon of September 7, 2020, a surge of cold air from Canada unleashed damaging winds in northern Utah. Wind gusts measured 99 mph in Farmington and 112 mph in Salt Lake City at the University of Utah, with east downslope winds of 60 to 90 mph that continued throughout the day September 8, 2020. The high winds caused trees to fall, lines to tangle and equipment to fail. The event impacted 373,674 customers in northern Utah and outages lasted multiple days due to the widespread damage. The peak of the outages occurred the morning of September 8, 2020 when 203,930 Rocky Mountain Power customers were without service.

<sup>1</sup> A Major Event (ME) is defined as a 24-hour period where SAIDI exceeds a statistically derived threshold value (Reliability Standard IEEE 1366-2012) based on the 2.5 beta methodology. The values used for the reporting period are shown below:

Effective Date	Customer Count	ME Threshold SAIDI	ME Customer Minutes Lost
1/1-12/31/2020	954,372	4.84	4,614,733

<sup>2</sup> Significant event days are 1.75 times the standard deviation of the company's natural log daily SAIDI results (by state or appropriate reliability reporting region).

#### **Regional Major Events**

Beginning in 2020, Rocky Mountain Power began categorizing regions where outages in a diverse operating area can be identified as statistical outliers, which would otherwise be hidden by the statistical weighting of some districts. This is in accordance with IEEE Standard 1366-2012 which notes, "[the purpose of major event classification] is to allow major events to be studied separately from daily operation, and in the process, to better reveal trends in daily operation that would be hidden by the large statistical effect of major events." The regional major event listed below is still included in the underlying metrics and is stated in this report for informational purposes.

Regional Major Events											
Date	Cause	SAIDI									
June 28, 2020	Loss of Transmission – Wildfire	3.3									
	Total	3.3									

### • June 28, 2020

On June 28, 2020, a fast-moving wildfire caused a loss of transmission line event affecting customers in Southern Salt Lake County and Northern Utah County. The event resulted in 22,997 customer interruptions with outage durations ranging from eight minutes to four hours 46 minutes. The event is classified as a regional major event and is still included in the underlying metrics.

#### Significant Events

Significant event days add substantially to year-on-year cumulative performance results; fewer significant event days generally result in better reliability for the reporting period, while more significant event days generally mean poorer reliability results. During the reporting period six significant event days were recorded, which account for 17.5 SAIDI minutes, or about 17 percent of the reporting period's underlying 106 SAIDI minutes. The leading cause of these events are included in the table below.

	Significant Event Days												
Dates	Cause: General Description	Underlying SAIDI	Underlying SAIFI	% of Total Underlying SAIDI (106)	% of Total Underlying SAIFI (0.925)								
May 22, 2020	Weather - Windstorm	2.9	0.013	3%	3%								
May 30, 2020	Weather – Windstorm	1.8	0.013	2%	3%								
June 28, 2020	Loss of Transmission – Wildfire	4.5	0.029	4%	7%								
August 3, 2020	Loss of Transmission Line	2.2	0.021	2%	2%								
October 11, 2020	Loss of Transmission Line and Pole Fire	3.9	0.015	4%	2%								
November 6, 2020	Trees Non-Preventable/Loss of Substation	2.2	0.013	2%	1%								
	TOTAL	17.5	0.104	17%	11%								



RESTORATIONS WITHIN 3 HOURS											
Reporting Period Cumulative = 89%											
January	February	March	April	May	June						
94%	91%	96%	95%	86%	75%						
July	August	September	October	November	December						
93%	88%	94%	94%	94%	92%						

# 1.4 Restore Service to 80% of Customers within 3 Hours

# **1.5 CAIDI Performance**

The table below shows the average time, during the reporting period, for outage restoration. This augments previous reporting for the percent of customers whose power was restored within 3 hours of notification of an outage event and uses IEEE industry indices.

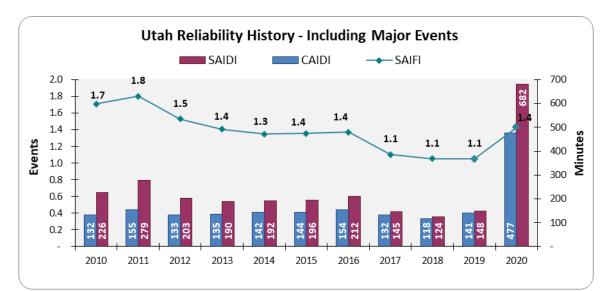
CAIDI (Average Outage Duration)									
Underlying Performance	478 minutes								
Total Performance	115 minutes								



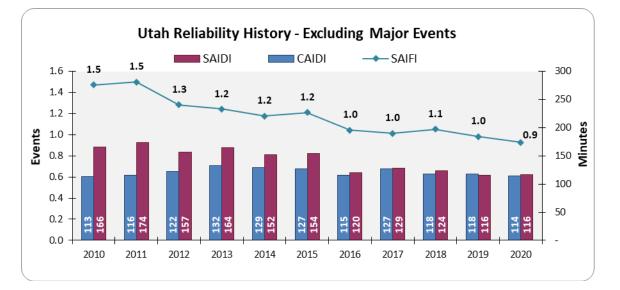
# 2 Reliability History

Historically the Company has improved reliability as measured by SAIDI and SAIFI reliability indices; at the same time outage response performance (CAIDI) has varied from year to year with no specific trend apparent. The SAIDI and SAIFI trends are further evidenced in Sections 2.2 and 2.3, where 365-day rolling performance trends are depicted. These indices demonstrate the efficacy of the long-term improvement strategies targeted toward reducing the frequency of interruptions that the company under-took after the implementation of its automated outage management system. As previously discussed, this report reflects the updated baselines, which are detailed further in Section 2.3.

It is particularly noteworthy that these two metrics show durable improvement for both underlying and major event performance within the state, meaning that the system is more resilient on a day-to-day basis as well as when extreme weather or other system impacting events occur.



# 2.1 Utah Reliability Historical Performance

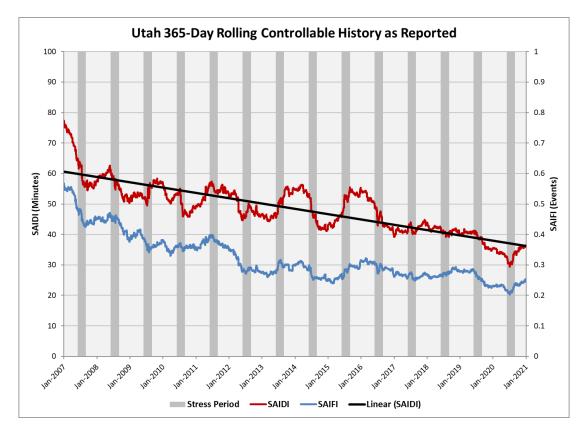




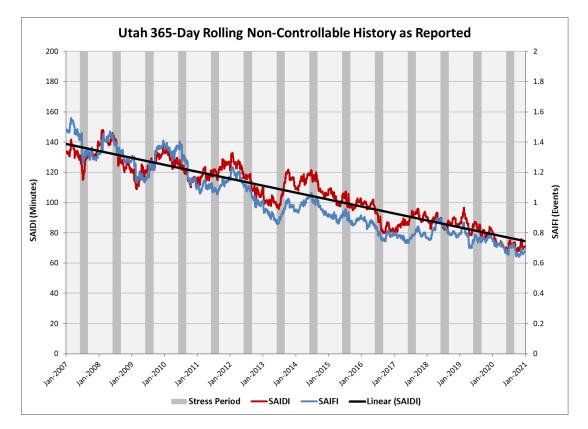
# 2.2 Controllable, Non-Controllable and Underlying Performance Review

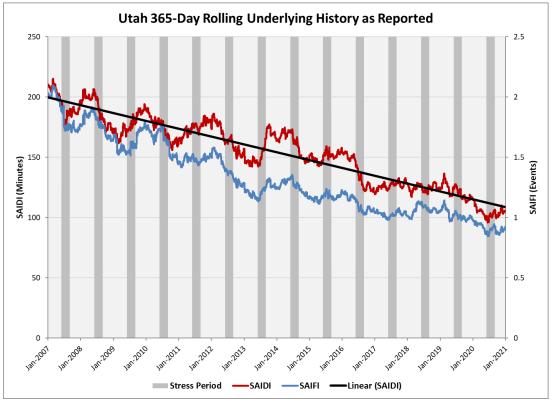
In 2008, the Company introduced a further categorization of outage causes, which it subsequently used to develop improvement programs as developed by engineering resources. This categorization was titled Controllable Distribution Outages and recognized that certain types of outages can be cost-effectively avoided. As an example, animal-caused or equipment failure interruptions have a less random nature than lightning caused interruptions; other causes have also been determined and are specified in Section 2.4 Engineers can develop plans to mitigate against controllable distribution outages and provide better future reliability at the lowest possible cost. At that time, there was concern that the Company would lose focus on non-controllable outages. In order to provide insight into the response and history for those outages, the charts below distinguish amongst the outage groupings.

The graphic history demonstrates controllable, non-controllable, and underlying performance on a rolling 365day basis. Analysis of the trends displayed in the charts below shows a general improving trend for all charts. In order to also focus on non-controllable outages, the Company has continued to improve its resilience to extreme weather using such programs as its visual assurance program to evaluate facility condition. It also has undertaken efforts to establish impacts of loss of supply events on its customers and deliver appropriate improvements when identified. It uses its web-based notification tool for alerting field engineering and operational resources when devices have exceeded performance thresholds in order to react as quickly as possible to trends in declining reliability. These notifications are conducted regardless of whether the outage cause was controllable or not.







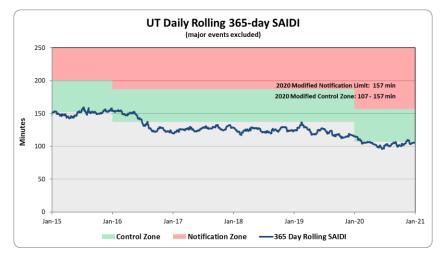


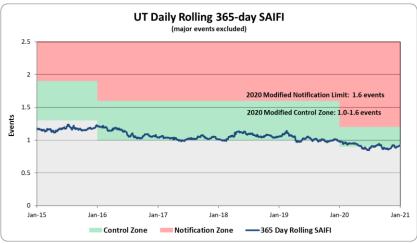


# 2.3 Baseline Performance

In compliance with Utah Reliability Reporting Rules, the Company developed performance baselines that it subsequently filed for approval (based on 2008-2012 history). The baseline values were calculated using the 12-month moving average data for SAIDI and SAIFI over a 5-year period as the mean, plus or minus approximately two standard deviations. These baselines were approved, but stakeholders advocated that periodically refreshing baseline levels would be beneficial. As a result, on December 20, 2016, the Public Service Commission of Utah approved modified electric service reliability performance baseline notification levels (Docket No. 13-035-01 and 15-035-72). On June 23, 2020, the Commission directed the Company to work with parties to review the baselines. The original and modified baselines are shown below.

	SAIDI (M	linutes)	SAIFI (Events)				
	Lower Value Control Zone	Upper Value Control Zone	Lower Value Control Zone	Upper Value Control Zone			
Prior Baseline	151	201	1.3	1.9			
2016 Modified Baseline	137	187	1.0	1.6			
2020 Modified Baseline	107	157	0.9	1.2			







# 2.4 Reliability Reporting Post-Rule R.746-313 Modifications

In 2012, the Company and stakeholders developed reliability reporting rules that are codified in Utah Administrative Code R746.313. Certain reliability reporting details were outlined in these rules that had not been previously required in the Company's Service Quality Review Report. Certain elements may be at least partially redundant or segmented differently than has been provided in the past.

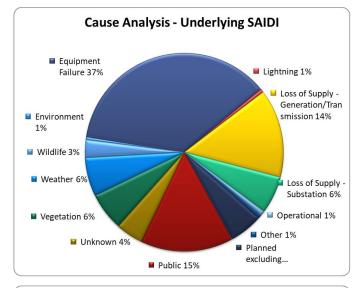
The final rule required five-year history at an operating area level for SAIDI, SAIFI and CAIDI. At a state level, these metrics in addition to  $MAIFI_e^3$  are required.

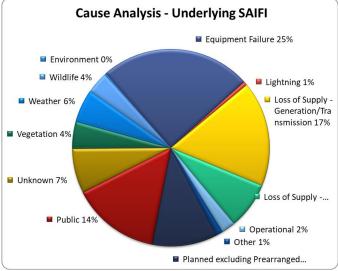
Major Events and Prearranged Excluded* 2016			2017			2018			2019				2020							
STATE	SAIDI	SAIFI	CAIDI	MAIFIe	SAIDI	SAIFI	CAIDI	MAIFle	SAIDI	SAIFI	CAIDI	MAIFIe	SAIDI	SAIFI	CAIDI	MAIFle	SAIDI	SAIFI	CAIDI	MAIFIe
Utah	120	1.0	115	1.76	129	1.0	127	1.11	124	1.1	118	2.17	116	1.0	118	2.64	106	0.9	114	3.46
OP AREA																				
AMERICAN FORK	92	1.0	93		77	0.8	102		85	0.8	109		59	0.6	100	]	65	0.7	91	
CEDAR CITY	174	1.5	116		183	1.7	109		157	1.2	136		160	1.4	114		149	1.3	111	
CEDAR CITY (MILFORD)	650	4.9	132		565	2.5	230		226	1.4	164		563	3.2	177		296	1.9	154	
EVANSTON	16	0.1	199		49	0.2	219		23	0.2	96		9	0.1	76		12	0.1	192	
JORDAN VALLEY	100	0.8	131		109	0.8	139		137	1.1	121		100	0.8	118		99	0.8	121	
LAYTON	90	0.9	103		115	0.8	149		90	0.9	101		83	0.9	90		71	0.8	93	
MOAB	278	3.0	93		190	2.4	80		111	1.1	103		171	2.0	87		239	1.9	123	
MONTPELIER	43	0.5	93		452	0.7	624		34	0.4	94		13	0.2	75		33	0.2	142	
OGDEN	120	1.0	120		119	0.9	138		116	1.0	114		153	1.1	139		116	0.9	128	
PARK CITY	183	1.6	117		227	1.4	159		165	1.2	143		187	1.1	171		251	1.9	132	
PRICE	340	3.3	104		171	2.5	69		203	2.3	90		101	1.9	53		140	1.3	109	
RICHFIELD	132	1.3	101		187	2.0	95		173	1.4	125		222	2.2	103		135	1.5	92	
RICHFIELD (DELTA)	215	2.1	103		139	1.3	105		171	1.0	163		100	0.7	136		203	1.0	197	
SLC METRO	104	0.9	113		114	1.0	111		120	1.0	118		113	0.9	125		95	0.9	108	
SMITHFIELD	117	1.0	118		139	0.9	149		96	1.0	99		127	1.5	83		88	0.9	100	
TOOELE	161	1.1	151		140	1.4	100		196	1.5	135		146	1.3	110		137	1.0	137	
TREMONTON	399	3.1	129		200	2.0	99		151	1.1	137		259	1.6	167		178	1.3	140	
VERNAL	53	0.6	84		77	0.8	96		48	0.6	82		58	0.6	98		68	0.7	94	

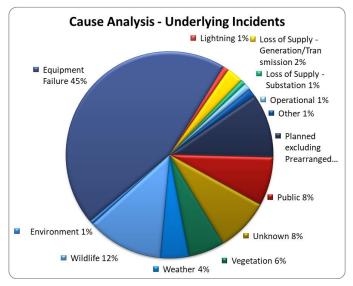
Litely Course Cotogony	20:	16	20:	2017		18	201	19	2020	
Utah Cause Category		SAIFI	SAIDI	SAIFI	SAIDI	SAIFI	SAIDI	SAIFI	SAIDI	SAIFI
Environment	1	0.0	1	0.0	1	0.0	0	0.0	1	0.0
Equipment Failure	45	0.2	44	0.2	48	0.3	40	0.2	39	0.2
Lightning	3	0.0	3	0.0	3	0.0	3	0.0	1	0.0
Loss of Supply - Generation/Transmission	13	0.2	13	0.1	13	0.2	9	0.1	15	0.2
Loss of Supply - Substation	13	0.1	11	0.1	9	0.1	11	0.1	6	0.1
Operational	1	0.0	1	0.0	0	0.0	0	0.0	1	0.0
Other	0	0.0	o	0.0	0	0.0	1	0.0	1	0.0
Planned (excl. Prearranged)	11	0.2	8	0.1	10	0.1	9	0.1	6	0.1
Public	14	0.1	15	0.1	15	0.1	16	0.1	16	0.1
Unknown	7	0.1	6	0.1	6	0.1	5	0.1	5	0.1
Vegetation	5	0.0	6	0.0	5	0.0	7	0.0	7	0.0
Weather	5	0.0	16	0.1	9	0.1	11	0.1	7	0.1
Wildlife	2	0.0	3	0.0	3	0.0	2	0.0	3	0.0
UTAH Underlying	120	1.0	129	1.0	124	1.1	116	1.0	106	0.9

<sup>&</sup>lt;sup>3</sup> MAIFI<sub>e</sub> events are measured using the circuit customer count for those circuits where a trip and reclose occurred during the reporting period, and do not include customer counts for circuits where no event was recorded.











# 3 Improve Reliability Performance in Areas of Concern

Over the past decade the Company has developed approaches, including tools, automated and manual processes and methods to improve reliability. As it has done so, the Company's ability to diagnose portions of the system requiring improvement has improved, which yields its legacy "Worst Performing Circuit" program obsolete. As a result, it devised a more contemporary approach to identifying improvement plans, determining the value of those plans and monitoring to ensure that results delivered meet or exceed expected targets. This program was named Open Reliability Reporting (ORR).

The ORR process shifts the Company's reliability program from a circuit-based view reliant on blended reliability metrics (using circuit SAIDI, SAIFI and MAIFI) to a more strategic and targeted approach based upon recent trends in performance of the local area, as measured by customer minutes interrupted (from which SAIDI is derived). The decision to fund one performance improvement project versus another is based on cost effectiveness as measured by the cost per avoided annual customer minute interrupted. However, the cost effectiveness measure will not limit funding of improvement projects in areas of low customer density where cost effectiveness per customer may not be as high as projects in more densely populated areas.

# 3.1 Reliability Work Plans

The Company has worked to improve reliability through Reliability Work Plans. To assist in identification of problem areas, Area Improvement Teams (AIT) meetings and Frequent Interrupters Requiring Evaluation (FIRE) reports have been established. On a daily basis, the Company's system alerts operations and engineering team members regarding outages experienced at interrupting devices (circuit breakers, line reclosers and fuses). When repetition occurs, it is an indicator that system improvements may be needed. On a routine basis, local operations and engineering team members review the performance of the network using geospatial and tabular tools to look for opportunities to improve reliability. As system improvement are prepared. If the project's cost effectiveness metrics are favorable, i.e. low cost and high avoidance of future customer minutes interrupted, the project is approved for funding and the forecast customer minutes interrupted are recorded for subsequent comparison. This process allows individual districts to take ownership and identify the greatest impact to their customers. Rather than focusing on a large area at high costs, districts can focus on problem areas or devices.

# 3.2 Project Approvals by District

The identification of projects is an ongoing process throughout the year. An approval team reviews projects weekly and once approved, design and construction begins. Upon completion of the construction, the project is identified for follow up review of effectiveness. One year after completion, routine assessments of performance are prepared. This comparison is summarized for all projects for each year's plans, and actual versus forecast results are assessed to determine whether targets were met or if additional work may be required. The table below is provided to demonstrate the measures the Company believes represents cost/effectiveness measures that are important in determining the success of the projects that have been completed.



## **Service Quality Review**

#### UTAH

#### January 1 – December 31, 2020

				2018-2020 Distr	ict Projects*				
Appro	val Metri	cs		I	Effectiveness Me	etrics			In Progress
District	Project count	Budgeted Cost/CML	Plans Meeting Goals (>1 year since project completion)	Estimated Avoided annual CML	Actual Avoided annual CML	Budgeted Cost per annual avoided CML	Actual Cost per annual avoided CML	Plans Not Meeting Goals (not included in metrics)	Plans waiting for information
American Fork	11	\$1.40	4	102,529	181,348	\$2.12	\$0.74	0	7
Cedar City	1	\$3.39	0 0		0 \$0.00		\$0.00	0	1
Jordan Valley 44 \$1.60		\$1.60	28	1,532,659	4,725,963	\$1.44	\$0.52	0	16
Layton	Layton 5 \$0.53		3	253,428	1,022,889	\$0.30	\$0.26	1	1
Moab	4	\$4.57	1	5,754	11,508	\$7.78	\$10.91	0	3
Montpelier	1	\$0.53	0	0	0	\$0.00	\$0.00	0	1
Ogden	21	\$1.16	13	1,212,082	3,996,332	\$0.91	\$0.20	1	7
Park City	14	\$0.53	6	358,037	1,044,263	\$0.41	\$0.20	0	8
Price	2	\$7.20	1	156,189	446,255	\$7.04	\$2.34	0	1
Richfield	4	\$22.20	2	125,844	172,202	\$7.00	\$4.29	0	2
SLC Metro	36	\$2.94	17	811,924	2,728,056	\$2.24	\$0.71	0	19
Smithfield	2	\$0.88	1	138,377	395,363	\$0.23	\$0.12	0	1
Tooele	11	\$0.97	4	705,661	1,546,001	\$1.90	\$0.45	0	7
Tremonton	2	\$28.26	1	6,485	9,977	\$2.31	\$2.39	0	1
Total	158	\$2.13	81	5,408,969	16,280,158	\$1.66	\$0.52	2	75

\*Metrics cover RWP's approved between 1/1/2018 and 12/31/2020



# 4 Customer Response

# 4.1 Telephone Service and Response to Commission Complaints

COMMITMENT	GOAL	PERFORMANCE
PS5-Answer calls within 30 seconds	80%	85%
PS6a) Respond to commission complaints within 3 days	95%	100%
PS6b) Respond to commission complaints regarding service disconnects within 4 hours	95%	100%
PS6c) Address commission <sup>4</sup> complaints within 30 days	100%	100%

# 4.2 Utah Commitment U1

To identify when a 'wide-scale' outage has occurred, the company examines call data for customers who have selected either the power emergency or power outage option within the company's call menu. However, in order to report on performance during a 'wide-scale' outage, the company must use network information, which provides information for all call types, not just outage calls. Therefore, using the menu level data the company has identified the time intervals that exceed the agreed upon standard 2,000 calls/hour, and reports the network level statistics for the same intervals.

For the reporting period, there were six days identified as wide-scale outage days; call statistics are shown in the table below. On January 15<sup>th</sup> the Roseburg and Myrtle Creek areas in Oregon experienced an outage as the result of a Loss of Transmission Line causing outages to over 10,000 customers. On July 21<sup>st</sup> the Portland area in Oregon experienced an outage as the result of a Loss of Transmission Line causing outages to over 10,000 customers. On July 21<sup>st</sup> the Portland area in Oregon experienced an outage as the result of a Loss of Transmission Line causing outages to over 34,000 customers. From September 8<sup>th</sup> through 11<sup>th</sup>, a catastrophic windstorm caused outages to approximately 220,000 Rocky Mountain Power Customers and 60,000 Pacific Power customers at peak and caused extended restoration times due to the extent of damages across all six states.

Date	Inte start/fini Tir	sh (MT	Network Total Calls* Calls received but not delivered**		# of Calls Abandoned from Agent Queue	Max Delay Time Seconds***	ASA Seconds
	12:00	12:14	996	0	115	579	176
4/45/2020	12:15	12:29	669	0	29	365	55
1/15/2020	12:30	12:44	504	0	3	79	16
	12:45	12:59	508	0	7	173	24
7/21/2020	14:00	14:14	1225	388	69	123.0753	37
//21/2020	14:15	14:29	1218	327	63	157.2704	67

<sup>&</sup>lt;sup>4</sup> Rocky Mountain Power follows the definitions for informal and formal complaints as set forth in the Utah Code, Title 54, Public Utilities Statutes and Public Service Commission Rules, R746-200-8 Informal review (A) and Commission review (D).



## **Service Quality Review**

Date	start/fini	rval sh (MT ne)	Network Total Calls*	Calls received but not delivered**	# of Calls Abandoned from Agent Queue	Max Delay Time Seconds***	ASA Seconds	
	14:30	14:44	370	0	2	91.00433	16	
	14:45	14:59	304	0	3	96.12299	14	
	8:00	8:15	2253	1723	289	6335	560	
	8:15	8:29	2191	1669	291	5542	586	
	8:30	8:44	2177	1628	260	5175	484	
	8:45	8:59	2159	1583	255	4482	539	
	9:00	9:15	2126	1578	221	3780	399	
	9:15	9:29	2157	1610	198	3031	439	
	9:30	9:44	2098	1491	193	2988	255	
	9:45 9:59		2080	1471	171	583	64	
	10:00	10:14	2393	1688	169	779	48	
	10:15	10:29	1678	1209	101	295	31	
	10:30	10:44	2116	1233	164	2916	305	
	10:45	10:59	1976	930	129	2643	249	
	11:00	11:14	2064	1062	171	1981	264	
	11:15	11:29	2110	1132	155	1114	287	
	11:30	11:44	1947	1072	241	1370	380	
0/0/0000	11:45	11:59	1919	956	191	941	328	
9/8/2020	12:00	12:14	1890	898	151	1524	332	
	12:15	12:29	1797	720	179	870	304	
	12:30	12:44	1840	726	148	685	248	
	12:45	12:59	1977	804	164	732	252	
	13:00	13:14	1913	827	173	1101	336	
	13:15	13:29	1880	789	163	1181	274	
	13:30	13:44	1931	816	190	1161	225	
	13:45	13:59	1978	814	140	1103	189	
	14:00	14:14	1798	701	122	940	251	
	14:15	14:29	1868	724	132	1325	237	
	14:30	14:44	1879	759	113	794	254	
	14:45	14:59	1950	826	160	789	250	
	15:00	15:14	2028	846	158	777	257	
	15:15	15:29	2093	927	121	1005	239	
	15:30	15:44	1995	882	112	764	237	
	15:45	15:59	1839	645	97	669	190	



## **Service Quality Review**

Date	Inte start/fini Tir		Network Total Calls*	Calls received but not delivered**	# of Calls Abandoned from Agent Queue	Max Delay Time Seconds***	ASA Seconds
	16:00	16:14	1858	667	85	553	184
	16:15	16:29	1886	686	87	725	164
	16:30	16:44	1977	712	82	748	161
	16:45	16:59	2060	815	50	667	137
	8:00	8:15	575	0	34	914	114
	8:15	8:29	552	0	48	697	139
	8:30	8:44	591	0	65	1203	186
	8:45	8:59	610	0	52	953	214
	9:00	9:15	715	0	47	1420	203
	9:15	9:29	719	0	69	1245	182
	9:30	9:44	746	0	85	1576	251
	9:45	9:59	677	0	62	663	249
	10:00	10:14	719	0	49	631	187
	10:15	10:29	779	0	44	801	158
	10:30	10:44	771	0	43	794	154
	10:45	10:59	749	0	53	1511	211
	11:00	11:14	776	0	93	769	223
	11:15	11:29	741	0	53	1281	205
0/0/2020	11:30	11:44	683	0	41	635	167
9/9/2020	11:45	11:59	634	0	55	645	198
	12:00	12:14	700	0	81	1001	230
	12:15	12:29	641	0	69	923	179
	12:30	12:44	664	0	50	573	146
	12:45	12:59	961	38	57	779	240
	13:00	13:14	887	27	93	575	305
	13:15	13:29	737	0	64	1731	249
	13:30	13:44	770	0	59	649	170
	13:45	13:59	721	0	72	1058	173
	14:00	14:14	669	0	42	1079	183
	14:15	14:29	689	0	32	598	138
	14:30	14:44	664	0	48	463	160
	14:45	14:59	723	0	67	751	198
	15:00	15:14	699	0	68	1599	213
	15:15	15:29	737	0	90	706	292



## **Service Quality Review**

Date	start/fini	rval sh (MT ne)	Network Total Calls*	Calls received but not delivered**	# of Calls Abandoned from Agent Queue	Max Delay Time Seconds***	ASA Seconds	
	15:30	15:44	835	12	102	1207	288	
	15:45	15:59	744	0	70	857	236	
	16:00	16:14	686	0	60	644	222	
	16:15	16:29	648	0	36	513	147	
	16:30	16:44	702	0	55	688	187	
	16:45	16:59	629	0	65	580	224	
	8:00	8:15	292	0	2	32	7	
	8:15	8:29	361	0	3	48	15	
	8:30	8:44	376	0	1	59	18	
	8:45	8:59	382	0	1	111	30	
	9:00	9:15	504	0	3	67	15	
	9:15	9:29	503	0	3	65	19	
	9:30	9:44	574	0	10	245	79	
	9:45	9:59	503	0	12	250	132	
	10:00	10:14	517	0	1	103	38	
	10:15	10:29	543	0	1	68	23	
	10:30	10:44	563	0	1	83	24	
	10:45	10:59	526	0	1	92	32	
	11:00	11:14	576	0	4	140	61	
0/40/0000	11:15	11:29	623	0	1	62	16	
9/10/2020	11:30	11:44	559	0	3	103	30	
	11:45	11:59	521	0	1	50	14	
	12:00	12:14	516	0	2	39	12	
	12:15	12:29	547	0	0	107	28	
	12:30	12:44	596	0	5	155	59	
	12:45	12:59	499	0	5	110	48	
	13:00	13:14	521	0	1	41	14	
	13:15	13:29	473	0	1	70	18	
	13:30	13:44	504	0	1	39	14	
	13:45	13:59	493	0	2	83	19	
	14:00	14:14	482	0	5	79	21	
	14:15	14:29	518	0	1	79	19	
	14:30	14:44	443	0	2	85	28	
	14:45	14:59	498	0	1	89	25	



## **Service Quality Review**

Date	start/fini	rval sh (MT ne)	Network Total Calls*	Calls received but not delivered**	# of Calls Abandoned from Agent Queue	Max Delay Time Seconds***	ASA Seconds	
	15:00	15:14	568	0	5	111	47	
	15:15	15:29	500	0	3	73	25	
	15:30	15:44	605	0	2	101	44	
	15:45	15:59	554	0	3	190	55	
	16:00	16:14	564	0	6	153	76	
	16:15	16:29	577	0	5	164	40	
	16:30	16:44	534	0	12	266	133	
	16:45	16:59	512	0	28	333	192	
	8:00	8:15	183	151	1	50	50	
	8:15	8:29	183	145	1	52	52	
	8:30	8:44	224	168	2	52	52	
	8:45	8:59	270	164	5	84	84	
	9:00	9:15	290	191	1	130	130	
	9:15	9:29	323	178	2	112	112	
	9:30	9:44	310	151	2	99	99	
	9:45	9:59	316	160	1	89	89	
	10:00	10:14	354	309	13	243	243	
	10:15	10:29	380	235	2	114	114	
	10:30	10:44	344	199	4	103	103	
	10:45	10:59	353	221	7	207	207	
0/44/0000	11:00	11:14	335	187	7	133	133	
9/11/2020	11:15	11:29	360	244	2	66	66	
	11:30	11:44	358	205	5	129	129	
	11:45	11:59	323	174	1	78	78	
	12:00	12:14	315	152	0	115	115	
	12:15	12:29	337	179	5	83	83	
	12:30	12:44	350	161	2	92	92	
	12:45	12:59	348	167	18	279	279	
	13:00	13:14	335	136	14	244	244	
	13:15	13:29	286	120	0	98	98	
	13:30	13:44	327	117	3	149	149	
	13:45	13:59	296	101	2	101	101	
	14:00	14:14	306	103	2	114	114	
	14:15	14:29	294	125	1	118	118	



### **Service Quality Review**

#### January 1 – December 31, 2020

Date	start/fini	rval sh (MT ne)	Network Total Calls* Calls* Calls*		# of Calls Abandoned from Agent Queue	Max Delay Time Seconds***	ASA Seconds
	14:30	14:44	305	115	0	210	210
	14:45	14:59	331	135	2	181	181
	15:00	15:14	334	112	3	165	165
	15:15	15:29	298	116	1	129	129
	15:30	15:44	348	118	2	102	102
	15:45	15:59	307	9	2	95	95
	16:00	16:14	318	0	1	111	111
	16:15	16:29	328	0	3	123	123
	16:30	16:44	300	95	1	143	143
	16:45	16:59	287	119	0	100	100

\* All customers attempting to reach PacifiCorp Network.
 \*\* When Twenty First Century is manually invoked, the AT&T Network returns a courtesy message to non-outage callers. This includes repeated attempts.

\*\*\* Longest time any customer waited.



#### January 1 – December 31, 2020

# 4.3 Utah State Customer Guarantee Summary Status

# customer*guarantees*

January to December 2020 Utah

			20	20					
	Description	Events	Failures	% Success	Paid	Events	Failures	% Success	Paid
CG1	Restoring Supply	889,460	0	100.00%	\$0	933,114	0	100.00%	\$0
CG2	Appointments	8,836	0	100.00%	\$0	9,333	4	99.96%	\$200
CG3	Switching on Power	2,331	0	100.00%	\$0	4,042	0	100.00%	\$0
CG4	Estimates	1,455	4	99.73%	\$200	1,415	3	99.79%	\$150
CG5	Respond to Billing Inquiries	1,989	1	99.95%	\$50	2,335	7	99.70%	\$350
CG6	Respond to Meter Problems	756	0	100.00%	\$0	686	1	99.85%	\$50
CG7	Notification of Planned Interruptions	161,097	15	99.99%	\$750	187,372	37	99.98%	\$1,850
		1,065,924	20	99.99%	\$1,000	1,138,297	52	100.00%	\$2,600

Overall Customer Guarantee performance remains above 99 percent, demonstrating Rocky Mountain Power's continued commitment to customer satisfaction.

Major Events are excluded from the Customer Guarantees program. The program also defines certain exemptions, which are primarily for safety, access to outage site, and emergencies.



# 5 Maintenance Compliance to Annual Plan

# 5.1 T&D Preventive and Corrective Maintenance Programs

## Preventive Maintenance

The primary focus of the preventive maintenance plan is to inspect facilities, identify abnormal conditions<sup>5</sup>, and perform appropriate preventive actions upon those facilities. On-going assessment of policies, including their costs and benefits, will result in modifications to them. As the Company continues this assessment, further variations of the policies will result in refinement to the maintenance plan.

### Transmission and Distribution Lines

- Visual assurance inspections are designed to identify damage or defects that may endanger public safety or adversely affect the integrity of the electric system.
- Detailed inspections are in depth visual inspections of each structure and the spans between each structure or pad-mounted distribution equipment.<sup>6</sup>
- Pole testing includes a sound and bore to identify decay pockets that would compromise the wood pole's structural integrity.

## Substations and Major Equipment

- Rocky Mountain Power inspects and maintains substations and associated equipment to ascertain all components within the substation are operating as expected. Abnormal conditions that are identified are prioritized for repair (corrective maintenance).
- Rocky Mountain Power has a condition-based maintenance program for substation equipment including load tap changers, regulators, and transmission circuit breakers. Diagnostic testing is performed on a timebased interval and the results are analyzed to determine if the equipment is suitable for service or maintenance tasks to be performed. Protection system and communication system maintenance is performed based on a time interval basis.

## **Corrective Maintenance**

The primary focus of the corrective maintenance plan is to correct the abnormal conditions found during the preventive maintenance process.

## Transmission and Distribution Lines

- Priority C: Conditions that are nonconforming, but that in the opinion of the inspector do not need to be corrected until the next scheduled work is performed on that facility point.
- Priority D: Conditions that conform to the NESC and are not reportable to the associated State Commission. Priority G: Conditions that conform to the regulations requirement that was in place when construction took place but do not conform to more recent code adoptions. These conditions are "grandfathered" and are considered conforming.

<sup>&</sup>lt;sup>5</sup> The primary focus of the preventive maintenance plan is to inspect facilities, identify abnormal conditions, and perform appropriate preventive actions upon those facilities. Condition priorities are as follows:

Priority A: Conditions that pose a potential but not immediate hazard to the public or employees, or that risk loss of supply or damage to the electrical system.

Priority B: Conditions that are nonconforming, but that in the opinion of the inspector do not pose a hazard.

<sup>&</sup>lt;sup>6</sup> Effective 1/1/2007, Rocky Mountain Power modified its reliability & preventive planning methods to utilize repeated reliability events to prioritize localized preventive maintenance activities, using its Reliability Work Planning methodology. At this time, repeated outage events experienced by customers will result in localized inspection and correction activities, rather than being programmatically performed at either the entire circuit or map section level.

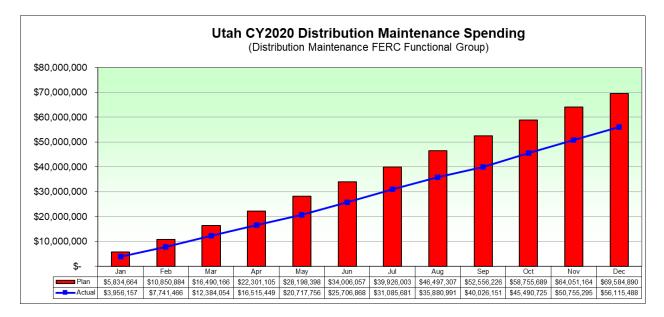


- Correctable conditions are identified through the preventive maintenance process.
- Outstanding conditions are recorded in a database and remain until corrected.

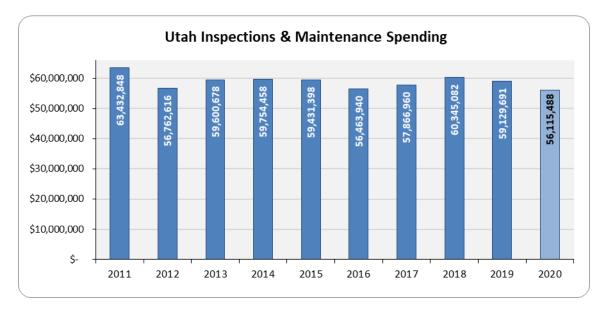
### Substations and Major Equipment

- Correctable conditions are identified through the preventive maintenance process, often associated with actions performed on major equipment.
- Corrections consist of repairing equipment or responding to a failed condition.

# 5.2 Maintenance Spending



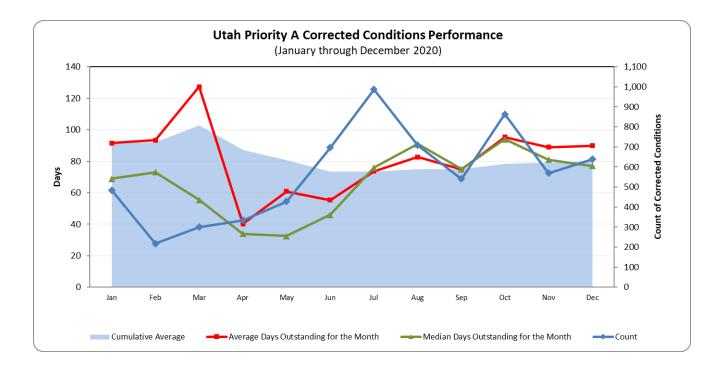
# 5.2.1 Maintenance Historical Spending





# 5.3 Distribution Priority "A" Conditions Correction History

Rocky Mountain Power is committed to correcting Priority "A" Conditions with an average age or 120 days or less. The Company believes that it is a useful indicator of its commitment to providing safe and reliable service to its Utah customers. As shown in the graph below, Rocky Mountain Power consistently delivers an average age of Priority "A" Conditions well below the 120 day target.



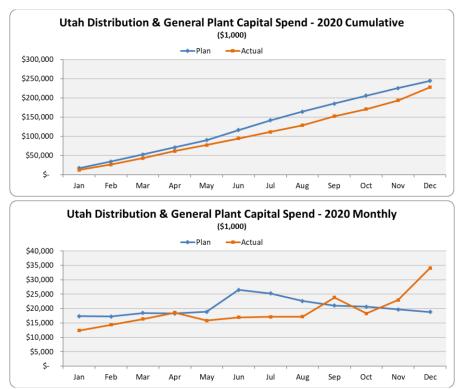


# 6 Capital Investment

# 6.1 Capital Spending - Distribution and General Plant

January – December 2020

	Investment	Actuals (\$M)	Plan (\$M)	Significant Variances
1.	Mandated	\$27.7	\$41.0	Mandated wildfire mitigation, and net metering under plan, (-\$14.5M).
2.	New Connect	\$88.2	\$89.6	Industrial new revenue connections over plan, (+\$4.0M including Biofire Diagnostics +\$2.6M, Tyson Foods +\$1.7M, and Cal-Maine Foods -\$2.5M); commercial new revenue connections under plan, (-\$4.5M including NWQ -\$8.6M, and Salt Lake Airport +\$2.3M).
3.	System Reinforcement	\$18.0	\$19.0	Substation reinforcements under plan, (-\$1.9M including Timp 30 MVA Xfmr -\$1.4M, and 90th South 30 MVA Xfmr -\$1.7M).
4.	Replacement	\$76.7	\$65.0	Replacements for storm & casualty, vehicles, overhead distribution poles, UG cable, and abandoned facilities removal over plan, (+\$14.4M); replacements for overhead distribution lines, and substation equipment under plan, (-\$2.9M).
5.	Upgrade & Modernize	\$17.3	\$30.0	Substation improvements over plan, (+\$1.1M); feeder improvements, and functional upgrade reliability under plan (-\$13.6M including Automated Metering Infrastructure -\$11.5M under plan due to project timing).
	Total	\$227.9	\$244.6	



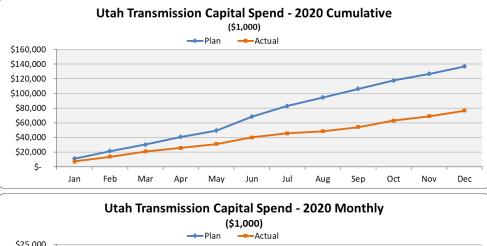
\*Actual costs shown are expenditure values, not plant placed in service (PPIS) values. Actual expenditures are not directly tied to PPIS values.

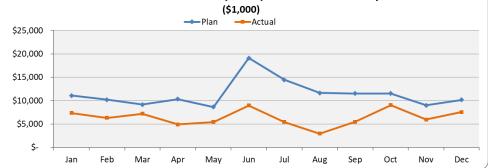


#### January 1 – December 31, 2020

# 6.2 Capital Spending – Transmission/Interconnections

	January – Decen	nber 2020	)	
	Investment	Actuals (\$M)	Plan (\$M)	Significant Variances
1.	Mandated	\$11.7	\$31.1	Mandated environmental/avian protection over plan, (+\$1.0M); mandated wildfire mitigation, and right of way renewals under plan, (-\$20.0M).
2.	New Connect	\$5.0	\$3.5	Commercial new revenue connections, and industrial new revenue connections over plan, (+\$1.5M).
3.	Local Transmission System Reinforcements	\$8.5	\$15.6	Substation reinforcement over plan, (+\$2.5M including Draper 138kV Conversion +\$3.5M); subtransmission reinforcement under plan, (-\$9.6M including Jordanelle- Midway 138kV Ln w/Heber -\$8.9M under plan due to permitting issues).
4.**	Main Grid Reinforcements / Interconnections	\$30.0	***\$58.0	Naples 138-12.5 kV New Substation over plan, (+\$4.0M); Q2469 PAC ESA Milford Solar TSR under plan (delay in steel pole deliveries moved project in-service into 2021), (- \$4.1M); Q0155 UAMPS Heber Light & Power under plan, (-\$2.5M); unidentified main grid/generation interconnections under plan, see note below*** (-\$23.9M).
5.**	Energy Gateway Transmission	\$1.8	\$1.2	
6.	Replacement	\$17.2	\$23.8	Replacements for substation transformers, and substation switchgear/breakers/reclosers under plan, (-\$7.0M including Mobile #6 Failed Xfmr Replacement -\$3.4M).
7.	Upgrade & Modernize	\$2.4	\$3.7	Substation improvements under plan, (-\$1.8M including Pavant Xfmr Protection - \$1.2M).
	Total	\$76.6	\$136.9	





\* Actual costs shown are expenditure values, not plant placed in service (PPIS) values. Actual expenditures are not directly tied to PPIS values. \*\* Main Grid Reinforcement/Interconnections and Energy Gateway Transmission values include a small amount of General Plant \$ for communications work. \*\*\* Unidentified main grid/generation interconnection projects are managed at the program level. Plan funding is 100% allocated to Utah, by necessity, for Plan application purposes only. Actual funding is reallocated to specific projects across PacifiCorp as identified or as customer agreements are signed, not necessarily within the state of Utah.



#### January 1 – December 31, 2020

# 6.3 New Connects

	2019							2020						
	YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YEAR
						Residenti	al							
UT South	1,694	154	96	140	164	141	182	143	175	213	160	193	174	1,935
UT North/Metro	8,170	661	567	705	813	686	715	640	786	542	1,073	1,037	979	9,204
UT Central	16,504	1,454	1,426	1,426	1,307	1,300	1,218	1,582	1,275	1,381	1,914	1,611	1,669	17,563
Total Residential	26,368	2,269	2,089	2,271	2,284	2,127	2,115	2,365	2,236	2,136	3,147	2,841	2,822	28,702
Commercial														
UT South	265	22	25	23	31	18	43	19	21	28	24	23	30	307
UT North/Metro	839	96	55	77	97	114	112	74	80	88	129	118	147	1,187
UT Central	1,137	116	85	95	172	140	153	153	137	138	164	141	178	1,672
Total Commercial	2,241	234	165	195	300	272	308	246	238	254	317	282	355	3,166
						Industria	1							
UT South	0	0	0	0	1	0	0	0	0	0	0	0	0	1
UT North/Metro	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UT Central	5	0	0	0	0	0	1	0	1	0	0	0	2	4
Total Industrial	5	0	0	0	1	0	1	0	1	0	0	0	2	5
						Irrigation	1	-	-	-		-		
UT South	39	2	2	5	12	4	9	2	3	1	3	1	3	47
UT North/Metro	6	0	0	0	0	3	0	0	2	0	1	1	0	7
UT Central	9	2	0	2	2	0	1	0	0	0	0	1	1	9
Total Irrigation	54	4	2	7	14	7	10	2	5	1	4	3	4	63
					ΤΟΤΑ	L New Co	nnects							
UT South	1,998	178	123	168	208	163	234	164	199	242	187	217	207	2,290
UT North/Metro	9,015	757	622	782	910	803	827	714	868	630	1,203	1,156	1,126	10,398
UT Central	17,655	1,572	1,511	1,523	1,481	1,440	1,373	1,735	1,413	1,519	2,078	1,753	1,850	19,248
TOTAL New Connects	28,668	2,507	2,256	2,473	2,599	2,406	2,434	2,613	2,480	2,391	3,468	3,126	3,183	31,936

Utah South region includes Moab, Price, Cedar City and Richfield

Utah North/Metro region includes SLC Metro, Ogden and Layton

Utah Central region included American Fork, Vernal, Toole, Jordan Valley and Park City

Region areas are subject to change for operational purposes and may differ from historical reporting.

Smithfield, Tremonton, and Laketown are excluded because the report was developed using a prior coding system that included them under ID/ WY WEST and not Utah. Beginning in 2021, Rocky Mountain Power implemented a new reporting system for customer service data. Volumes in January through June values are being restated utilizing the new reporting methodology that better identifies new connects in the months that service was established.



# 7 Vegetation Management

# 7.1 Production

Distribution									
	Total	Calendar Year Reporting				Cycle Reporting			
	3 Year Program/Total Line Miles column a	1/1/2020- 12/31/2020 Miles Planned column b	1/1/2020- 12/31/2020 Actual Miles column c	1/1/2020- 12/31/2020 Ahead/Behind column d	1/1/2020- 12/31/2020 % Ahead/Behind column e	1/1/2020- 12/31/2022 Miles Planned column f	1/1/2020- 12/31/2022 Actual Miles column g	01/01/2020- 12/31/2022 Ahead/Behind column h	1/1/2020- 12/31/2022 % Ahead/Behind column i
UTAH	10,840	3,872	3,872	0	100.0%	3,872	3,872	0	100.0%
AMERICAN FORK	942	175	175	0	100.0%	175	175	0	100.0%
CEDAR CITY	1,379	684	684	0	100.0%	684	684	0	100.0%
JORDAN VALLEY	802	516	516	0	100.0%	516	516	0	100.0%
LAYTON	296	28	28	0	100.0%	28	28	0	100.0%
MOAB	625	166	166	0	100.0%	166	166	0	100.0%
OGDEN	958	357	357	0	100.0%	357	357	0	100.0%
PARK CITY	546	217	217	0	100.0%	217	217	0	100.0%
PRICE	595	318	318	0	100.0%	318	318	0	100.0%
RICHFIELD	1,243	158	158	0	100.0%	158	158	0	100.0%
SL METRO	1,261	336	336	0	100.0%	336	336	0	100.0%
SMITHFIELD	766	276	276	0	100.0%	276	276	0	100.0%
TOOELE	494	94	94	0	100.0%	94	94	0	100.0%
TREMONTON	678	460	460	0	100.0%	460	460	0	100.0%
VERNAL	255	87	87	0	100.0%	87	87	0	100.0%

UTAH Tree Program Reporting January 1, 2020 through December 31, 2020

Distribution cycle \$/tree:	\$155
Distribution cycle \$/mile:	\$2,828
Distribution cycle removal %	6.67%

#### Transmission

Total	Line	Line	Miles	% of miles
Line	Miles	Miles	Ahead(behind)	on/behind
Miles	Scheduled	Worked	Schedule	Schedule
6,575	1,276	1,197	(79)	94%

Current distribution cycle began January 1, 2020 and extends until December 31, 2022.

Notes:

Column a: Total overhead distribution pole miles by district

Column b: Total overhead distribution pole miles planned for the period January 1, 2020 through December 31, 2020

Column c: Actual overhead distribution pole miles worked during the period January 1, 2020 through December 31, 2020

Column d: Miles ahead or behind for the period January 1, 2020 through December 31, 2020 (column c-column b)

Column e: Percent of actual compared to planned for the period January 1, 2020 through December 31, 2020 ((column c+b)x100)

Column f: Total overhead distribution pole miles planned for the period January 1, 2020 through December 31, 2022

Column g: Actual overhead distribution pole miles worked during the period January 1 2020 through December 31, 2022

Column h: Miles ahead or behind for the period January 1, 2020 through December 31, 2022 (column g-column f)

Column i: Percent of actual compared to planned for the period January 1, 2020 through December 31, 2022 ((column g-f)x100). Max = 100%



#### January 1 – December 31, 2020

# 7.2 Budget

## UTAH

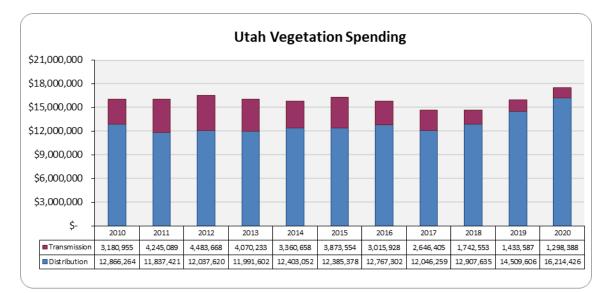
#### **Tree Program Reporting**

	CY2020	CY2021	CY2022
Distribution	\$13,250,259	\$13,250,259	\$13,250,259
Transmission	\$1,776,556	\$1,776,556	\$1,776,556
Total Tree Budget	\$15,026,815	\$15,026,815	\$15,026,815

Calendar Year	Distribution			Transmission		
2020	Actuals	Budget	Variance	Actuals	Budget	Variance
Jan	\$957,259	\$1,143,156	-\$185,897	\$91,334	\$41,967	\$49,367
Feb	\$743,146	\$863,031	-\$119,884	\$90,292	\$40,959	\$49,333
Mar	\$1,090,070	\$1,086,180	\$3,890	\$86,038	\$103,351	-\$17,313
Apr	\$1,176,070	\$1,306,385	-\$130,315	\$89,998	\$111,575	-\$21,577
May	\$1,164,245	\$1,152,899	\$11,346	\$115,136	\$99,047	\$16,089
Jun	\$1,386,175	\$1,051,283	\$334,892	\$59,189	\$372,611	-\$313,422
Jul	\$1,083,743	\$636,799	\$446,944	\$176,228	\$242,579	-\$66,351
Aug	\$1,132,685	\$1,013,333	\$119,352	\$75,179	\$147,999	-\$72,820
Sep	\$1,092,421	\$1,023,971	\$68,450	\$145,550	\$131,198	\$14,352
Oct	\$1,985,533	\$1,422,887	\$562,646	\$176,519	\$122,178	\$54,341
Nov	\$2,241,499	\$1,309,080	\$932,419	\$109,123	\$94,676	\$14,447
Dec	\$2,161,580	\$1,241,256	\$920,325	\$83,800	\$268,416	-\$184,616
Total	\$16,214,426	\$13,250,259	\$2,964,167	\$1,298,388	\$1,776,556	\$(478,168)

Average # Tree Crews on Property (YTD)

82



# 7.2.1 Vegetation Historical Spending



# 8 Standard Guarantees/Program Summary

# 8.1 Service Standards Program Summary<sup>7</sup>

## 8.1.1 Rocky Mountain Power Customer Guarantees

Customer Guarantee 1:	The Company will restore supply after an outage within 24
Restoring Supply After an Outage	hours of notification with certain exceptions as described in
	Rule 25.
Customer Guarantee 2:	The Company will keep mutually agreed upon appointments,
Appointments	which will be scheduled within a two-hour time window.
Customer Guarantee 3:	The Company will switch on power within 24 hours of the
Switching on Power	customer or applicant's request, provided no construction is
	required, all government inspections are met and
	communicated to the Company and required payments are
	made. Disconnection for nonpayment, subterfuge or
	theft/diversion of service is excluded.
Customer Guarantee 4:	The Company will provide an estimate for new supply to the
Estimates For New Supply	applicant or customer within 15 working days after the initial
	meeting and all necessary information is provided to the
	Company and any required payments are made.
Customer Guarantee 5:	The Company will respond to most billing inquiries at the time
Respond To Billing Inquiries	of the initial contact. For those that require further
	investigation, the Company will investigate and respond to the
	Customer within 10 working days.
Customer Guarantee 6:	The Company will investigate and respond to reported
Resolving Meter Problems	problems with a meter or conduct a meter test and report
	results to the customer within 10 working days.
Customer Guarantee 7:	The Company will provide the customer with at least two days'
Notification of Planned Interruptions	notice prior to turning off power for planned interruptions
	consistent will Rule 25 and relevant exemptions.

Note: See Rule 25 for a complete description of terms and conditions for the Customer Guarantee Program.

<sup>&</sup>lt;sup>7</sup> In 2012, rules were codified in Utah Administrative Code R746-313. The Company, Commission and other stakeholders worked to develop mechanisms that comply with these rules and supersedes the Company's Service Standards Program.



## 8.1.2 Rocky Mountain Power Performance Standards<sup>8</sup>

*Network Performance Standard 1:	In 2016 Utah Commission adopted a modified 365-day
Improve System Average Interruption	rolling (rather than calendar year) performance baseline
Duration Index (SAIDI)	control zone of between 137-187 minutes.
*Network Performance Standard 2:	In 2016 Utah Commission adopted a modified 365-day
Improve System Average Interruption	rolling (rather than calendar year) performance baseline
Frequency Index (SAIFI)	control zone of between 1.0-1.6 events.
Network Performance Standard 3:	The Company will identify underperforming circuit segments
Improve Under Performing System	and outline improvement actions and their costs, and using
Segments	the Open Reliability Reporting (ORR) process, evidence the
	outcome of the ORR process for the circuit segments
	chosen <sup>9</sup> .
*Network Performance Standard 4:	The Company will restore power outages due to loss of
Supply Restoration	supply or damage to the distribution system within three
	hours to 80% of customers on average.
Customer Service Performance Standard 5:	The Company will answer 80% of telephone calls within 30
Telephone Service Level	seconds. The Company will monitor customer satisfaction
	with the Company's Customer Service Associates and quality
	of response received by customers through the Company's
	eQuality monitoring system.
Customer Service Performance Standard 6:	The Company will a) respond to at least 95% of non-
Commission Complaint	disconnect Commission complaints within three working
Response/Resolution	days; b) respond to at least 95% of disconnect Commission
	complaints within four working hours; and c) resolve 95% of
	informal Commission complaints within 30 days, except in
	Utah where the Company will resolve 100% of informal
	Commission complaints within 30 days.

\*Note: Performance Standards 1, 2 & 4 are for underlying performance days and exclude Major Events.

<sup>&</sup>lt;sup>8</sup> On December 20, 2016, the Public Service Commission of Utah approved modified electric service reliability performance baseline notification levels of 187 SAIDI minutes and 1.6 SAIFI events, with proposed baseline control zones of 137-187 SAIDI and 1.0-1.6 SAIFI (Docket NOS. 13-035-01 and 15-035-72).

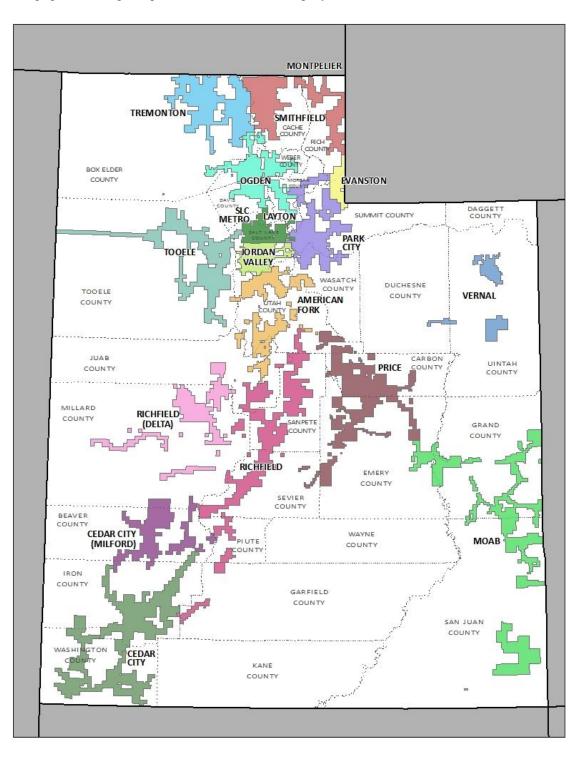
<sup>&</sup>lt;sup>9</sup> On June 1, 2107, in Dockets 15-035-72 and 08-035-55, the Commission approved modified reliability improvement methods with the Company's Open Reliability Reporting (ORR) process, in which the Commission concluded that the process reasonably satisfies the requirements of Utah Administrative Code R746-313-7(3)(e) relating to reporting on electric service reliability for areas whose reliability performance warrants additional improvement efforts. This change is reflected in Section 2.8.



January 1 – December 31, 2020

# 8.1.3 Utah Distribution Service Area Map with Operating Areas/Districts

Below is a graphic showing the specific areas where the Company's distribution facilities are located.





# 8.2 Cause Code Analysis

The tables below outline categories used in outage data collection. Subsequent charts and table use these groupings to develop patterns for outage performance.

Direct Cause Category	Category Definition & Example/Direct Cause					
Animals	<ul> <li>Any problem nest that requires removal, relocation, trimming, etc.; any birds, squirrels or other animals, whether or not remains found.</li> <li>Animal (Animals)</li> <li>Bird Nest</li> </ul>					
	<ul> <li>Bird Mortality (Non-protected species)</li> <li>Bird Mortality (Protected species)(BMTS)</li> </ul>	<ul><li>Bird or Nest</li><li>Bird Suspected, No Mortality</li></ul>				
Environment	Contamination or Airborne Deposit (i.e. salt, trona ash environment; flooding due to rivers, broken water mai fires (not including fires due to faults or lightning).					
	<ul> <li>Condensation/Moisture</li> <li>Contamination</li> <li>Fire/Smoke (not due to faults)</li> <li>Flooding</li> </ul>	<ul> <li>Major Storm or Disaster</li> <li>Nearby Fault</li> <li>Pole Fire</li> </ul>				
Equipment Failure	<ul> <li>Frooting</li> <li>Structural deterioration due to age (incl. pole rot); electreason; conditions resulting in a pole/cross arm fire due by fault on nearby equipment (e.g., broken conductor)</li> </ul>	e to reduced insulation qualities; equipment affected				
	B/O Equipment     Overload	<ul><li>Deterioration or Rotting</li><li>Substation, Relays</li></ul>				
Interference	Willful damage, interference or theft; such as gun shots, rock throwing, etc.; customer, contractor or other utility dig-in; contact by outside utility, contractor or other third-party individual; vehicle accident, including car, truck, tractor, aircraft, manned balloon; other interfering object such as straw, shoes, string, balloon.					
	<ul> <li>Dig-in (Non-PacifiCorp Personnel)</li> <li>Other Interfering Object</li> <li>Vandalism or Theft</li> </ul>	<ul><li>Other Utility/Contractor</li><li>Vehicle Accident</li></ul>				
Loss of Supply	<ul> <li>Failure of supply from Generator or Transmission syste</li> <li>Failure on other line or station</li> <li>Loss of Feed from Supplier</li> <li>Loss of Generator</li> </ul>	<ul> <li>em; failure of distribution substation equipment.</li> <li>Loss of Substation</li> <li>Loss of Transmission Line</li> <li>System Protection</li> </ul>				
Operational	Accidental Contact by PacifiCorp or PacifiCorp's Contra	ictors (including live-line work); switching error; luding wrong fuse size, equipment by-passed; incorrect				
	<ul> <li>Contact by PacifiCorp</li> <li>Faulty Install</li> <li>Improper Protective Coordination</li> <li>Incorrect Records</li> <li>Internal Contractor</li> </ul>	<ul> <li>Internal Tree Contractor</li> <li>Switching Error</li> <li>Testing/Startup Error</li> <li>Unsafe Situation</li> </ul>				
Other	Cause Unknown; use comments field if there are some • Invalid Code • Other, Known Cause	<ul><li>possible reasons.</li><li>Unknown</li></ul>				
Planned	Transmission requested, affects distribution sub and d repairs after storm damage, car hit pole, etc.; construc blackouts.					
	<ul> <li>Construction</li> <li>Customer Notice Given</li> <li>Energy Emergency Interruption</li> <li>Intentional to Clear Trouble</li> </ul>	<ul> <li>Emergency Damage Repair</li> <li>Customer Requested</li> <li>Planned Notice Exempt</li> <li>Transmission Requested</li> </ul>				
Tree	Growing or falling trees • Tree-Non-preventable • Tree-Trimmable	Tree-Tree felled by Logger				
Weather	Wind (excluding windborne material); snow, sleet or b <ul> <li>Extreme Cold/Heat</li> </ul>	• Lightning				
	Freezing Fog & Frost     Wind	<ul><li>Rain</li><li>Snow, Sleet, Ice and Blizzard</li></ul>				



# 8.3 Reliability Definitions

### Interruption Types

Below are the definitions for interruption events. For further details, refer to IEEE 1366-2003<sup>10</sup> Standard for Reliability Indices.

### Sustained Outage

A sustained outage is defined as an outage of greater than 5 minutes in duration.

#### Momentary Outage Event

A momentary outage is defined as an outage equal to or less than 5 minutes in duration. Rocky Mountain Power has historically captured this data using substation breaker fault counts, but where SCADA (Supervisory Control and Data Acquisition Systems) exist, uses this data to calculate consistent with IEEE 1366-2003.

### **Reliability Indices**

### SAIDI

SAIDI (system average interruption duration index) is an industry-defined term to define the average duration summed for all sustained outages a customer experiences in a given period. It is calculated by summing all customer minutes lost for sustained outages (those exceeding 5 minutes) and dividing by all customers served within the study area. When not explicitly stated otherwise, this value can be assumed to be for a one-year period.

### Daily SAIDI

In order to evaluate trends during a year and to establish Major Event Thresholds, a daily SAIDI value is often used as a measure. This concept was introduced in IEEE Standard 1366-2003. This is the day's total customer minutes out of service divided by the static customer count for the year. It is the total average outage duration customers experienced for that given day. When these daily values are accumulated through the year, it yields the year's SAIDI results.

#### SAIFI

SAIFI (system average interruption frequency index) is an industry-defined term that attempts to identify the frequency of all sustained outages that the average customer experiences during a given time-frame. It is calculated by summing all customer interruptions for sustained outages (those exceeding 5 minutes in duration) and dividing by all customers served within the study area.

#### CAIDI

CAIDI (customer average interruption duration index) is an industry-defined term that is the result of dividing the duration of the average customer's sustained outages by the frequency of outages for that average customer. While the Company did not originally specify this metric under the umbrella of the Performance Standards Program within the context of the Service Standards Commitments, it has since been determined to be valuable for reporting purposes. It is derived by dividing PS1 (SAIDI) by PS2 (SAIFI).

<sup>&</sup>lt;sup>10</sup> IEEE 1366-2003 was adopted by the IEEE on December 23, 2003. It was subsequently modified in IEEE 1366-2012, but all definitions used in this document are consistent between these two versions. The definitions and methodology detailed therein are now industry standards. Later, in Docket No. 04-035-T13 the Utah Public Utilities Commission adopted the standard methodology for determining major event threshold.



## **MAIFI**<sub>E</sub>

 $MAIFI_{E}$  (momentary average interruption event frequency index) is an industry-defined term that attempts to identify the frequency of all momentary interruption events that the average customer experiences during a given time-frame. It is calculated by counting all momentary operations which occur within a 5 minute time period, as long as the sequence did not result in a device experiencing a sustained interruption. This series of actions typically occurs when the system is trying to re-establish energy flow after a faulted condition, and is associated with circuit breakers or other automatic reclosing devices.

## Lockout

Lockout is the state of device when it attempts to re-establish energy flow after a faulted condition but is unable to do so; it systematically opens to de-energize the facilities downstream of the device then recloses until a lockout operation occurs. The device then requires manual intervention to re-energize downstream facilities. This is generally associated with substation circuit breakers and is one of the variables used in the Company's calculation of blended metrics.

### CEMI

CEMI is an acronym for Customers Experiencing Multiple (Momentary Event and Sustained) Interruptions. This index depicts repetition of outages across the period being reported and can be an indicator of recent portions of the system that have experienced reliability challenges.

### ORR

ORR is an acronym for Open Reliability Reporting, which shifts the company's reliability program from a circuit based metric (RPI) to a targeted approach reviewing performance in a local area, measured by customer minutes lost. Project funding is based on cost effectiveness as measured by the cost per avoided annual customer minute interrupted.

## CP199

CPI99 is an acronym for Circuit Performance Indicator, which uses key reliability metrics of the circuit to identify underperforming circuits. It excludes Major Event and Loss of Supply or Transmission outages. The variables and equation for calculating CPI are:

CPI = Index \* ((SAIDI \* WF \* NF) + (SAIFI \* WF \* NF) + (MAIFI<sub>E</sub> \* WF \* NF) + (Lockouts \* WF \* NF))

Index: 10.645 SAIDI: Weighting Factor 0.30, Normalizing Factor 0.029 SAIFI: Weighting Factor 0.30, Normalizing Factor 2.439 MAIFI<sub>E</sub>: Weighting Factor 0.20, Normalizing Factor 0.70 Lockouts: Weighting Factor 0.20, Normalizing Factor 2.00 Therefore, 10.645 \* ((3-year SAIDI \* 0.30 \* 0.029) + (3-year SAIFI \* 0.30 \* 2.439) + (3-year MAIFI<sub>E</sub>\* 0.20 \* 0.70) + (3-year breaker lockouts \* 0.20 \* 2.00)) = CPI Score

## CP105

CPI05 is an acronym for Circuit Performance Indicator, which uses key reliability metrics of the circuit to identify underperforming circuits. Unlike CPI99, it includes Major Event and Loss of Supply or Transmission outages. The calculation of CPI05 uses the same weighting and normalizing factors as CPI99.

## Performance Types

Rocky Mountain Power recognizes several categories of performance; major events and underlying performance. Underlying performance days may be significant event days. Outages recorded during any day may be classified as "controllable" events.



## **Major Events**

A Major Event (ME) is defined as a 24-hour period where SAIDI exceeds a statistically derived threshold value (Reliability Standard IEEE 1366-2012) based on the 2.5 beta methodology. The values used for the reporting period and the prospective period are shown below.

Effective Date	Customer Count	ME Threshold SAIDI	ME Customer Minutes Lost
1/1-12/31/2020	954,372	4.84	4,614,733

## Significant Events

The Company has evaluated its year-to-year performance and as part of an industry weather normalization task force, sponsored by the IEEE Distribution Reliability Working Group, determined that when the Company recorded a day in excess of 1.75 beta (or 1.75 times the natural log standard deviation beyond the natural log daily average for the day's SAIDI) that generally these days' events are generally associated with weather events and serve as an indicator of a day which accrues substantial reliability metrics, adding to the cumulative reliability results for the period. As a result, the Company individually identifies these days so that year-on-year comparisons are informed by the quantity and their combined impact to the reporting period results.

#### **Underlying Events**

Within the industry, there has been a great need to develop methodologies to evaluate year-on-year performance. This has led to the development of methods for segregating outlier days, via the approaches described above. Those days which fall below the statistically derived threshold represent "underlying" performance, and are valid. If any changes have occurred in outage reporting processes, those impacts need to be considered when making comparisons. Underlying events include all sustained interruptions, whether of a controllable or non-controllable cause, exclusive of major events, prearranged (which can include short notice emergency prearranged outages), customer requested interruptions and forced outages mandated by public authority typically regarding safety in an emergency situation.

#### **Controllable Distribution (CD) Events**

In 2008, the Company identified the benefit of separating its tracking of outage causes into those that can be classified as "controllable" (and thereby reduced through preventive work) from those that are "noncontrollable" (and thus cannot be mitigated through engineering programs); they will generally be referred to in subsequent text as controllable distribution (CD). For example, outages caused by deteriorated equipment or animal interference are classified as controllable distribution since the Company can take preventive measures with a high probability to avoid future recurrences; while vehicle interference or weather events are largely out of the Company's control and generally not avoidable through engineering programs. (It should be noted that Controllable Events is a subset of Underlying Events. The Cause Code Analysis section of this report contains two tables for Controllable Distribution and Non-controllable Distribution, which list the Company's performance by direct cause under each classification.) At the time that the Company established the determination of controllable and non-controllable distribution it undertook significant root cause analysis of each cause type and its proper categorization (either controllable or non-controllable). Thus, when outages are completed and evaluated, and if the outage cause designation is improperly identified as non-controllable, then it would result in correction to the outage's cause to preserve the association between controllable and non-controllable based on the outage cause code. The company distinguishes the performance delivered using this differentiation for comparing year to date performance against underlying and total performance metrics.

## **CERTIFICATE OF SERVICE**

Docket No. 21-035-28

I hereby certify that on April 28, 2021, a true and correct copy of the foregoing was served by electronic mail to the following:

## **Utah Office of Consumer Services**

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