



e-FILING REPORT COVER SHEET

COMPANY NAME: PORTLAND GENERAL ELECTRIC COMPANY

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes If yes, submit a redacted public version (or a cover letter) by email. Submit the confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

Select report type: RE (Electric) RG (Gas) RW (Water) RT (Telecommunications)
 RO (Other, for example, industry safety information)

Did you previously file a similar report? No Yes, report docket number: RE 113

Report is required by: OAR 860-023-0151

Statute

Order

Note: A one-time submission required by an order is a compliance filing and not a report (file compliance in the applicable docket)

Other

(For example, federal regulations, or requested by Staff)

Is this report associated with a specific docket/case? No Yes, docket number:

List Key Words for this report. We use these to improve search results.

PGE 2020 Annual Reliability Report

Send the completed Cover Sheet and the Report in an email addressed to PUC.FilingCenter@state.or.us

Send confidential information, voluminous reports, or energy utility Results of Operations Reports to PUC Filing Center, PO Box 1088, Salem, OR 97308-1088 or by delivery service to 201 High Street SE Suite 100, Salem, OR 97301.



Portland General Electric
121 SW Salmon Street • Portland, OR 97204
portlandgeneral.com

April 29, 2021

Public Utility Commission of Oregon
Attn: Filing Center
201 High Street SE
P.O. Box 1088
Salem, OR 97308-1088

RE: PGE 2020 Annual Reliability Report

Pursuant to OAR 860-023-0151, PGE hereby submits the Company's 2020 Annual Reliability Report.

Attachment A provides Section III, Feeder Performance Summary and Section VIII 2020 Feeder Information will be sent to the Filing Center in a zip file and marked as Confidential Information under OAR 860-001-0070. PGE will send a separate email with a password to open the zip file.

Should you have any questions regarding this filing, please contact Mary Widman at (503) 464-8223.

Please direct all formal correspondence and requests to the following email address pge.opuc.filings@pgn.com

Sincerely,

\s\ Robert Macfarlane

Robert Macfarlane
Manager, Pricing and Tariffs

Enclosure
cc: Lori Koho, OPUC

Attachment A
PGE 2020 Annual Reliability Report

Confidential - provided in a password protected zip file
Section III, Feeder Performance Summary
Section VIII, 2020 Feeder Information



**Portland General Electric 2020
Annual Reliability Report**



**January 1, 2020 through
December 31, 2020**

Section I

Report Summary

The Annual Reliability Report provides distribution system performance information based on service interruptions to PGE customers. The report is utilized to understand the overall reliability of the distribution system and to identify areas of improvement and excellence.

The overall performance of PGE's distribution system is represented by the following indices¹: System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Momentary Average Interruption Event Frequency Index² (MAIFI_e).

PGE's distribution system performance calculations are based on the IEEE 1366 methodology. The data utilized for the calculations is captured from PGE's Outage Management System (OMS) and confirmed via a multi-step evaluation process. The results of the calculations are evaluated on a daily basis and confirmed via a standardized review process.

PGE excluded the following dates from the 2020 distribution system performance indices as they met the IEEE 1366 Major Event Day (MED) exclusion criteria: September 7th-10th.

Planned outage events³ were excluded from the 2020 distribution system performance indices⁴ based on PGE's understanding of best practices performed by peer utilities and analysis methods utilized in IEEE 1782. While planned outage events were not captured in PGE's 2020 indices, these events are reported in Sections II and V of this report to comply with Oregon Administrative Rule (OAR) 860-023-0151.

¹ Details regarding the performance indices can be found in Reliability Measure Definitions section of the Appendix

² MAIFI_e calculations are limited to feeders with remote monitoring equipment

³ Per IEEE 1366, a planned outage event is defined as "the intentional disabling of a component's capability to deliver power, done at a preselected time, usually for the purposes of construction, preventative maintenance, or repair." IEEE 1782, states "the planned outage event category includes, but is not limited to: road construction, maintenance and repairs, load swaps, replacing equipment, and house moves. Typically, planned interruptions are those interruptions that can be delayed by the utility personnel and performed only after the appropriate or required customer notification."

⁴ PGE began excluding planned outages from distribution system performance indices in 2016. Planned outage events were not excluded in previous years.

4 year Corporate Annual Summary Excluding Major Event Days¹

Year	Reported Outages	SAIFI Average Annual Outages per Customer (occurrences)	SAIDI ² Average Annual Outage Duration per Customer (minutes)	MAIFle ³ Average Annual Momentary Interruptions per Customer (occurrences)
2020	7,973	0.60	100	1.4
2019	7,663	0.61	98	1.3
2018	6,884	0.52	88	1.3
2017	8,704	0.62	113	1.4

4 year Corporate Annual Summary Including Major Event Days

Year	Reported Outages	SAIFI Average Annual Outages per Customer (occurrences)	SAIDI ² Average Annual Outage Duration per Customer (minutes)	MAIFle ³ Average Annual Momentary Interruptions per Customer (occurrences)
2020	10,506	0.81	312	1.4
2019	8,244	0.71	128	1.3
2018	6,884	0.52	88	1.3
2017	12,897	1.04	350	1.4

¹ A Major Event Day (MED) is a day in which the reasonable design and or operational limits of the electric power system were exceeded. MED's are determined via IEEE Standard 1366. See Section IX - Appendix for additional details.

² SAIDI values are rounded to the nearest whole number.

³ MAIFle events for Major Event Days are not excluded.

2020 Corporate Annual Summary Without Major Event Days¹

Region	Reported Outages	SAIFI Average Annual Outages per Customer (occurrences)	SAIDI ² Average Annual Outage Duration per Customer (minutes)	MAIFle Average Annual Momentary Interruptions per Customer (occurrences)
EASTERN	3,777	0.76	123	2.0
SOUTHERN	2,373	0.49	108	0.9
WESTERN	1,823	0.42	61	0.9
PGE:	7,973	0.60	100	1.4

2020 Corporate Annual Summary Including Major Event Days

Region	Reported Outages	SAIFI Average Annual Outages per Customer (occurrences)	SAIDI ² Average Annual Outage Duration per Customer (minutes)	MAIFle ³ Average Annual Momentary Interruptions per Customer (occurrences)
EASTERN	5,157	0.99	416	2.0
SOUTHERN	2,839	0.67	337	0.9
WESTERN	2,510	0.64	146	0.9
PGE:	10,506	0.81	312	1.4

¹ A Major Event Day (MED) is a day in which the reasonable design and or operational limits of the electric power system were exceeded. MED's are determined via IEEE Standard 1366. See Section IX - Appendix for additional details.

² SAIDI values are rounded to the nearest whole number.

³ MAIFle events for Major Event Days are not excluded.

Section II

Outage Analysis

This section provides graphical representation of 2020 outage causes by both customer hours and event count. The intent of this section is to provide high-level analysis of the outages that result in the highest number of customer hours and the type of events with the highest frequency. Pie charts are utilized to reflect data from the most recent year and bar charts are utilized to capture the 4-year trend.

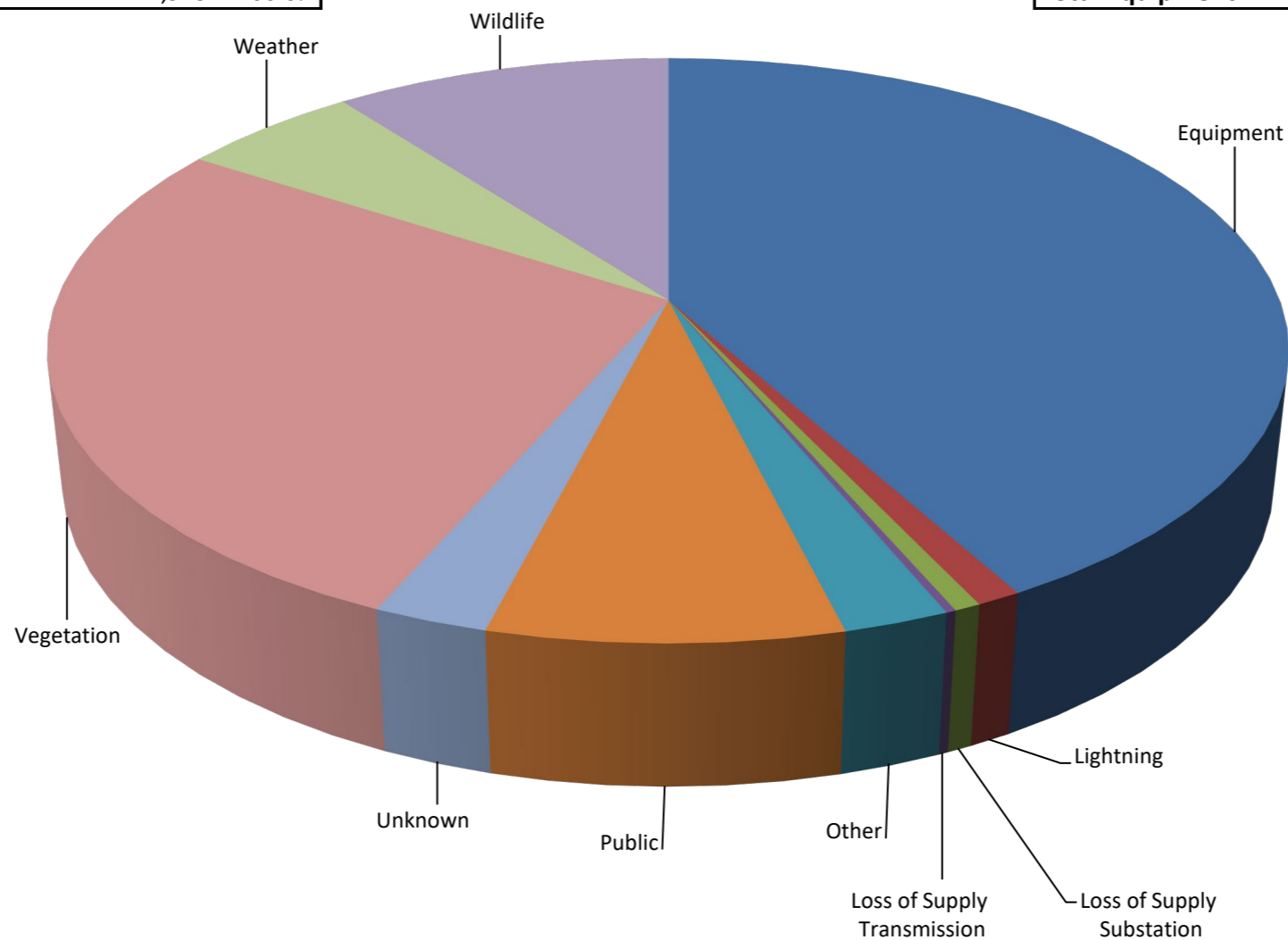
- Outage Causes by Events – Pie Chart
- Outage Causes by Events – 4 Year Comparison Bar Chart
- Outage Causes by Customer Hours – Pie Chart
- Outage Causes by Customer Hours – 4 Year Comparison Bar Chart

2020 Outages by Cause - Count

Equipment	3,345	42.0%
Lightning	80	1.0%
Loss of Supply - Substation	47	0.6%
Loss of Supply - Transmission	18	0.2%
Other	188	2.4%
Public	628	7.9%
Unknown	204	2.6%
Vegetation	2,198	27.6%
Weather	439	5.5%
Wildlife	826	10.4%
Total:	7,973	100.0%

Vegetation:		
Limb on Line	1,168	53.1%
Tree / Limb Burning	177	8.1%
Tree Uprooted	853	38.8%
Total Vegetation:	2,198	100.0%

Equipment:		
Cutout, Fuse, Arrestor	790	23.6%
Meter	45	1.3%
OH Conductor	380	11.4%
OH Hardware	704	21.0%
Pole / Structure	21	0.6%
Primary Device	18	0.5%
Transformer	428	12.8%
UG Accessory	173	5.2%
UG Conductor	786	23.5%
Total Equipment:	3,345	100.0%

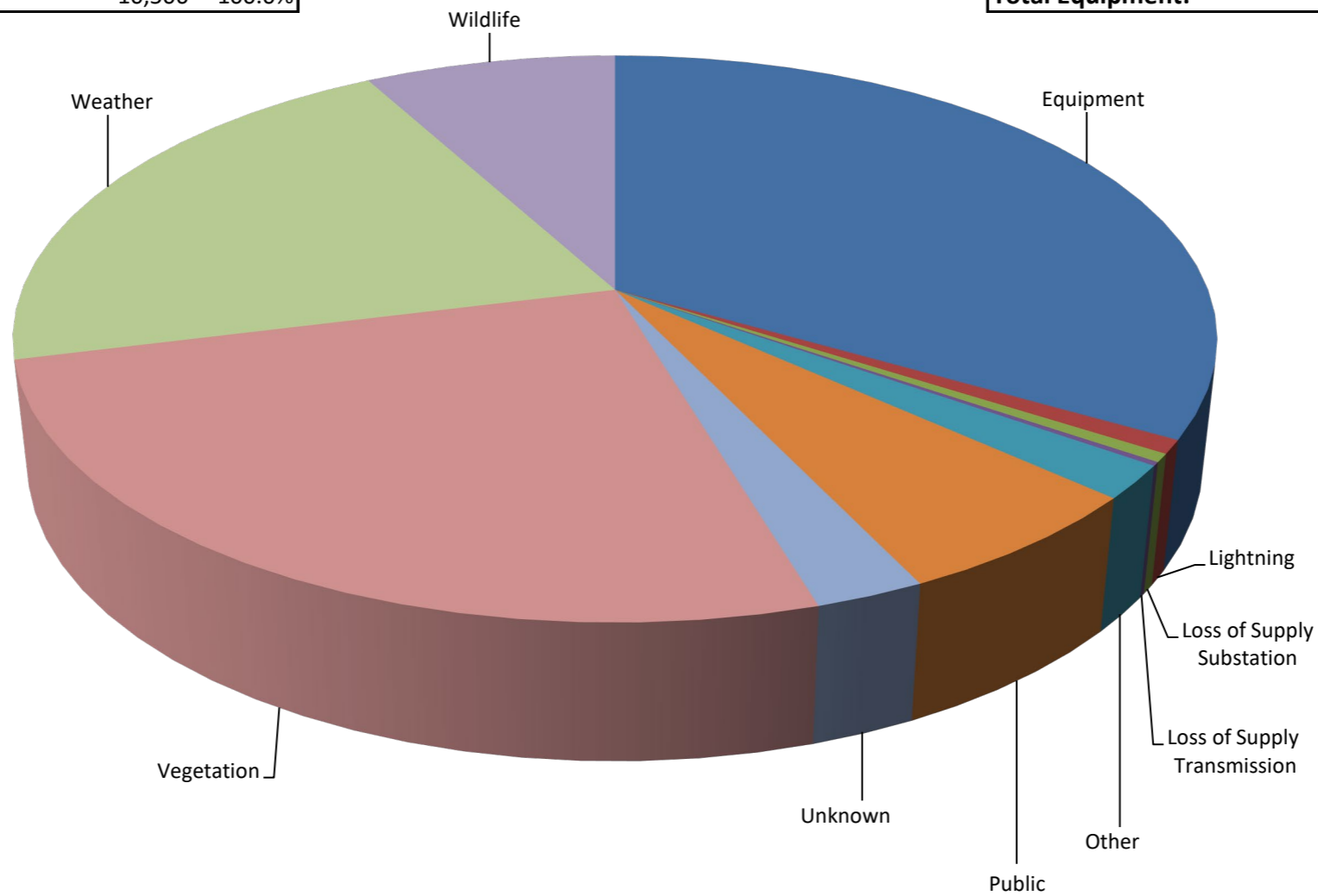


2020 Outages by Cause Including Major Event Days - Count

Equipment	3,500	33.3%
Lightning	81	0.8%
Loss of Supply - Substation	49	0.5%
Loss of Supply - Transmission	22	0.2%
Other	201	1.9%
Public	650	6.2%
Unknown	265	2.5%
Vegetation	2,701	25.7%
Weather	2,200	20.9%
Wildlife	837	8.0%
Total:	10,506	100.0%

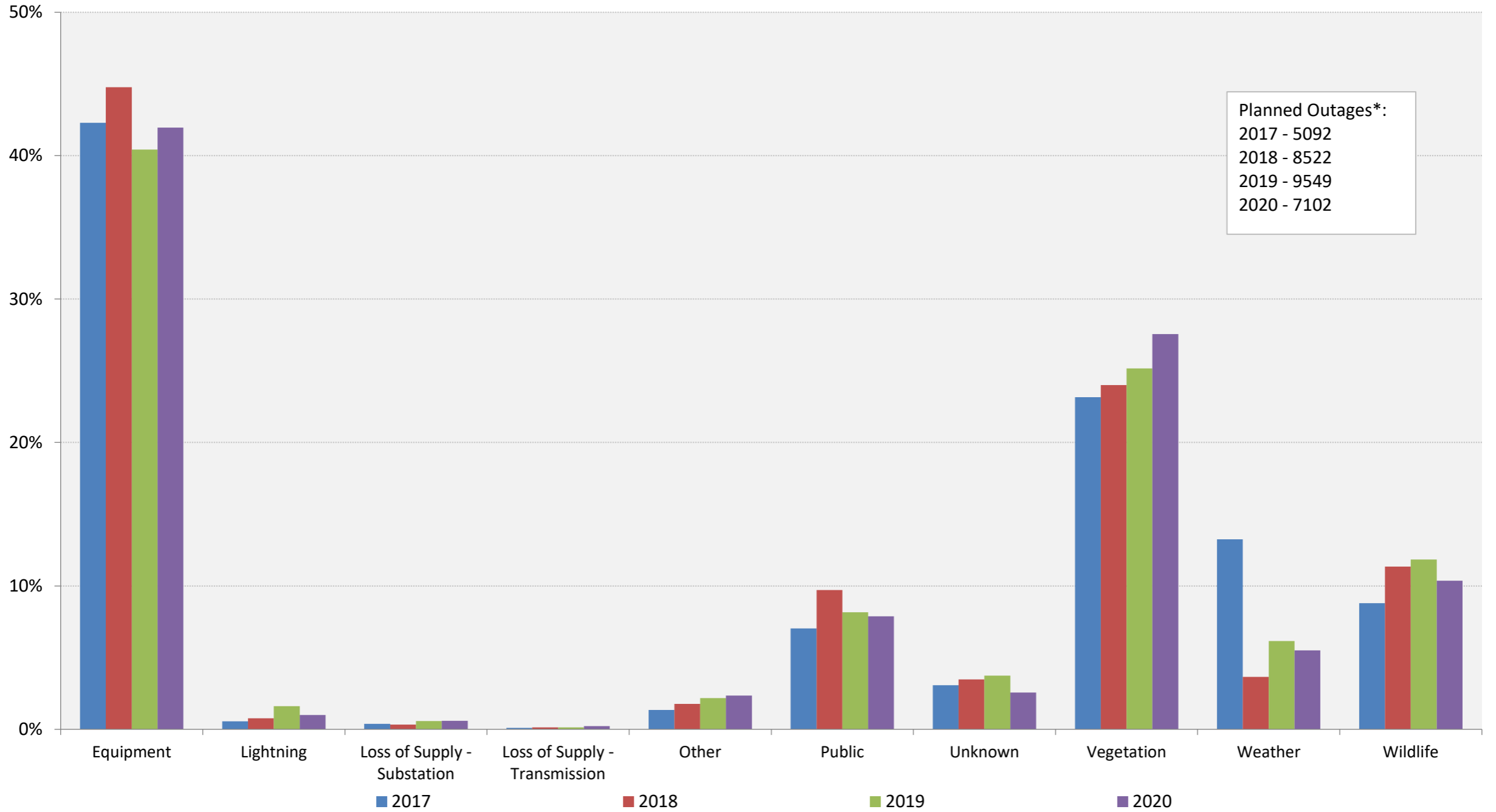
Vegetation:		
Limb on Line	1,475	54.6%
Tree / Limb Burning	217	8.0%
Tree Uprooted	1,009	37.4%
Total Vegetation:	2,701	100.0%

Equipment:		
Cutout, Fuse, Arrestor	822	23.5%
Meter	45	1.3%
OH Conductor	434	12.4%
OH Hardware	719	20.5%
Pole / Structure	27	0.8%
Primary Device	41	1.2%
Transformer	436	12.5%
UG Accessory	178	5.1%
UG Conductor	798	22.8%
Total Equipment:	3,500	100.0%



Outage Causes by Count

4 Year Comparison (2017-2020)



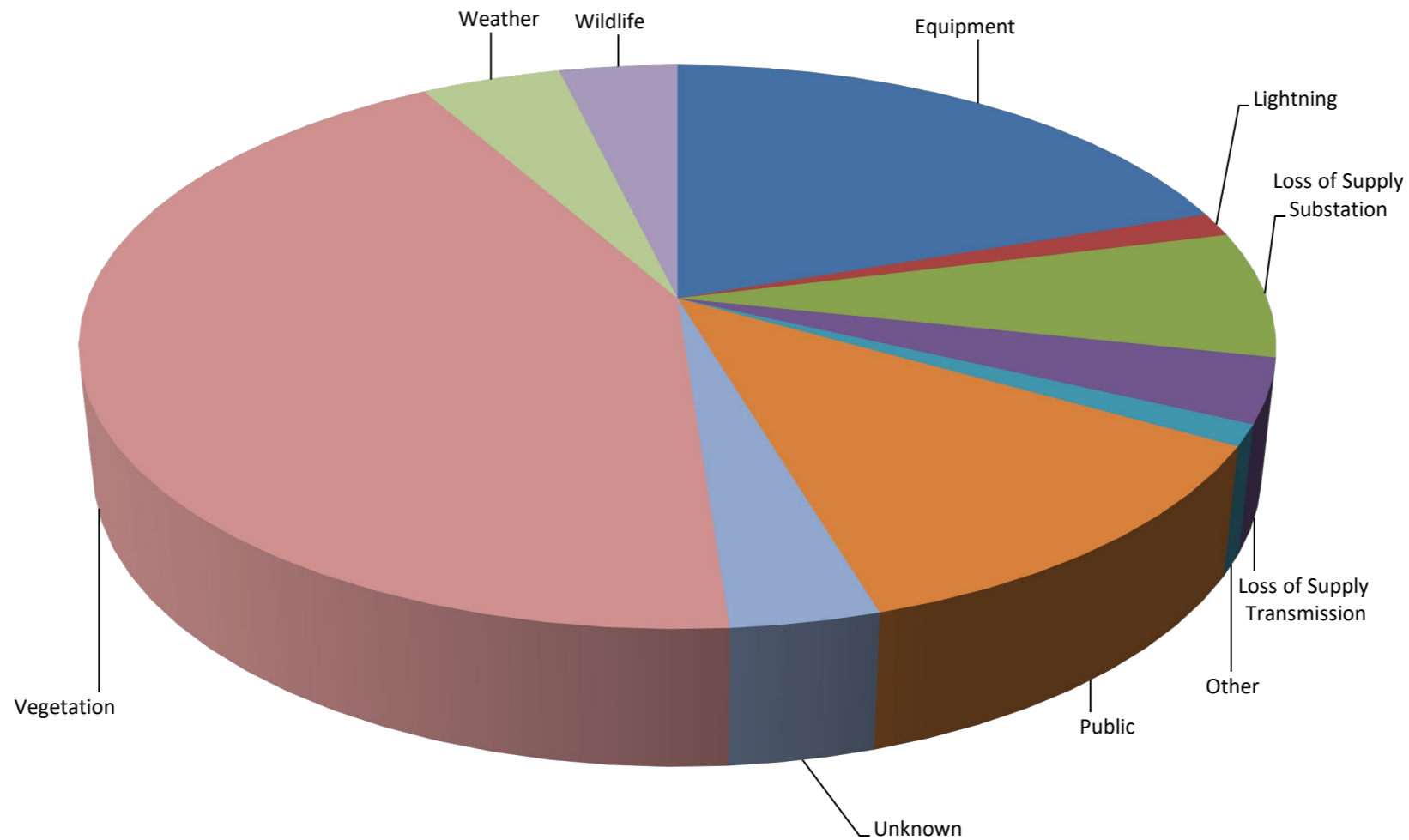
* Note: While PGE has improved the awareness and accuracy of planned outages, the Company continues to enhance processes and procedures for these events with the goal of improving the data quality.

2020 Outages by Cause - Customer Hours

Equipment	295,603	19.8%
Lightning	20,465	1.4%
Loss of Supply - Substation	108,099	7.2%
Loss of Supply - Transmission	55,072	3.7%
Other	18,291	1.2%
Public	181,698	12.1%
Unknown	51,635	3.5%
Vegetation	642,488	42.9%
Weather	66,758	4.5%
Wildlife	56,481	3.8%
Total:	1,496,589	100.0%

Vegetation:			
Limb on Line	299,047	46.5%	
Tree / Limb Burning	54,054	8.4%	
Tree Uprooted	289,386	45.0%	
Total Vegetation:	642,488	100.0%	

Equipment:		
Cutout, Fuse, Arrestor	32,171	10.9%
Meter	462	0.2%
OH Conductor	53,817	18.2%
OH Hardware	55,863	18.9%
Pole / Structure	3,443	1.2%
Primary Device	25,359	8.6%
Transformer	25,032	8.5%
UG Accessory	15,742	5.3%
UG Conductor	83,713	28.3%
Total Equipment:	295,603	100.0%

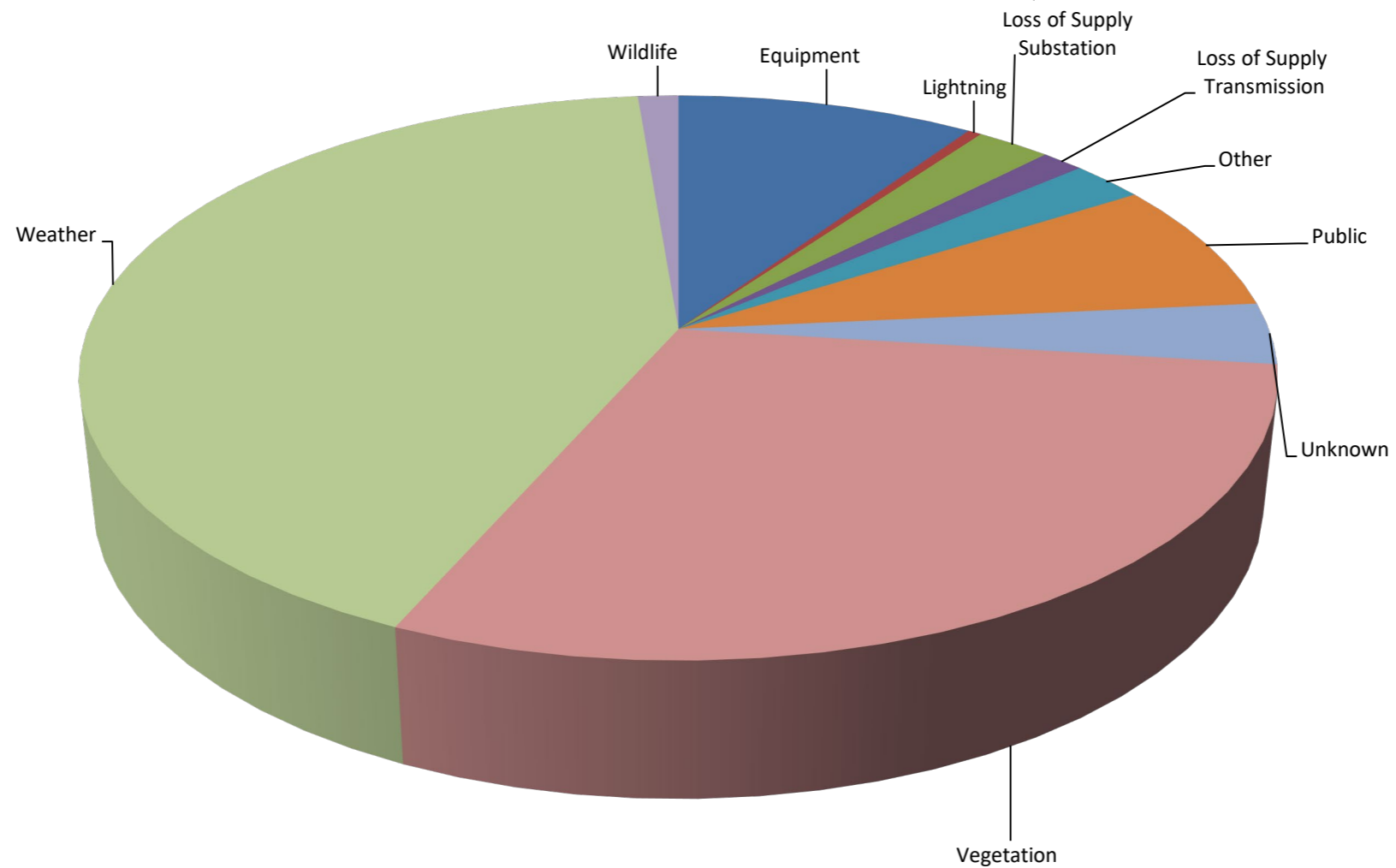


2020 Outages by Cause Including Major Event Days - Customer Hours

Equipment	444,514	9.5%
Lightning	20,613	0.4%
Loss of Supply - Substation	110,887	2.4%
Loss of Supply - Transmission	63,350	1.4%
Other	109,963	2.3%
Public	351,116	7.5%
Unknown	164,405	3.5%
Vegetation	1,385,887	29.6%
Weather	1,971,506	42.1%
Wildlife	60,570	1.3%
Total:	4,682,810	100.0%

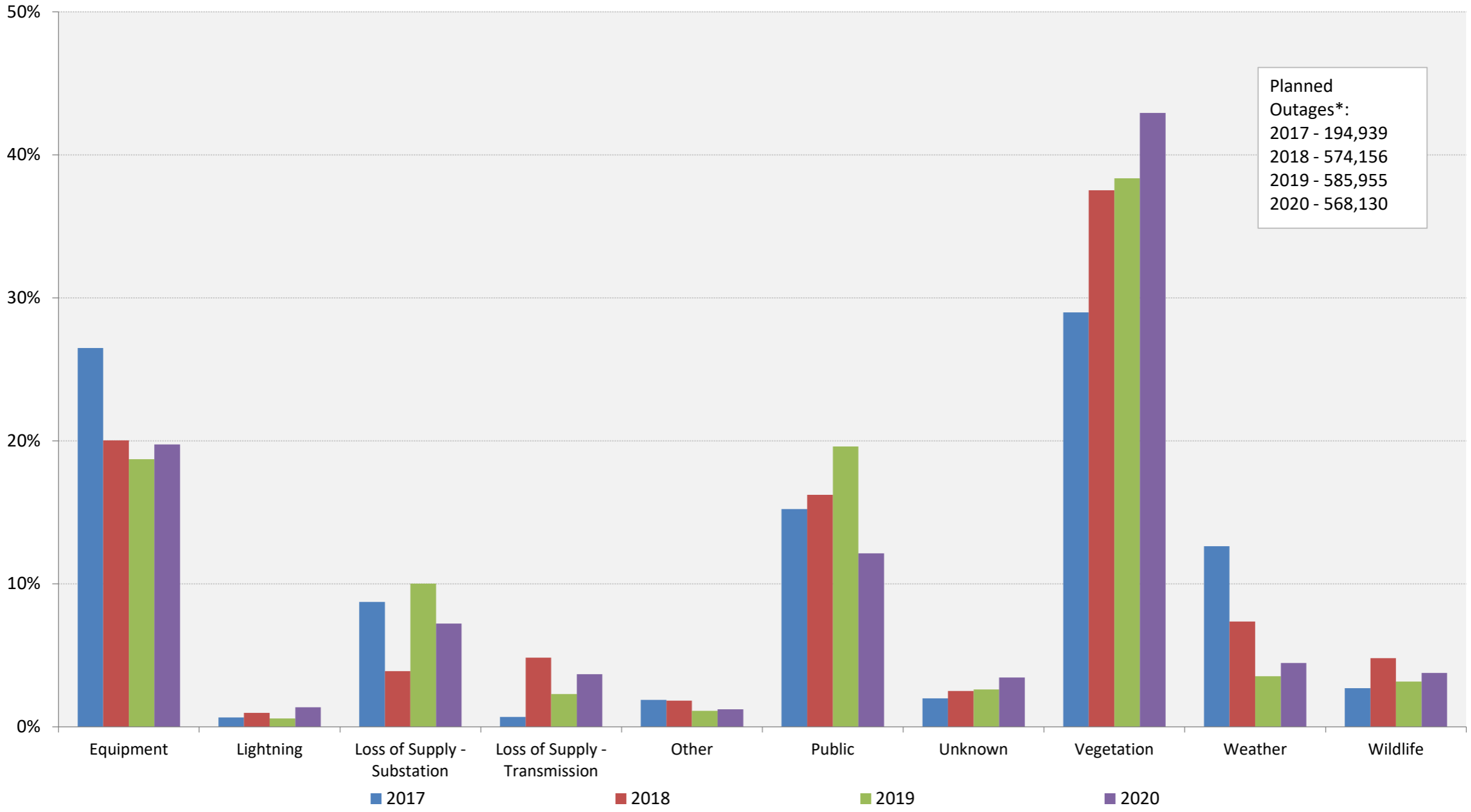
Vegetation:		
Limb on Line	738,465	53.3%
Tree / Limb Burning	86,860	6.3%
Tree Uprooted	560,562	40.4%
Total Vegetation:	1,385,887	100.0%

Equipment:		
Cutout, Fuse, Arrestor	39,877	9.0%
Meter	462	0.1%
OH Conductor	103,429	23.3%
OH Hardware	65,608	14.8%
Pole / Structure	4,100	0.9%
Primary Device	99,319	22.3%
Transformer	25,806	5.8%
UG Accessory	15,891	3.6%
UG Conductor	90,022	20.3%
Total Equipment:	444,514	100.0%



Outage Causes by Customer Hours

4 Year Comparison (2017-2020)



* Note: While PGE has improved the awareness and accuracy of planned outages, the Company continues to enhance processes and procedures for these events with the goal of improving the data quality.

Section III

Feeder Performance Summary

This section provides a summary of reliability indices by Region and Feeder. The list is sorted in alphabetical order by Region and Feeder Name. Each feeder is classified as one of the following:

- Urban
- Rural
- Remote

Definition of Feeder Classifications

- A feeder is designated Urban if 50% or more of the load is inside the Urban Growth Boundary (UGB)
- A feeder is designated Rural if one or more of the following apply:
 - The load on a feeder is greater than 0.5 MVA per square mile.
 - A feeder has more than 100 customers per mile.
 - A feeder is serving load inside an incorporated city.
 - A feeder is directly adjacent to the UGB with feeder ties into
- A feeder is Remote if all conditions above do not apply.

The table below displays the individual feeder performance thresholds based on classification

Feeder Classification	SAIDI	SAIFI	MAIFI _e
Urban	2 hours (120 Minutes)	2.0 Occurrences	5 Occurrences
Rural	5 hours (300 Minutes)	2.6 Occurrences	10 Occurrences
Remote	7 hours (420 Minutes)	2.6 Occurrences	15 Occurrences

NOTE: Idle feeders are not included in this list. Feeders may be omitted if they are a part of an alternate/multiple feeder service.

Attachment A
PGE 2020 Annual Reliability Report

Confidential - provided in a password protected zip file
Section III, Feeder Performance Summary
Section VIII, 2020 Feeder Information

Section IV

Outages by Cause Natural

This section provides the number of customer outages (frequency) and customer outage hours (duration) caused by natural events. The information is presented by feeder and attributed to one of the following cause categories¹:

- Adverse Weather
- Lightning
- Animals
- Tree Contacts (Non-Preventable and Preventable)²
- Unknown

NOTES:

- Idle feeders are not included in this list
- Feeders may be omitted if they are a part of an alternate/multiple feeder service

¹ See Section IX – Cause Code Categories and Mapping for detailed causes for each category

² See section VII for detailed information

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
1	ABERNETHY-CLACKAMAS HEIGHTS	1	60					1	60						
2	ABERNETHY-OREGON CITY	12	239			1	2	4	38	6	194			1	5
3	ABERNETHY-TRANSIT	8	6,807	1	4			1	7	5	5,160	1	1,636		
4	ABERNETHY-WASHINGTON	6	949	1	34			2	13	3	901				
5	ALDER-ANKENY	6	177	1	0					4	174	1	2		
6	ALDER-IRVING	8	111					4	88	4	23				
7	ALDER-LINCOLN	6	108					1	12	4	93			1	3
8	ALDER-STARK	3	1,224							1	0	1	1,222	1	3
9	ALDER-TAYLOR	4	12							2	7	2	6		
10	ALDER-YAMHILL	2	6							2	6				
11	AMITY-AMITY 13	16	8,396	1	83			5	49	9	8,061			1	203
12	AMITY-BELLEVUE	22	1,516			7	38	8	114	5	1,087	1	1	1	276
13	ARLETA-52ND	6	9,364					4	385	2	8,979				
14	ARLETA-FOSTER	4	47					3	47			1	0		
15	ARLETA-HAROLD	3	156	1	26			1	127			1	4		
16	ARLETA-POWELL	10	1,072			2	172	3	513	3	134			2	253
17	ARLETA-STEELE	10	9,856	1	11			1	428	4	5,248	2	4,151	2	18
18	BANKS-BANKS 13	16	510	1	5	4	218	3	14	8	274				
19	BANKS-CEDAR CANYON	36	3,749	3	23	1	157	6	131	23	2,730	3	708		
20	BARNES-BATTLE CREEK	8	3,172					4	7	4	3,165				
21	BARNES-BOONE	1	57					1	57						
22	BARNES-COMMERCIAL	9	6,413					4	25	5	6,388				
23	BARNES-SUNNYSIDE	4	166					1	2	3	164				
24	BEAVER-KB PIPELINE														
25	BEAVERTON-ALLEN	9	90					8	83	1	7				
26	BEAVERTON-JAMIESON	2	13					2	13						
27	BEAVERTON-NORTHWEST	1	6							1	6				
28	BEAVERTON-WEST SLOPE	3	70					2	4	1	66				
29	BELL-BATTIN	10	1,210	1	2			5	163	3	263	1	782		
30	BELL-BRENTWOOD	1	328											1	328

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
31	BELL-FLAVEL	3	142					2	142	1	0				
32	BELL-JOHNSON CREEK														
33	BELL-KENDALL	5	119					3	113	2	6				
34	BELL-KING	19	1,560	1	74	2	866	8	78	8	542				
35	BELL-SOUTHGATE	2	161					2	161						
36	BELL-WICHITA	9	532	3	476			1	39	3	12	2	5		
37	BETHANY-BURTON	2	356					2	356						
38	BETHANY-GERMANTOWN	7	306							6	304	1	2		
39	BETHANY-KAISER														
40	BETHANY-LAIDLAW	1	4							1	4				
41	BETHANY-SPRINGVILLE	1	2											1	2
42	BETHANY-THOMPSON														
43	BETHEL-FRUITLAND	4	23					3	22	1	2				
44	BETHEL-GEER	12	488					5	46	6	341	1	101		
45	BETHEL-MACLEAY	1	5					1	5						
46	BLUE LAKE-BLUE LAKE 13	8	6,659	1	216			7	6,443						
47	BLUE LAKE-SUNDIAL														
48	BLUE LAKE-TOYO TANSO														
49	BOISE CASCADE-BOISE #1														
50	BOONES FERRY-GOODALL	9	6,120	2	4			1	363	6	5,752				
51	BOONES FERRY-KRUSE	2	7							2	7				
52	BOONES FERRY-LAKE GROVE	2	406					1	75	1	331				
53	BOONES FERRY-MOUNTAIN PARK	3	3,139					2	3,121	1	18				
54	BOONES FERRY-WEMBLEY PARK	9	1,091					1	1	8	1,090				
55	BORING-282ND	12	1,147	2	6			4	22	5	217			1	902
56	BORING-CITY	42	1,802	7	26	9	151	5	48	18	1,562	1	9	2	6
57	BORING-TELFORD														
58	BRIGHTWOOD-BRIGHTWOOD 13	53	7,754	18	408			1	7	31	7,093	1	212	2	33
59	BRIGHTWOOD-NORTH BANK	27	3,873	5	70			1	3	18	3,534			3	265
60	BROOKWOOD-BORWICK	1	619											1	619

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
61	BROOKWOOD-BROOKWOOD 13														
62	BROOKWOOD-SUNRISE	5	300					4	58	1	242				
63	CANBY-13644	6	1,111					2	28	3	127	1	956		
64	CANBY-BUTTEVILLE	6	180					5	80	1	100				
65	CANBY-FILBERT														
66	CANBY-ZIMMERMAN	18	1,500			4	46	6	75	4	47	2	1,326	2	7
67	CANYON-13114 NETWORK #1														
68	CANYON-13115 NETWORK #1														
69	CANYON-13116 NETWORK #1														
70	CANYON-13117 NETWORK #1														
71	CANYON-13118 PSU														
72	CANYON-13120														
73	CANYON-13121														
74	CANYON-13122 NETWORK #2														
75	CANYON-13123 NETWORK #2														
76	CANYON-13124 NETWORK #2														
77	CANYON-13125 NETWORK #2														
78	CANYON-13133 NETWORK #3														
79	CANYON-13134 NETWORK #3														
80	CANYON-13135 NETWORK #3														
81	CANYON-13136 NETWORK #3														
82	CANYON-21ST	2	934					1	209	1	725				
83	CANYON-23RD	10	1,027					4	273	5	456			1	298
84	CANYON-BURNSIDE														
85	CANYON-CANYON 13	11	3,835	1	7			4	117	6	3,712				
86	CARVER-ALMOND	1	1							1	1				
87	CARVER-CARVER 13	14	1,595			1	558	4	32	6	99	1	879	2	27
88	CARVER-NORTH														
89	CARVER-RIVERBEND	1	2									1	2		
90	CARVER-SOUTH	1	21			1	21								

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
91	CARVER-WOODS	17	3,548	2	9			2	1,242	10	2,147	3	151		
92	CEDAR HILLS-CEDAR HILLS 13														
93	CEDAR HILLS-LEAHY	12	23,961					3	182	9	23,778				
94	CEDAR HILLS-SHOPPING CENTER	15	5,262					7	1,498	7	3,709			1	55
95	CEDAR HILLS-SKYLINE														
96	CEDAR HILLS-ST VINCENT	1	46							1	46				
97	CEDAR HILLS-SYLVAN	15	1,371	3	517			4	231	6	399			2	224
98	CENTENNIAL-BARKER	4	149					3	126	1	23				
99	CENTENNIAL-BRAECROFT	8	566	2	237			1	53	5	276				
100	CENTENNIAL-CENTENNIAL 13	21	1,563					10	1,219	7	173	1	3	3	167
101	CENTENNIAL-TREELAND	5	574					2	36	3	538				
102	CLACKAMAS-EVELYN	2	38					2	38						
103	CLACKAMAS-GLADSTONE	12	3,746					3	96	9	3,649				
104	CLACKAMAS-JENNIFER														
105	CLACKAMAS-TOLBERT	3	81			1	53	1	19	1	9				
106	CLAXTAR-CLAXTAR 13														
107	CLAXTAR-HAYESVILLE	5	545					5	545						
108	CLAXTAR-RIDGE	1	10					1	10						
109	COFFEE CREEK-FREEMAN	2	41							2	41				
110	COFFEE CREEK-HOLIDAY	1	436							1	436				
111	COLTON-DHOOGHE	13	1,877	3	60					10	1,817				
112	COLTON-GRAYS HILL	31	1,586	5	336	1	190			23	996	2	63		
113	CORNELIUS-ADAIR	7	72	1	3			4	27	2	42				
114	CORNELIUS-CORNELIUS 13	5	30	1	2			2	23	1	4			1	1
115	CORNELIUS-VERBOORT	7	88					1	34	6	55				
116	CORNELL-BLUFFS	4	496	1	7			1	4					2	485
117	CORNELL-SALTZMAN	2	44					2	44						
118	CORNELL-WESTLAWN	7	704					4	90	3	614				
119	CULVER-GAFFIN														
120	CULVER-SANYO #1														

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
121	CURTIS-11077														
122	CURTIS-CURTIS 13	1	990	1	990										
123	DAYTON-EAST	14	245					6	133	8	112				
124	DAYTON-LAFAYETTE	13	579	2	7	1	501	3	25	6	44	1	1		
125	DAYTON-SOUTHWEST	9	128					4	50	4	56	1	21		
126	DELAWARE-DENVER	5	32					1	24	3	8			1	0
127	DELAWARE-INTERSTATE	3	709	1	462			1	179	1	68				
128	DELAWARE-LOMBARD	4	159					2	154	1	1			1	3
129	DENNY-EAST	2	94					2	94						
130	DENNY-NORTH	1	18					1	18						
131	DENNY-SOUTH	1	92					1	92						
132	DENNY-WEST	9	1,555					4	401	3	1,014	1	31	1	109
133	DILLEY-CARPENTER														
134	DILLEY-DILLEY 13	18	1,048	1	557			2	5	13	453			2	33
135	DUNNS CORNER-DUNNS CORNER 13	58	11,405	8	1,989	5	126	1	8	40	9,212	1	14	3	56
136	DUNNS CORNER-KELSO	4	48	1	3			1	35	2	10				
137	DURHAM-BONITA														
138	DURHAM-BRIDGEPORT														
139	DURHAM-DURHAM 13	2	3					2	3						
140	DURHAM-POOPLANT														
141	DURHAM-SATTLER														
142	DURHAM-SOUTH														
143	E-11021														
144	E-11039														
145	E-11040	2	8					2	8						
146	E-11041														
147	E-11042														
148	E-11043	1	2					1	2						
149	E-11047														
150	E-11064														

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Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
151	E-13139														
152	E-13140	1	30					1	30						
153	E-13141														
154	E-13142	2	55							2	55				
155	E-13144	4	693	1	7					2	685			1	2
156	E-13145	1	14							1	14				
157	E-13148														
158	E-13149														
159	E-13150														
160	EAGLE CREEK-BARTON	22	2,898	2	9			1	18	16	1,871	1	27	2	973
161	EAGLE CREEK-RIVER MILL	22	13,023	2	48	2	17	2	58	12	8,857	2	1,174	2	2,869
162	EASTPORT-76TH	1	23					1	23						
163	EASTPORT-PLAZA	2	611					1	610	1	1				
164	ELMA-ELMA 13	3	64					3	64						
165	ELMA-FOUR CORNERS	4	181					2	178	2	4				
166	ELMA-HUDSON	1	7					1	7						
167	ELMA-STATE	1	19							1	19				
168	ESTACADA-ESTACADA 13	45	20,226	15	438			2	9,950	25	9,593			3	244
169	ESTACADA-FARADAY	12	1,460	8	1,229					4	231				
170	ESTACADA-NORTH FORK	64	19,448	11	247			3	225	46	18,873	1	12	3	91
171	FAIRMOUNT-CANDALARIA	14	774					10	390	4	384				
172	FAIRMOUNT-MISSION	40	13,030	3	221			7	21	26	12,449	2	114	2	225
173	FAIRVIEW-CLEAR CREEK														
174	FAIRVIEW-FAIRVIEW 13	1	1,669							1	1,669				
175	FAIRVIEW-KENNEL CLUB	1	1											1	1
176	FAIRVIEW-TROUTDALE	4	2,656							1	1	2	255	1	2,400
177	FAIRVIEW-WOOD VILLAGE	2	26					2	26						
178	FARGO-FARGO 13	16	2,172	1	201	1	13			14	1,958				
179	GALES CREEK-GALES CREEK 13	50	9,625	1	301	3	1,232	3	7	39	5,840	4	2,247		
180	GARDEN HOME-MCKAY	7	809					3	421	3	387	1	1		

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Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
181	GARDEN HOME-METZGER	9	1,990	1	6			2	15	6	1,969				
182	GLENCOE-GLISAN	4	266					1	1	1	1			2	264
183	GLENCOE-PROVIDENCE	2	78									1	28	1	50
184	GLENCOE-SUNNYSIDE	8	4,816					2	59	5	4,731	1	27		
185	GLENCULLEN-BRIDLEMILE	33	17,328					4	171	25	12,855	3	4,181	1	122
186	GLENCULLEN-SUNSET	15	1,763	3	348			2	69	9	1,320			1	25
187	GLENDOVEER-13596														
188	GLENDOVEER-13597	9	438					6	182	2	243			1	13
189	GLENDOVEER-13598	4	1,792			2	1,280					2	512		
190	GLENDOVEER-13599	4	12					4	12						
191	GLENDOVEER-CLIFFGATE	1	15					1	15						
192	GLENDOVEER-NORTHEAST	5	9,616					2	32	1	754	1	17	1	8,813
193	GLISAN-FAB 2A														
194	GLISAN-UTILITY 1B														
195	GORMLEY-MCMINNVILLE WL														
196	GRAND RONDE-AGENCY	9	1,616	1	577			1	5	7	1,033				
197	GRAND RONDE-FORTHILL	20	1,366					1	84	17	1,173	2	110		
198	HARBORTON-BURLINGTON	39	6,605					4	28	32	6,479	1	12	2	86
199	HARBORTON-HARBORTON 13														
200	HARBORTON-LINNTON	6	1,484							6	1,484				
201	HARMONY-HARMONY 13	5	1,271	1	2			3	129	1	1,140				
202	HARMONY-INTERNATIONAL	3	30					2	27					1	3
203	HARMONY-LAKE	1	1,818							1	1,818				
204	HARMONY-LINWOOD	4	5,301					2	122	2	5,180				
205	HARMONY-MILWAUKIE	5	73	1	13					2	4			2	56
206	HARMONY-THIESSEN	2	133							1	43			1	90
207	HARRISON-DAVIS	2	243							2	243				
208	HARRISON-HARRISON 13	2	2							2	2				
209	HARRISON-IVON	1	3	1	3										
210	HAYDEN ISLAND-MAINLAND														

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Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
211	HAYDEN ISLAND-NORTH SHORE	2	78	1	75					1	2				
212	HAYDEN ISLAND-SOUTH SHORE	2	47					2	47						
213	HEMLOCK-FREMONT	2	119					1	2	1	117				
214	HEMLOCK-HEMLOCK 13	3	8							2	4			1	4
215	HEMLOCK-MASON														
216	HILLCREST-CASCADIA														
217	HILLCREST-HILLCREST 13														
218	HILLCREST-SOUTH														
219	HILLSBORO-DAIRY CREEK	9	633	2	13			2	163	3	319	1	118	1	19
220	HILLSBORO-DENNIS	3	34					1	7	1	6			1	21
221	HILLSBORO-JACKSON	4	115	1	2			3	113						
222	HILLSBORO-LAUREL	17	1,453	1	5			3	79	12	1,367			1	1
223	HILLSBORO-SCHOLLS	4	573	1	1			2	58					1	514
224	HOGAN NORTH-BRIGADOON	2	14					1	5					1	9
225	HOGAN NORTH-HOGAN NORTH 13	15	13,057	2	17	3	11,896	1	6	9	1,138				
226	HOGAN NORTH-LINKS	23	1,437	8	613	1	8	1	2	11	601			2	214
227	HOGAN NORTH-SALQUIST	2	5							2	5				
228	HOGAN SOUTH-CLEVELAND	1	1					1	1						
229	HOGAN SOUTH-LAWRENCE	16	1,589	4	1,247					12	342				
230	HOGAN SOUTH-MAIN	1	111					1	111						
231	HOGAN SOUTH-PAROPA	1	17					1	17						
232	HOGAN SOUTH-WALLULA														
233	HOLGATE-BYBEE	8	5,190	2	17			3	58	2	5,114	1	2		
234	HOLGATE-GIDEON	3	119					1	1	2	118				
235	HOLGATE-HOLGATE 13	6	5,007					1	89	2	2	2	10	1	4,906
236	HOLGATE-KENILWORTH	6	120	1	16			4	104	1	1				
237	HOLGATE-RHONE	3	31					2	26	1	6				
238	HUBER-BANY	1	346	1	346										
239	HUBER-FARMINGTON	2	132							2	132				
240	HUBER-HUBER 13	4	35	1	15			2	18	1	2				

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Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
241	HUBER-KINNAMAN	1	1,028									1	1,028		
242	HUBER-MARYVILLE														
243	INDIAN-KEIZER	11	362					9	313	1	20	1	29		
244	INDIAN-LABISH	8	260					3	9	3	4			2	247
245	INDIAN-NORTH	4	1,215	1	1,116			1	11	1	83	1	4		
246	INDIAN-STATION														
247	INDIAN-WEST	7	1,371	2	796					4	252	1	323		
248	ISLAND-13180	3	37					1	28	2	9				
249	ISLAND-13187	10	1,991	1	1			5	400	2	225	1	175	1	1,190
250	ISLAND-13188	9	675	1	518			6	106	1	26			1	26
251	ISLAND-ISLAND 13	3	30					3	30						
252	JENNINGS LODGE-ADDIE	4	128					4	128						
253	JENNINGS LODGE-JENNINGS 13	7	842					3	38	3	797			1	7
254	JENNINGS LODGE-MELDRUM	4	114	2	10			1	3	1	102				
255	JENNINGS LODGE-OAK GROVE	4	3,518							4	3,518				
256	JENNINGS LODGE-WEBSTER	4	154	1	32			2	21					1	101
257	KELLEY POINT-KELLEY POINT 13														
258	KELLEY POINT-LEDBETTER														
259	KELLEY POINT-MARINE														
260	KELLEY POINT-SIMMONS														
261	KELLY BUTTE-BINNSMEAD	5	13,300					2	168	2	13,061			1	71
262	KELLY BUTTE-FAIRLAWN	5	24					1	15	4	9				
263	KELLY BUTTE-MALL 205	8	3,433	1	20			1	2	5	3,403	1	8		
264	KELLY BUTTE-MCGREW	3	767	1	151					2	616				
265	KING CITY-BULL MOUNTAIN														
266	KING CITY-FISCHER	6	7,846					1	225	3	226			2	7,395
267	KING CITY-HAZELBROOK	1	9							1	9				
268	KING CITY-NORTH	1	14							1	14				
269	KING CITY-SUMMERFIELD														
270	LAKE LABISH-LAKE LABISH														

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2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
271	LELAND-BEAVERCREEK	14	17,417					2	8	8	13,116	3	1,144	1	3,148
272	LELAND-CARUS	38	6,977	6	392			5	6	23	5,579	2	879	2	122
273	LELAND-KELM	3	12					1	6	2	5				
274	LENTS-13101	7	331					2	71	3	106	1	17	1	136
275	LENTS-HAPPY VALLEY	6	114					1	2	5	113				
276	LENTS-MT SCOTT														
277	LENTS-NORTH	3	34					2	19	1	15				
278	LIBERAL-LIBERAL 13	14	1,023	1	25			4	63	7	884	1	23	1	29
279	LIBERAL-SAWMILL														
280	LIBERTY-BROWNING	1	9					1	9						
281	LIBERTY-LONE OAK	14	2,482	1	189			11	640	2	1,654				
282	LIBERTY-MORNINGSIDE	14	610	1	107			11	420	2	83				
283	LIBERTY-ROSEDALE	13	3,092					4	70	9	3,022				
284	LIBERTY-SKYLINE	15	522					4	132	8	103	2	6	1	281
285	LIBERTY-VISTA	3	365	1	205			1	54			1	105		
286	MAIN-AIRPORT	1	162					1	162						
287	MAIN-BENTLEY	4	55					1	3	3	52				
288	MAIN-EXPRESS	3	42					1	24	1	10			1	8
289	MAIN-GRIFFIN OAKS														
290	MAIN-JONES FARM														
291	MAIN-RIVER	7	2,957	1	1			3	41	1	2	1	2,912	1	2
292	MARKET-ENGLEWOOD	5	403					3	142	1	2	1	259		
293	MARKET-FAIRGROUNDS	1	14							1	14				
294	MARKET-HAWTHORNE	6	464					5	447	1	17				
295	MARKET-PARK	2	74					2	74						
296	MARQUAM-MCCALL #10 NETWORK														
297	MARQUAM-MCCALL #11 NETWORK														
298	MARQUAM-MCCALL #12 NETWORK														
299	MARQUAM-MCCALL #9 NETWORK														
300	MARQUAM-ORANGE														

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2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
301	MARQUAM-SPIRIT #1 NETWORK														
302	MARQUAM-SPIRIT #2 NETWORK														
303	MARQUAM-SPIRIT #3 NETWORK														
304	MARQUAM-SPIRIT #4 NETWORK														
305	MARQUAM-TILIKUM														
306	MAXIM-MAXIM 13														
307	MCCLAIN-COTTAGE	3	2,132					1	20	2	2,112				
308	MCCLAIN-FRONT	13	244					7	101	6	143				
309	MCCLAIN-HOLLYWOOD	5	28					3	15	1	2			1	11
310	MCGILL-HORSETAIL	5	624	1	537					4	87				
311	MCGILL-LATOURELL	2	17					1	16	1	1				
312	MCGILL-LSI AIR 1A														
313	MERIDIAN-65TH														
314	MERIDIAN-BORLAND	2	54							1	18	1	36		
315	MERIDIAN-CHILDS	1	1,638							1	1,638				
316	MERIDIAN-LAKEVIEW	4	519					1	65	3	455				
317	MERIDIAN-MERIDIAN 13	13	1,526					4	14	6	389	3	1,123		
318	MERIDIAN-NYBERG														
319	MERIDIAN-PILKINGTON	6	7,729	1	591					4	7,135	1	3		
320	MERIDIAN-SAGERT														
321	MIDDLE GROVE-BROWN	1	1							1	1				
322	MIDDLE GROVE-CHEMEKETA	1	1							1	1				
323	MIDDLE GROVE-CORDON	4	535					2	11	2	524				
324	MIDDLE GROVE-SWEGLE	1	18					1	18						
325	MIDDLE GROVE-WEST	2	34					2	34						
326	MIDWAY-DIVISION	4	50					2	46	2	4				
327	MIDWAY-DOUGLAS	7	161					3	21	3	130			1	11
328	MIDWAY-LYNCH	7	704			1	130	2	28	4	546				
329	MIDWAY-POWELLHURST	6	412					2	30	4	382				
330	MILL CREEK-EASTLAND	11	900					7	47	3	117	1	736		

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2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
331	MILL CREEK-KUEBLER	1	2					1	2						
332	MILL CREEK-MILL CREEK 13														
333	MOLALLA-BUCKAROO	39	1,347	30	736			1	3	5	564			3	44
334	MOLALLA-FOREST	30	632	2	66			2	31	22	486	1	10	3	39
335	MOLALLA-MARQUAM	38	4,350	1	143			3	22	25	2,189	6	1,985	3	11
336	MOLALLA-YODER	14	853	2	462	1	24	3	5	5	300	1	54	2	9
337	MT ANGEL-EAST	2	4			1	3	1	1						
338	MT ANGEL-WEST	10	4,102	1	3,671	1	32			6	230			2	170
339	MT PLEASANT-CLAIRMONT	5	1,739					2	12	3	1,727				
340	MT PLEASANT-MT VIEW	2	230							1	226	1	4		
341	MT PLEASANT-RIVERCREST	7	1,424	3	1,357			2	23	1	2			1	42
342	MT PLEASANT-SOUTH END	8	7,714	3	6,969			1	12	2	85	1	617	1	31
343	MULINO-NORTH	9	62	1	13			4	8	4	41				
344	MULINO-SOUTH	19	1,027					2	7	14	1,005	1	9	2	6
345	MULTNOMAH-13176	11	18,197					3	99	6	17,415	1	672	1	11
346	MULTNOMAH-13177	16	12,072	1	563			3	71	8	11,382	1	13	3	42
347	MULTNOMAH-13181	7	3,224					2	43	5	3,182				
348	MULTNOMAH-MULTNOMAH 13	7	3,914					1	29	5	3,571	1	314		
349	MURRAYHILL-KINTON														
350	MURRAYHILL-MURRAYHILL 13	1	1					1	1						
351	MURRAYHILL-REUSSER														
352	MURRAYHILL-TEAL	1	39					1	39						
353	NEWBERG-CHEHALEM	30	3,771	3	1,217			5	10	21	2,447			1	97
354	NEWBERG-DUNDEE	11	1,744					3	190	6	68	2	1,486		
355	NEWBERG-HOOVER PARK	3	1,073							2	1,066			1	7
356	NEWBERG-NORTH COLLEGE	9	972					3	7	5	41	1	924		
357	NORTH MARION-CROSBY	3	361					2	243	1	118				
358	NORTH MARION-FRONT	1	2											1	2
359	NORTH MARION-HUBBARD	5	1,593							2	1,269	1	5	2	319
360	NORTH MARION-MCLAREN	11	142	1	1	5	18	1	32	2	23	1	2	1	66

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2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
361	NORTH PLAINS-MASON HILL	29	4,183	4	323					21	3,533	2	324	2	4
362	NORTH PLAINS-NORTH PLAINS 13	26	5,586					2	22	21	5,466	2	97	1	1
363	NORTHERN-11009	1	27											1	27
364	NORTHERN-11016														
365	NORTHERN-11071	3	5	1	0					2	5				
366	OAK GROVE-LAKE HARRIET	2	488							2	488				
367	OAK GROVE-WHITE WATER														
368	OAK HILLS-FIVE OAKS														
369	OAK HILLS-GREENBRIER														
370	OAK HILLS-OAK HILLS 13														
371	OAK HILLS-SOMERSET	1	506					1	506						
372	OAK HILLS-WALKER														
373	OREGON STEEL-OREGON STEEL 13														
374	ORENCO-231ST														
375	ORENCO-AMBERGLEN														
376	ORENCO-BASELINE	2	503					2	503						
377	ORENCO-ORENCO 13														
378	ORENCO-PRIMATE														
379	ORENCO-WILKINS														
380	ORIENT-BARLOW	6	433	1	2	2	264			1	145	1	21	1	1
381	ORIENT-ORIENT 13	9	798							7	769			2	28
382	ORIENT-OXBOW	27	6,622	4	1,413	4	806			19	4,403				
383	OSWEGO-IRON MOUNTAIN	9	1,378							8	1,372			1	7
384	OSWEGO-MARYLHURST	16	1,348	1	9			4	124	9	780			2	436
385	OSWEGO-PALATINE	18	1,170					4	104	14	1,066				
386	OSWEGO-STAFFORD														
387	OXFORD-FAIRVIEW														
388	OXFORD-LEE	2	35					2	35						
389	OXFORD-MADRONA														
390	OXFORD-OXFORD 13	5	38					4	34	1	5				

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Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
391	OXFORD-RURAL	2	110							2	110				
392	OXFORD-SHELTON	3	290					2	6	1	284				
393	PELTON-ROUND BUTTE	1	12			1	12								
394	PENINSULA PARK-OCKLEY GREEN	1	29	1	29										
395	PENINSULA PARK-PENINSULA PARK	4	26					1	2	2	8			1	17
396	PLEASANT VALLEY-BAXTER	5	97	1	11					3	51	1	35		
397	PLEASANT VALLEY-CLATSOP	1	63							1	63				
398	PLEASANT VALLEY-MOON	1	2,018					1	2,018						
399	PLEASANT VALLEY-PLEASANT 13	8	204					3	139	4	61	1	4		
400	PLEASANT VALLEY-SUN	2	3							2	3				
401	PORTLAND WATER-PUMPING														
402	PORTSMOUTH-CARBIDE	6	8,998							5	8,998			1	0
403	PORTSMOUTH-DISPOSAL														
404	PORTSMOUTH-WILLIS	2	7							2	7				
405	PROGRESS-GREENBURG	2	21					1	6					1	15
406	PROGRESS-HALL	2	13					2	13						
407	PROGRESS-ROBINSON														
408	PROGRESS-SAWYER														
409	PROGRESS-WASHINGTON SQ #1														
410	PROGRESS-WASHINGTON SQ #2														
411	RALEIGH HILLS-DOGWOOD	10	657					4	78	6	579				
412	RALEIGH HILLS-MONTCLAIR	11	876	1	454			6	234	3	87			1	101
413	RALEIGH HILLS-OLESON	7	3,803	4	592					3	3,211				
414	RAMAPO-EMERALD	6	252					2	98	4	154				
415	RAMAPO-GILBERT	8	1,681	2	1,251			2	331	4	98				
416	RAMAPO-RAMAPO 13	20	6,715	3	3,077			2	92	14	3,537			1	10
417	REDLAND-HENRICI	44	6,335	8	429			1	1	33	5,752	2	153		
418	REDLAND-REDLAND 13	45	9,143	8	3,523			4	31	28	3,008	3	1,594	2	986
419	REEDVILLE-AUGUSTA	3	1,844	1	1,806			1	5	1	33				
420	REEDVILLE-BLANTON	8	28					2	11	6	18				

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
421	REEDVILLE-HAZELDALE	7	5,034	3	26			1	3	2	192	1	4,813		
422	REEDVILLE-INTEL #5														
423	REEDVILLE-TV	2	565	1	30									1	535
424	RIVERGATE SOUTH-11010														
425	RIVERGATE SOUTH-11011	2	24	1	3			1	21						
426	RIVERGATE SOUTH-PEARCY														
427	RIVERGATE SOUTH-SWIFT	1	4							1	4				
428	RIVERVIEW-FULTON	11	8,387	1	19			3	35	7	8,333				
429	RIVERVIEW-MACADAM														
430	RIVERVIEW-TERWILLIGER	11	958	1	6			2	30	6	142	1	369	1	412
431	ROCK CREEK-185TH	2	3	1	2					1	1				
432	ROCK CREEK-FOREST PARK	2	9							2	9				
433	ROCK CREEK-NEWBERRY	18	3,268	2	45			2	23	9	311	1	403	4	2,486
434	ROCKWOOD-AIRPORT														
435	ROCKWOOD-BOEING														
436	ROCKWOOD-INDUSTRIAL	1	2											1	2
437	ROCKWOOD-REYNOLDS	1	4							1	4				
438	ROCKWOOD-ROCKWOOD 13	10	2,260	1	1,072	1	572	2	108	3	452	2	11	1	44
439	ROCKWOOD-WILKES														
440	ROSEMONT-HIDDEN SPRINGS	3	330	1	301			1	14	1	15				
441	ROSEMONT-MOSSY BRAE	7	891					1	4	6	886				
442	ROSEMONT-OVERLOOK	3	371							3	371				
443	ROSEWAY-ALEXANDER														
444	ROSEWAY-ESPLANADE	9	307					8	305	1	1				
445	RUBY-CAR LINE	1	0	1	0										
446	RUBY-JUNCTION	1	80							1	80				
447	SALEM-13260														
448	SALEM-13261														
449	SALEM-13262														
450	SALEM-13263														

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
451	SALEM-13264														
452	SALEM-UNION														
453	SANDY-362ND	18	3,023	2	11	1	14	2	21	13	2,978				
454	SANDY-BLUFF	3	20	1	13			1	6	1	2				
455	SANDY-SANDY 13	67	9,293	21	197			3	75	38	8,810	2	168	3	44
456	SANDY-WILDCAT	36	18,004	3	117	2	367	5	78	24	16,043	2	1,400		
457	SCAPPOOSE-SAUVIE ISLAND	5	89					4	30					1	59
458	SCHOLLS FERRY-KEMMER														
459	SCHOLLS FERRY-RAINBOW	8	1,399							6	1,076	1	1	1	322
460	SCHOLLS FERRY-ROY ROGERS	16	1,744	2	234			1	4	10	1,352			3	154
461	SCOGGINS-CHERRY GROVE	28	892	4	124			8	307	14	457	2	4		
462	SCOGGINS-LAURELWOOD	33	822			1	37	18	424	11	319	3	41		
463	SCOTTS MILLS-SCOTTS MILLS 13	51	16,302	9	99			6	123	28	15,436	3	260	5	384
464	SELLWOOD-KELLOGG PARK	5	177	2	49			1	1	2	127				
465	SELLWOOD-SELLWOOD 13	6	60	2	16			3	24	1	20				
466	SELLWOOD-WAVERLY	2	113					1	38					1	75
467	SHERIDAN-EAST	6	786							6	786				
468	SHERIDAN-KADELL	7	208					2	8	5	200				
469	SHUTE-LINDE 1 35KV														
470	SILVERTON-NORTH	4	19					3	13	1	6				
471	SILVERTON-SOUTH	29	14,009	6	39			2	7	18	13,814	3	149		
472	SILVERTON-WEST	16	200	1	38			5	7	8	153	2	3		
473	SIX CORNERS-13359	6	1,667					1	1,233	5	433				
474	SIX CORNERS-13360	3	54	1	48	1	5							1	2
475	SIX CORNERS-BORCHERS	15	1,423	2	880					10	266	2	272	1	4
476	SIX CORNERS-CHAPMAN	8	677	1	2	1	9	1	25	5	640				
477	SIX CORNERS-SIX CORNERS 13	1	1					1	1						
478	SP NEWSPRINT-NEWBERG														
479	SPRING HILL-SPRING HILL														
480	SPRINGBROOK-FERNWOOD	8	6,962	1	1,537			2	6	3	5,409	1	2	1	8

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
481	SPRINGBROOK-ST PAUL	29	2,161	1	8	1	6	2	3	22	1,664	1	212	2	268
482	SPRINGBROOK-VILLA	1	238					1	238						
483	SPRINGBROOK-ZIMRI	6	531	1	16			1	16	3	176	1	322		
484	ST HELENS-KASTER														
485	ST LOUIS-EAST	2	368					1	367			1	1		
486	ST LOUIS-NORTH	14	3,643	1	1	1	2	4	15	4	787	3	2,834	1	3
487	ST LOUIS-WEST	18	1,057	4	57			3	9	8	909	1	75	2	6
488	ST MARYS EAST-BETHANY														
489	ST MARYS EAST-ELMONICA	1	95											1	95
490	ST MARYS EAST-JENKINS														
491	ST MARYS EAST-MILLIKAN	1	10							1	10				
492	ST MARYS EAST-ST MARYS 13														
493	STIMSON LUMBER-FORESTEX	1	3					1	3						
494	SULLIVAN-ROBINWOOD	18	5,163	2	388			4	208	11	4,566	1	1		
495	SULLIVAN-SALAMO	8	575					1	37	7	539				
496	SULLIVAN-SUSSEX	2	175	1	0			1	175						
497	SULLIVAN-TANNER	4	205					3	196	1	9				
498	SULLIVAN-WILLAMETTE	7	731							7	731				
499	SULZER PUMPS-115B														
500	SUMMIT-GOVERNMENT CAMP	15	2,416	6	908			1	9	8	1,498				
501	SUMMIT-MEADOWS	2	38	2	38										
502	SUMMIT-SUMMIT 13	10	5,052	2	2,532					7	2,518	1	2		
503	SUNSET-BLANCHET														
504	SUNSET-COLFAX														
505	SUNSET-CORNELL														
506	SUNSET-DORION														
507	SUNSET-IDTA														
508	SUNSET-IDTB														
509	SUNSET-IDTC														
510	SUNSET-INTEL D1B1														

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Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
511	SUNSET-INTEL D1X1														
512	SUNSET-KOMATSU #1														
513	SUNSET-KOMATSU #3														
514	SUNSET-LANE														
515	SUNSET-MCCALL														
516	SUNSET-MEEK														
517	SUNSET-NIXON														
518	SUNSET-OLCOTT														
519	SUNSET-PAULING														
520	SUNSET-SPALDING														
521	SUNSET-WHITMAN														
522	SUNSET-YOUNG														
523	SWAN ISLAND-BASIN														
524	SWAN ISLAND-DOLPHIN														
525	SWAN ISLAND-FREIGHTLINER														
526	SWAN ISLAND-GOING	2	373							2	373				
527	SWAN ISLAND-SHIPYARD														
528	SYLVAN-BARNES	31	2,586	2	6					27	2,254			2	327
529	SYLVAN-PATTON	21	10,203	1	12			5	709	14	9,478	1	5		
530	TABOR-82ND	9	1,675			1	10	3	91	2	378	1	173	2	1,023
531	TABOR-HOSPITAL	2	64											2	64
532	TABOR-TABOR 13	4	991							1	2			3	988
533	TEKTRONIX-DUCKS														
534	TEKTRONIX-HOCKEN														
535	TEKTRONIX-MEADOW	19	6,713					15	396	3	6,309	1	8		
536	TEKTRONIX-NORTH														
537	TEKTRONIX-SHANNON	5	760					3	63	1	130	1	567		
538	TEKTRONIX-SOUTH	7	1,140	1	2	1	608	1	36	3	421			1	73
539	TEKTRONIX-TEKTRONIX 13	2	561					1	282	1	279				
540	TEKTRONIX-TERMAN														

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
541	TEKTRONIX-WEST														
542	TEMP B-SOUTH														
543	TEMP H-NEPTUNE														
544	TEMP H-SATURN														
545	TIGARD-13336	2	420					1	88					1	332
546	TIGARD-13337	2	34					2	34						
547	TIGARD-13361	2	4,239							2	4,239				
548	TIGARD-13362	1	56					1	56						
549	TIGARD-TIGARD 13	5	702					3	596	2	106				
550	TOWN CENTER-LAWNFIELD														
551	TOWN CENTER-MONTEREY	1	5					1	5						
552	TOWN CENTER-NORTH														
553	TOWN CENTER-PRECISION CASTPARTS														
554	TOWN CENTER-SOUTH														
555	TOWN CENTER-SUNNYBROOK														
556	TOWN CENTER-VALLEY VIEW														
557	TROJAN-EAST														
558	TUALATIN-AVERY	1	4					1	4						
559	TUALATIN-CIPOLE	1	3							1	3				
560	TUALATIN-HERMAN														
561	TUALATIN-IBACH	5	52							5	52				
562	TUALATIN-LEVETON	1	11					1	11						
563	TUALATIN-TUALATIN 13														
564	TURNER-CASCADE	6	1,315			1	4	2	1,203	3	108				
565	TURNER-TURNER 13	12	553	1	166			6	110	5	276				
566	TWILIGHT-BREMER	27	6,488	5	384			3	2	17	5,933	2	168		
567	UNIONVALE-UNIONVALE 13	21	649					2	47	15	529	2	53	2	19
568	UNIVERSITY-MILL	1	1							1	1				
569	UNIVERSITY-TRADE	9	642					8	621	1	21				
570	URBAN-BARBUR	2	8							1	0			1	7

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

	Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
571	URBAN-CAMPUS														
572	URBAN-CORBETT	3	140					1	19	2	121				
573	URBAN-GAINES	1	5							1	5				
574	URBAN-GIBBS														
575	URBAN-KELLY	1	4					1	4						
576	URBAN-LANDING	1	241					1	241						
577	URBAN-MEDICAL	1	4							1	4				
578	URBAN-OHSU														
579	WACKER-WACKER 1														
580	WACONDA-NORPAC														
581	WACONDA-RIVER	10	1,212					3	9	5	1,191			2	12
582	WACONDA-WACONDA 13	7	296					1	1	5	283			1	12
583	WALLACE-WALLACE 13	19	1,445	1	12			1	2	12	759	5	672		
584	WALLACE-WILLOW LAKE	1	583					1	583						
585	WELCHES-WELCHES 13	28	13,040	9	198			3	310	14	11,775	1	22	1	735
586	WELCHES-ZIG ZAG	147	34,613	51	5,948					88	27,105	4	678	4	883
587	WEST PORTLAND-72ND														
588	WEST PORTLAND-NORTH	8	485					4	248	4	238				
589	WEST PORTLAND-PACIFIC	3	545					1	31	2	514				
590	WEST PORTLAND-WEST PORTLAND 13	5	1,269					3	455	1	404	1	409		
591	WEST UNION-ALOCLEK														
592	WEST UNION-CORNELIUS PASS	19	7,454	2	4,918			3	30	12	1,760	1	636	1	109
593	WEST UNION-JACOBSON														
594	WEST UNION-WEST UNION 13														
595	WILLAMINA-BRIDGE	11	7,055					2	33	9	7,022				
596	WILLAMINA-BUELL	6	94					1	11	4	77			1	6
597	WILLAMINA-LUMBER														
598	WILLBRIDGE-WILLBRIDGE #1	1	2	1	2										
599	WILLBRIDGE-WILLBRIDGE #4														
600	WILSONVILLE-BOECKMAN	4	1,017					1	14	3	1,004				

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause Natural

Feeder Name	Total Natural		Adverse Environment		Lightning		Animal		Non-Preventable Tree Contacts*		Preventable Tree Contacts*		Unknown	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
601 WILSONVILLE-CHARBONNEAU	7	7,333					1	32	6	7,301				
602 WILSONVILLE-CITY														
603 WILSONVILLE-MENTORTEK														
604 WILSONVILLE-PARKWAY														
605 WILSONVILLE-VILLEBOIS	4	51					2	48	2	4				
606 WILSONVILLE-WEST	8	1,001					5	48	3	953				
607 WOODBURN-CANNERY	3	114	1	1			1	52	1	61				
608 WOODBURN-EAST	5	63	1	2					3	44	1	18		
609 WOODBURN-TOMLIN	13	1,965					3	344	6	1,204			4	417
610 WOODBURN-WEST	10	928					5	632	2	284			3	12
611 YAMHILL-CARLTON	16	2,395	1	767			3	56	10	533	2	1,038		
612 YAMHILL-YAMHILL 13	18	18,282					2	109	15	18,172	1	1		
Grand Totals:	3,747	837,827	439	66,758	80	20,465	826	56,481	2,021	588,434	177	54,054	204	51,635

*For detailed Tree Contacts, see Outages by Tree Contacts report

Outs = Outages
Hrs = # of customers * duration hrs

Section V

Outages by Cause System

This section provides the total number of customer outages (frequency) and customer outage hours (duration) caused by system (failure of equipment or loss of source) events. The information is presented by feeder and attributed to one of the following categories¹:

- PGE Equipment²
- Loss of Substation
- Loss of Transmission
- Human Element
- Public
- Planned³

NOTES:

- Idle feeders are not included in this list
- Feeders may be omitted if they are a part of an alternate/multiple feeder service

¹ See Section IX – Cause Code Categories and Mapping for detailed causes for each category

² The Cutout, Fuse, Arrestor category is included for reference. Outage events in this column are captured in the PGE Equipment column.

³ The Planned category is included for reference. Planned outages are not included as part of Total System values or sums.

2020 Outages by Cause System

	Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
1	ABERNETHY-CLACKAMAS HEIGHTS	2	227	1	226	1	226					1	1			6	18
2	ABERNETHY-OREGON CITY	19	584	10	103	7	76	1	303			2	2	6	176	34	414
3	ABERNETHY-TRANSIT	8	396	6	166	1	1	1	210					1	20	26	224
4	ABERNETHY-WASHINGTON	13	81	11	76	4	57					1	1	1	4	21	243
5	ALDER-ANKENY															7	1,103
6	ALDER-IRVING	6	78	6	78	2	3									6	115
7	ALDER-LINCOLN	17	582	15	575	4	311					1	3	1	4	30	346
8	ALDER-STARK	4	24	3	23	1	14							1	1	7	117
9	ALDER-TAYLOR	1	0	1	0											2	860
10	ALDER-YAMHILL	5	53	4	52	1	34							1	1	1	14
11	AMITY-AMITY 13	18	306	14	234	7	182							4	72	17	89
12	AMITY-BELLEVUE	25	3,096	23	284	13	214							2	2,811	22	225
13	ARLETA-52ND	7	102	7	102	1	3									16	67
14	ARLETA-FOSTER	8	245	8	245	4	123									12	334
15	ARLETA-HAROLD	9	123	5	115							1	4	3	4	19	400
16	ARLETA-POWELL	16	11,013	14	10,972	2	30							2	41	17	273
17	ARLETA-STEELE	17	1,405	15	1,402	3	37					1	1	1	3	38	823
18	BANKS-BANKS 13	11	211	11	211	2	8									35	200
19	BANKS-CEDAR CANYON	22	1,126	17	323	5	55							5	804	35	120
20	BARNES-BATTLE CREEK	6	751	4	722	3	718							2	29	8	598
21	BARNES-BOONE	6	15	4	10	2	4							2	5		
22	BARNES-COMMERCIAL	13	849	11	576	3	16							2	273	11	115
23	BARNES-SUNNYSIDE	12	579	11	563	3	289							1	17	4	23
24	BEAVER-KB PIPELINE																
25	BEAVERTON-ALLEN	10	1,234	9	1,065	2	30							1	170	3	115
26	BEAVERTON-JAMIESON	3	149	3	149	1	1									1	3
27	BEAVERTON-NORTHWEST	3	79	3	79	1	2									20	440
28	BEAVERTON-WEST SLOPE	5	748	5	748	1	1									3	52
29	BELL-BATTIN	6	38	6	38	3	34									3	15
30	BELL-BRENTWOOD																
31	BELL-FLAVEL	5	54	4	50	1	45							1	4	4	11
32	BELL-JOHNSON CREEK																
33	BELL-KENDALL	7	20	6	20	4	16							1	1	3	5
34	BELL-KING	4	230	4	230											7	34
35	BELL-SOUTHGATE	4	148	4	148	1	16									10	114
36	BELL-WICHITA	11	1,973	8	150	2	43							3	1,822	21	75

¹ Values captured in the PGE Equipment total

² Planned is not included as part of Total System values

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
37 BETHANY-BURTON	3	42	2	40									1	2	9	102
38 BETHANY-GERMANTOWN	3	1,074	1	7									2	1,067	10	1,125
39 BETHANY-KAISER	2	4	2	4											3	384
40 BETHANY-LAIDLAW	2	8	2	8											7	52
41 BETHANY-SPRINGVILLE	1	1										1	1		15	403
42 BETHANY-THOMPSON	2	74	2	74											4	250
43 BETHEL-FRUITLAND	11	8,631	10	8,626	2	61							1	4	1	1
44 BETHEL-GEER	16	427	16	427	7	26									19	40
45 BETHEL-MACLEAY	4	32	3	31	1	24							1	1	9	98
46 BLUE LAKE-BLUE LAKE 13	8	2,470	7	2,466	4	145							1	3	10	235
47 BLUE LAKE-SUNDIAL	7	37	5	25							1	5	1	7	2	2
48 BLUE LAKE-TOYO TANSO																
49 BOISE CASCADE-BOISE #1																
50 BOONES FERRY-GOODALL	6	1,745	6	1,745	2	387									5	132
51 BOONES FERRY-KRUSE	6	47	5	44									1	3	13	294
52 BOONES FERRY-LAKE GROVE	7	160	6	157	3	79							1	3	77	2,341
53 BOONES FERRY-MOUNTAIN PARK	3	941	3	941											2	12
54 BOONES FERRY-WEMBLEY PARK	3	625	2	464									1	161	35	270
55 BORING-282ND	22	3,368	18	3,342	4	26							4	26	78	1,157
56 BORING-CITY	27	897	23	253	2	10							4	644	70	554
57 BORING-TELFORD																
58 BRIGHTWOOD-BRIGHTWOOD 13	15	1,710	10	81				3	1,621				2	7	28	217
59 BRIGHTWOOD-NORTH BANK	9	1,190	8	296	1	3							1	895	4	20
60 BROOKWOOD-BORWICK															1	3
61 BROOKWOOD-BROOKWOOD 13																
62 BROOKWOOD-SUNRISE	5	331	4	328									1	3	4	81
63 CANBY-13644	6	74	4	38	2	32							2	36		
64 CANBY-BUTTEVILLE	16	499	12	200	1	12							4	299	19	210
65 CANBY-FILBERT															2	1
66 CANBY-ZIMMERMAN	20	3,987	16	1,557	4	73							4	2,429	35	138
67 CANYON-13114 NETWORK #1																
68 CANYON-13115 NETWORK #1																
69 CANYON-13116 NETWORK #1																
70 CANYON-13117 NETWORK #1																
71 CANYON-13118 PSU																
72 CANYON-13120																

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
73	CANYON-13121															
74	CANYON-13122 NETWORK #2															
75	CANYON-13123 NETWORK #2															
76	CANYON-13124 NETWORK #2	1	18	1	18											
77	CANYON-13125 NETWORK #2															
78	CANYON-13133 NETWORK #3															
79	CANYON-13134 NETWORK #3															
80	CANYON-13135 NETWORK #3															
81	CANYON-13136 NETWORK #3															
82	CANYON-21ST	5	1,721	5	1,721	1	11									
83	CANYON-23RD	7	5,270	6	5,252						1	17			8	54
84	CANYON-BURNSIDE	4	569	4	569	1	2								1	1
85	CANYON-CANYON 13	11	1,043	8	924						3	118			8	104
86	CARVER-ALMOND	1	139	1	139	1	139								2	13
87	CARVER-CARVER 13	13	3,803	9	3,552	1	0						4	251	22	79
88	CARVER-NORTH	1	2	1	2										6	61
89	CARVER-RIVERBEND	1	8	1	8											
90	CARVER-SOUTH	4	6	3	5	3	5						1	1	1	6
91	CARVER-WOODS	17	15,129	15	13,081	4	47						2	2,049	33	200
92	CEDAR HILLS-CEDAR HILLS 13															
93	CEDAR HILLS-LEAHY	3	19	3	19										85	1,096
94	CEDAR HILLS-SHOPPING CENTER	5	271	5	271										18	328
95	CEDAR HILLS-SKYLINE															
96	CEDAR HILLS-ST VINCENT	1	58	1	58	1	58								1	20
97	CEDAR HILLS-SYLVAN	4	5	3	4								1	1	22	527
98	CENTENNIAL-BARKER	18	8,090	12	537	3	54	4	7,544				2	9	16	689
99	CENTENNIAL-BRAECROFT	8	697	7	679	3	257						1	19	3	42
100	CENTENNIAL-CENTENNIAL 13	14	1,585	10	167	1	29				1	1,345	3	73	27	620
101	CENTENNIAL-TREELAND	6	101	5	73								1	28	12	249
102	CLACKAMAS-EVELYN	1	1	1	1										1	11
103	CLACKAMAS-GLADSTONE	11	1,706	10	1,705								1	1	28	1,014
104	CLACKAMAS-JENNIFER	5	181	3	90								2	90	1	1
105	CLACKAMAS-TOLBERT	7	191	6	184	1	5						1	7	19	735
106	CLAXTAR-CLAXTAR 13	1	6								1	6			5	7
107	CLAXTAR-HAYESVILLE	7	440	6	437								1	3	1	335
108	CLAXTAR-RIDGE	8	391	6	227	2	3						2	164	14	11

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Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
109	COFFEE CREEK-FREEMAN	4	31	4	31	2	24								5	39
110	COFFEE CREEK-HOLIDAY	2	76	2	76	2	76								2	1
111	COLTON-DHOOGHE	7	3,883	5	2,790	1	67						2	1,093	10	49
112	COLTON-GRAYS HILL	11	276	9	59	2	11						2	218	20	119
113	CORNELIUS-ADAIR	8	24	6	19								2	5	26	358
114	CORNELIUS-CORNELIUS 13	10	4,752	7	186								3	4,566	10	96
115	CORNELIUS-VERBOORT	10	382	8	51	4	39						2	332	5	16
116	CORNELL-BLUFFS	5	113	5	113	2	30								17	295
117	CORNELL-SALTZMAN	2	51	2	51										16	241
118	CORNELL-WESTLAWN	4	293	4	293	1	13								58	521
119	CULVER-GAFFIN														1	3
120	CULVER-SANYO #1															
121	CURTIS-11077	3	23	3	23	1	7								1	10
122	CURTIS-CURTIS 13	2	3	1	2						1	1			25	222
123	DAYTON-EAST	23	662	21	476	14	279						2	186	12	21
124	DAYTON-LAFAYETTE	13	742	11	98	8	88						2	643	15	68
125	DAYTON-SOUTHWEST	18	465	14	248	7	12						4	217	22	133
126	DELAWARE-DENVER	8	224	8	224										29	383
127	DELAWARE-INTERSTATE	5	19	3	6	2	6						2	13	2	9
128	DELAWARE-LOMBARD	11	601	9	48								2	553	15	92
129	DENNY-EAST	5	250	5	250	1	2								11	305
130	DENNY-NORTH	2	5	2	5	1	2								1	5
131	DENNY-SOUTH	7	575	7	575	1	7								1	7
132	DENNY-WEST	24	1,345	23	1,343	1	21						1	3	30	410
133	DILLEY-CARPENTER	1	5							1	5					
134	DILLEY-DILLEY 13	11	2,740	8	1,233					2	1,463		1	44	25	82
135	DUNNS CORNER-DUNNS CORNER 13	22	3,516	17	3,423	3	20						5	92	62	667
136	DUNNS CORNER-KELSO	2	188	2	188										20	142
137	DURHAM-BONITA	1	2	1	2											
138	DURHAM-BRIDGEPORT	4	60	2	13								2	47	4	63
139	DURHAM-DURHAM 13	3	138	3	138	2	79								3	14
140	DURHAM-POOPLANT															
141	DURHAM-SATTLER	4	52	4	52										3	12
142	DURHAM-SOUTH	2	147	2	147										9	185
143	E-11021	1	56	1	56										1	25
144	E-11039															

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2020 Outages by Cause System

	Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
		Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
145	E-11040	3	56	3	56											4	738
146	E-11041															2	12
147	E-11042																
148	E-11043	4	14	3	11	3	11							1	3	1	4
149	E-11047	1	1	1	1	1	1										
150	E-11064																
151	E-13139	3	303	1	7			1	295			1	1			3	3
152	E-13140	2	66	2	66											7	45,159
153	E-13141	1	5,163							1	5,163					2	10
154	E-13142															1	128
155	E-13144	6	5,390	4	173	1	41			1	5,144			1	73	11	144
156	E-13145	3	884	1	9			2	875							1	89
157	E-13148	1	3,672							1	3,672					2	108
158	E-13149															17	2,682
159	E-13150	3	5,732	1	4	1	4	1	2,047	1	3,680					5	19
160	EAGLE CREEK-BARTON	16	1,202	15	108	3	31							1	1,094	70	425
161	EAGLE CREEK-RIVER MILL	21	1,346	15	193	3	16					1	337	5	815	31	167
162	EASTPORT-76TH	11	395	8	224	1	37							3	171	17	95
163	EASTPORT-PLAZA	9	669	5	609	2	67					1	3	3	57	8	127
164	ELMA-ELMA 13	4	26	4	26											1	16
165	ELMA-FOUR CORNERS	17	961	15	944	2	217							2	17	12	202
166	ELMA-HUDSON	7	5,074	6	5,069									1	5	3	13
167	ELMA-STATE	5	32	5	32	1	3									6	102
168	ESTACADA-ESTACADA 13	26	1,383	19	1,193	4	18					1	3	6	187	67	652
169	ESTACADA-FARADAY	18	989	14	971	1	358					1	2	3	17	43	306
170	ESTACADA-NORTH FORK	28	1,424	17	709	5	56							11	716	46	178
171	FAIRMOUNT-CANDALARIA	11	188	11	188	5	153									1	5
172	FAIRMOUNT-MISSION	7	113	6	19	3	7							1	93	13	50
173	FAIRVIEW-CLEAR CREEK	1	3											1	3		
174	FAIRVIEW-FAIRVIEW 13	4	414	2	4									2	410	4	47
175	FAIRVIEW-KENNEL CLUB	3	138	2	115									1	23	3	44
176	FAIRVIEW-TROUTDALE	10	5,334	10	5,334	1	81									14	91
177	FAIRVIEW-WOOD VILLAGE	2	65	1	2									1	63	2	137
178	FARGO-FARGO 13	24	2,139	19	1,043	3	9							5	1,096	28	238
179	GALES CREEK-GALES CREEK 13	12	3,394	10	347					1	3,015			1	33	22	468
180	GARDEN HOME-MCKAY	8	314	7	260									1	53	12	141

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
181 GARDEN HOME-METZGER	16	747	16	747	5	142									40	367
182 GLENCOE-GLISAN	16	17,611	12	349	4	126	4	17,263							20	3,003
183 GLENCOE-PROVIDENCE	1	15	1	15												
184 GLENCOE-SUNNYSIDE	6	65	5	64	2	9					1	1			21	264
185 GLENCULLEN-BRIDLEMILE	14	794	13	737	4	620							1	57	16	194
186 GLENCULLEN-SUNSET	8	247	7	236	2	7							1	11	6	391
187 GLENDOVEER-13596	3	7	3	7	1	2									1	9
188 GLENDOVEER-13597	7	381	4	368									3	12	14	475
189 GLENDOVEER-13598	6	215	5	214									1	2	22	627
190 GLENDOVEER-13599	13	498	10	431	2	124					1	2	2	65	7	214
191 GLENDOVEER-CLIFFGATE	10	79	9	70	1	28							1	8	6	80
192 GLENDOVEER-NORTHEAST	9	402	8	400	1	1							1	2	3	6
193 GLISAN-FAB 2A																
194 GLISAN-UTILITY 1B																
195 GORMLEY-MCMINNVILLE WL	2	785	2	785											6	31
196 GRAND RONDE-AGENCY	4	334	3	13	1	4							1	321	5	39
197 GRAND RONDE-FORTHILL	10	783	9	740	3	118							1	43	6	7
198 HARBORTON-BURLINGTON	19	4,377	16	122	2	4	2	4,249					1	6	35	286
199 HARBORTON-HARBORTON 13	1	18					1	18								
200 HARBORTON-LINNTON	5	1,721	4	1,064			1	657							26	464
201 HARMONY-HARMONY 13	1	2	1	2											4	135
202 HARMONY-INTERNATIONAL	3	36	3	36											2	18
203 HARMONY-LAKE	4	259	4	259	1	67									5	49
204 HARMONY-LINWOOD	5	2,734	5	2,734	1	1									14	192
205 HARMONY-MILWAUKIE	6	18	6	18											12	61
206 HARMONY-THIESSEN	7	443	5	311									2	133	11	156
207 HARRISON-DAVIS	3	566	2	237									1	329	6	72
208 HARRISON-HARRISON 13	8	29	7	28	2	3							1	1	4	25
209 HARRISON-IVON	4	11	3	9									1	2	2	74
210 HAYDEN ISLAND-MAINLAND	3	7	2	5	2	5							1	1	12	201
211 HAYDEN ISLAND-NORTH SHORE	2	2,740	2	2,740											7	17
212 HAYDEN ISLAND-SOUTH SHORE	7	708	6	618	1	17							1	90	5	17
213 HEMLOCK-FREMONT	8	1,501	5	1,394									3	107	5	49
214 HEMLOCK-HEMLOCK 13	10	329	9	320	2	12							1	10	21	592
215 HEMLOCK-MASON	3	6	3	6	1	0										
216 HILLCREST-CASCADIA																

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
217 HILLCREST-HILLCREST 13	2	7	2	7	1	4										
218 HILLCREST-SOUTH																
219 HILLSBORO-DAIRY CREEK	16	6,087	12	822	2	382						4	5,265	18	85	
220 HILLSBORO-DENNIS	2	8	1	2								1	6	3	57	
221 HILLSBORO-JACKSON	14	814	11	754	2	30						3	59	33	59,645	
222 HILLSBORO-LAUREL	18	212	16	179	5	37			1	2		1	32	47	470	
223 HILLSBORO-SCHOLLS	6	451	5	450	2	13						1	1	1	19	
224 HOGAN NORTH-BRIGADOON	6	203	6	203	1	154								7	138	
225 HOGAN NORTH-HOGAN NORTH 13	13	254	12	252	2	7						1	2	34	311	
226 HOGAN NORTH-LINKS	33	1,766	24	1,411	1	2						9	355	22	434	
227 HOGAN NORTH-SALQUIST	7	1,322	6	1,321	1	2						1	1	12	75	
228 HOGAN SOUTH-CLEVELAND	8	2,444	8	2,444	3	2,028								16	249	
229 HOGAN SOUTH-LAWRENCE	24	3,128	18	742					4	2,381		2	5	134	234,078	
230 HOGAN SOUTH-MAIN	1	2	1	2										10	333	
231 HOGAN SOUTH-PAROPA	5	154	5	154										11	91	
232 HOGAN SOUTH-WALLULA	9	86	6	36								3	50	38	1,603	
233 HOLGATE-BYBEE	9	1,903	9	1,903	1	528								15	470	
234 HOLGATE-GIDEON	3	1,814	2	2			1	1,812						20	192	
235 HOLGATE-HOLGATE 13	4	374	3	264								1	110	19	271	
236 HOLGATE-KENILWORTH	2	67	1	66	1	66						1	1	10	61	
237 HOLGATE-RHONE	3	173	2	4	1	3	1	169						21	356	
238 HUBER-BANY	6	173	5	130	1	28						1	44	7	58	
239 HUBER-FARMINGTON	10	867	4	133	2	10						6	734	5	20	
240 HUBER-HUBER 13	9	632	9	632	3	514								9	36	
241 HUBER-KINNAMAN	9	292	5	194					1	2		3	96	24	244	
242 HUBER-MARYVILLE	19	2,908	19	2,908	1	6								11	157	
243 INDIAN-KEIZER	4	163	3	161	2	121			1	2				8	146	
244 INDIAN-LABISH	24	964	19	633	12	592						5	330	6	16	
245 INDIAN-NORTH	25	1,292	23	1,284	5	8						2	7	12	105	
246 INDIAN-STATION	7	230	5	217								2	13	3	11	
247 INDIAN-WEST	16	3,788	14	2,890	2	4						2	898	4	25	
248 ISLAND-13180	15	498	14	496								1	1	8	158	
249 ISLAND-13187	12	727	12	727										20	322	
250 ISLAND-13188	14	659	10	378	1	3						4	281	25	209	
251 ISLAND-ISLAND 13	5	1,609	5	1,609	1	19								5	87	
252 JENNINGS LODGE-ADDIE	2	8	1	5								1	3	16	687	

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
253	JENNINGS LODGE-JENNINGS 13	18	961	8	76	3	44				2	614	8	271	27	615
254	JENNINGS LODGE-MELDRUM	16	2,924	7	199	4	186						9	2,725	23	230
255	JENNINGS LODGE-OAK GROVE	5	287	3	235	1	1						2	52	15	278
256	JENNINGS LODGE-WEBSTER	4	187	4	187	1	1								6	153
257	KELLEY POINT-KELLEY POINT 13															
258	KELLEY POINT-LEDBETTER															
259	KELLEY POINT-MARINE	6	320	6	320										12	212
260	KELLEY POINT-SIMMONS															
261	KELLY BUTTE-BINNSMEAD	16	13,092	10	13,065	2	109				1	1	5	25	81	3,114
262	KELLY BUTTE-FAIRLAWN	6	4,320	5	66	1	43	1	4,254						21	215
263	KELLY BUTTE-MALL 205	16	414	11	307	4	208						5	108	25	154
264	KELLY BUTTE-MCGREW	13	18,379	6	134			1	14,629				6	3,617	3	33
265	KING CITY-BULL MOUNTAIN	3	449	1	418								2	31	11	78
266	KING CITY-FISCHER	8	1,205	5	1,200	2	807				2	3	1	3	18	146
267	KING CITY-HAZELBROOK	6	204	4	200								2	4	3	65
268	KING CITY-NORTH	9	573	7	516								2	57	6	470
269	KING CITY-SUMMERFIELD	2	1,220	2	1,220										8	371
270	LAKE LABISH-LAKE LABISH															
271	LELAND-BEAVERCREEK	27	6,112	18	672	6	17						9	5,440	12	30
272	LELAND-CARUS	38	4,748	31	3,757	9	55				1	6	6	984	32	266
273	LELAND-KELM	5	7,872	1	7	1	7	1	7,536				3	329	9	123
274	LENTS-13101	19	3,775	12	1,080	4	523						7	2,695	11	132
275	LENTS-HAPPY VALLEY	11	793	10	792	1	8						1	1	10	357
276	LENTS-MT SCOTT	2	1,333					1	1,332				1	1		
277	LENTS-NORTH	6	2,473	2	9			1	2,366				3	98	22	205
278	LIBERAL-LIBERAL 13	11	615	8	117	3	11						3	498	7	10
279	LIBERAL-SAWMILL															
280	LIBERTY-BROWNING														2	13
281	LIBERTY-LONE OAK	8	653	6	234	4	38						2	419		
282	LIBERTY-MORNINGSIDE	14	531	11	516	5	177						3	15		
283	LIBERTY-ROSEDALE	13	1,216	7	421	1	2						6	795	4	6
284	LIBERTY-SKYLINE	18	11,198	14	882	4	30						4	10,316	23	296
285	LIBERTY-VISTA	12	159	7	135	2	40				1	1	4	22	8	120
286	MAIN-AIRPORT	3	181	2	175								1	6	9	92
287	MAIN-BENTLEY	14	1,271	13	1,266	1	3						1	4	11	269
288	MAIN-EXPRESS	9	558	6	191	1	18						3	367	8	53

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
289 MAIN-GRIFFIN OAKS																
290 MAIN-JONES FARM															1	84
291 MAIN-RIVER	16	636	14	635	1	3							2	1	5	649
292 MARKET-ENGLEWOOD	9	1,834	4	1,377									5	457	1	1
293 MARKET-FAIRGROUNDS	11	464	9	456	3	102							2	8	13	70
294 MARKET-HAWTHORNE	6	138	4	78	3	15							2	60		
295 MARKET-PARK	6	95	4	71									2	24		
296 MARQUAM-MCCALL #10 NETWORK	2	787											2	787		
297 MARQUAM-MCCALL #11 NETWORK																
298 MARQUAM-MCCALL #12 NETWORK																
299 MARQUAM-MCCALL #9 NETWORK	1	242											1	242		
300 MARQUAM-ORANGE	1	1,016	1	1,016												
301 MARQUAM-SPIRIT #1 NETWORK	1	65											1	65		
302 MARQUAM-SPIRIT #2 NETWORK	1	88											1	88		
303 MARQUAM-SPIRIT #3 NETWORK	2	114	1	4									1	110		
304 MARQUAM-SPIRIT #4 NETWORK	1	208											1	208		
305 MARQUAM-TILIKUM	1	1,541	1	1,541												
306 MAXIM-MAXIM 13																
307 MCCLAIN-COTTAGE	1	14	1	14	1	14									1	1
308 MCCLAIN-FRONT	5	14	5	14	3	3										
309 MCCLAIN-HOLLYWOOD	5	87	4	40	2	21							1	47	3	17
310 MCGILL-HORSETAIL	10	540	9	313	3	291							1	228	32	1,143
311 MCGILL-LATOURELL	9	134	6	86	2	16				1	6		2	41	12	215
312 MCGILL-LSI AIR 1A																
313 MERIDIAN-65TH	1	1	1	1	1	1										
314 MERIDIAN-BORLAND															2	3
315 MERIDIAN-CHILDS	1	1	1	1											3	7
316 MERIDIAN-LAKEVIEW	3	56	2	56									1	1	19	116
317 MERIDIAN-MERIDIAN 13	8	76	7	64	2	18							1	12	28	133
318 MERIDIAN-NYBERG																
319 MERIDIAN-PILKINGTON	10	731	10	731											31	639
320 MERIDIAN-SAGERT	8	2,371	5	2,363	1	2				1	1		2	7	3	14
321 MIDDLE GROVE-BROWN	13	1,660	11	1,604	1	1							2	55	2	1
322 MIDDLE GROVE-CHEMEKETA	6	56	5	54	1	3							1	2	25	187
323 MIDDLE GROVE-CORDON	14	1,593	11	522	4	263							3	1,071	26	147
324 MIDDLE GROVE-SWEGLE	8	364	8	364	2	7										

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Hrs = # of customers * duration hrs

2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
325 MIDDLE GROVE-WEST	7	233	6	232								1	1	4	71	
326 MIDWAY-DIVISION	9	2,776	5	160						1	2,440	3	177	22	2,401	
327 MIDWAY-DOUGLAS	12	576	11	540	4	172						1	35	5	137	
328 MIDWAY-LYNCH	8	108	7	107						1	1			50	1,294	
329 MIDWAY-POWELLHURST	20	2,280	15	523	4	381						5	1,757	11	1,007	
330 MILL CREEK-EASTLAND	15	1,072	13	889	6	858						2	183	68	315	
331 MILL CREEK-KUEBLER	6	534	3	345								3	189	4	73	
332 MILL CREEK-MILL CREEK 13	1	1,628										1	1,628			
333 MOLALLA-BUCKAROO	10	613	5	367	1	122						5	247	15	121	
334 MOLALLA-FOREST	24	9,722	13	311	2	12	1	4,745				10	4,666	5	13	
335 MOLALLA-MARQUAM	17	4,935	15	4,509	2	25						2	426	23	15	
336 MOLALLA-YODER	25	6,306	19	1,374	3	107	1	4,495				5	437	9	188	
337 MT ANGEL-EAST	3	11	3	11												
338 MT ANGEL-WEST	36	3,926	27	737	12	19						9	3,189	18	100	
339 MT PLEASANT-CLAIRMONT	11	375	11	375	3	278								15	175	
340 MT PLEASANT-MT VIEW	12	518	8	503								4	15	4	6	
341 MT PLEASANT-RIVERCREST	3	36	2	34	1	33						1	2	6	52	
342 MT PLEASANT-SOUTH END	11	226	9	211	1	13				1	1	1	14	20	511	
343 MULINO-NORTH	3	18	2	17	1	6						1	2	3	23	
344 MULINO-SOUTH	5	22	3	7	1	3						2	15			
345 MULTNOMAH-13176	9	550	7	506	1	6						2	44	12	175	
346 MULTNOMAH-13177	18	1,042	18	1,042	2	761								10	52	
347 MULTNOMAH-13181	22	2,511	20	2,505	2	762				1	4	1	2	49	6,183	
348 MULTNOMAH-MULTNOMAH 13	8	355	4	73						1	2	3	281	12	176	
349 MURRAYHILL-KINTON	4	122	4	122										2	13	
350 MURRAYHILL-MURRAYHILL 13	4	1,115	4	1,115										1	3	
351 MURRAYHILL-REUSSER	1	2	1	2										1	5	
352 MURRAYHILL-TEAL	5	587	5	587	1	4								5	57	
353 NEWBERG-CHEHALEM	29	940	20	609	7	181				1	2	8	329	52	238	
354 NEWBERG-DUNDEE	19	2,075	15	1,197	10	152				1	0	3	878	25	418	
355 NEWBERG-HOOVER PARK	6	141	6	141	1	7								6	53	
356 NEWBERG-NORTH COLLEGE	16	177	14	172	9	96				1	0	1	4	10	47	
357 NORTH MARION-CROSBY	6	205	6	205	1	3								1	0	
358 NORTH MARION-FRONT	3	1,367	1	1			2	1,367						2	5	
359 NORTH MARION-HUBBARD	10	76	8	70								2	6	5	116	
360 NORTH MARION-MCLAREN	11	51	10	49	3	24						1	2	32	102	

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
361 NORTH PLAINS-MASON HILL	18	1,764	15	1,392	7	148							3	372	96	489
362 NORTH PLAINS-NORTH PLAINS 13	10	533	10	533	5	74									24	251
363 NORTHERN-11009	6	20	4	16									2	4	25	488
364 NORTHERN-11016	1	1,849					1	1,849							9	29
365 NORTHERN-11071	10	18,614	7	8,939			1	9,591			1	2	1	82	58	1,704
366 OAK GROVE-LAKE HARRIET																
367 OAK GROVE-WHITE WATER																
368 OAK HILLS-FIVE OAKS	3	8,559	2	151					1	8,408					3	10
369 OAK HILLS-GREENBRIER	3	810	1	4					1	803			1	2		
370 OAK HILLS-OAK HILLS 13	4	1,981	2	10					1	1,968			1	3		
371 OAK HILLS-SOMERSET	2	4,012	1	5					1	4,007					1	6
372 OAK HILLS-WALKER	5	4,559	4	167					1	4,392					5	616
373 OREGON STEEL-OREGON STEEL 13																
374 ORENCO-231ST	1	1	1	1												
375 ORENCO-AMBERGLEN	6	118	5	113									1	5		
376 ORENCO-BASELINE	6	40	5	36	1	11							1	4	24	85,444
377 ORENCO-ORENCO 13	1	15	1	15											4	3,190
378 ORENCO-PRIMATE	1	7	1	7											2	1
379 ORENCO-WILKINS	1	4,371									1	4,371			3	23
380 ORIENT-BARLOW	16	1,709	11	32	3	5							5	1,677	21	267
381 ORIENT-ORIENT 13	3	22	2	21	1	2							1	1	20	168
382 ORIENT-OXBOW	18	2,504	11	526	2	61					1	4	6	1,975	30	73
383 OSWEGO-IRON MOUNTAIN	3	166	2	157									1	9	23	292
384 OSWEGO-MARYLHURST	12	55	10	51	2	22							2	4	38	413
385 OSWEGO-PALATINE	6	177	5	175									1	2	35	455
386 OSWEGO-STAFFORD	6	187	2	126							1	2	3	59	18	259
387 OXFORD-FAIRVIEW	8	517	8	517	1	16									12	492
388 OXFORD-LEE	1	47	1	47											4	26
389 OXFORD-MADRONA																
390 OXFORD-OXFORD 13	6	359	6	359	3	284									5	24
391 OXFORD-RURAL	1	7	1	7											1	1
392 OXFORD-SHELTON	1	0	1	0											4	168
393 PELTON-ROUND BUTTE	1	10									1	10				
394 PENINSULA PARK-OCKLEY GREEN	1	1	1	1											7	36
395 PENINSULA PARK-PENINSULA PARK	7	421	5	418							1	1	1	2	13	282
396 PLEASANT VALLEY-BAXTER	1	3	1	3											4	7

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
397 PLEASANT VALLEY-CLATSOP	2	103	1	87	1	87							1	17	5	33
398 PLEASANT VALLEY-MOON	7	1,234	6	1,149	2	801							1	85	80	1,326
399 PLEASANT VALLEY-PLEASANT 13	17	485	12	368									5	117	80	994
400 PLEASANT VALLEY-SUN	13	2,679	10	2,673	2	6				1	3		2	3	26	180
401 PORTLAND WATER-PUMPING																
402 PORTSMOUTH-CARBIDE	16	33,073	13	1,919	4	1,759							3	31,154	32	417
403 PORTSMOUTH-DISPOSAL																
404 PORTSMOUTH-WILLIS	15	20,125	12	2,627	1	5							3	17,497	22	361
405 PROGRESS-GREENBURG	7	214	7	214	4	139									17	549
406 PROGRESS-HALL																
407 PROGRESS-ROBINSON	2	419	2	419												
408 PROGRESS-SAWYER	3	516	2	516									1	1	12	145
409 PROGRESS-WASHINGTON SQ #1																
410 PROGRESS-WASHINGTON SQ #2																
411 RALEIGH HILLS-DOGWOOD	9	262	6	235									3	27	9	178
412 RALEIGH HILLS-MONTCLAIR	3	52	2	50						1	1				77	2,574
413 RALEIGH HILLS-OLESON	11	716	11	716											5	21
414 RAMAPO-EMERALD	6	254	4	44									2	209	5	38
415 RAMAPO-GILBERT	9	132	8	85	2	10							1	47	10	33
416 RAMAPO-RAMAPO 13	13	706	9	576	2	189							4	130	6	82
417 REDLAND-HENRICI	33	861	20	729	6	37							13	133	9	24
418 REDLAND-REDLAND 13	40	843	32	661	8	24							8	182	52	317
419 REEDVILLE-AUGUSTA	12	971	10	936	2	432				1	35		1	1	12	120
420 REEDVILLE-BLANTON	19	6,011	16	587									3	5,423	24	408
421 REEDVILLE-HAZELDALE	13	404	11	133	2	3							2	271	22	286
422 REEDVILLE-INTEL #5																
423 REEDVILLE-TV	6	86	6	86	1	19									8	50
424 RIVERGATE SOUTH-11010	3	442	2	13	1	2							1	429		
425 RIVERGATE SOUTH-11011	7	10,868	4	6,718									3	4,151	33	1,165
426 RIVERGATE SOUTH-PEARCY	5	41	4	20									1	21	1	4
427 RIVERGATE SOUTH-SWIFT	1	3,150											1	3,150	2	11
428 RIVERVIEW-FULTON	7	839	7	839	1	2									12	249
429 RIVERVIEW-MACADAM	8	1,429	8	1,429	2	9									21	667
430 RIVERVIEW-TERWILLIGER	3	66	3	66											1	708
431 ROCK CREEK-185TH	5	1,094	4	1,090									1	5	3	12
432 ROCK CREEK-FOREST PARK	2	4	1	2									1	2	6	38

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
433 ROCK CREEK-NEWBERRY	9	66	8	60	1	2							1	6	40	218
434 ROCKWOOD-AIRPORT																
435 ROCKWOOD-BOEING																
436 ROCKWOOD-INDUSTRIAL	6	1,062	5	1,056	2	1,000							1	6		
437 ROCKWOOD-REYNOLDS	6	200	3	87									3	112	24	1,225
438 ROCKWOOD-ROCKWOOD 13	7	1,104	6	532	1	275							1	572	8	105
439 ROCKWOOD-WILKES																
440 ROSEMONT-HIDDEN SPRINGS	10	4,458	8	4,453									2	6	13	152
441 ROSEMONT-MOSSY BRAE	8	495	8	495	1	1									18	91
442 ROSEMONT-OVERLOOK	13	2,499	13	2,499	2	22									12	133
443 ROSEWAY-ALEXANDER															3	9
444 ROSEWAY-ESPLANADE	12	748	11	746									1	2	22	284
445 RUBY-CAR LINE	11	476	8	424	1	2							3	52	16	3,357
446 RUBY-JUNCTION	8	620	6	213									2	407	9	491
447 SALEM-13260																
448 SALEM-13261	1	3	1	3											1	40
449 SALEM-13262																
450 SALEM-13263															1	26
451 SALEM-13264																
452 SALEM-UNION															1	5
453 SANDY-362ND	15	241	14	236	4	145							1	5	38	967
454 SANDY-BLUFF	2	7	2	7	2	7									14	34
455 SANDY-SANDY 13	23	2,365	21	2,361	5	511							2	4	18	78
456 SANDY-WILDCAT	28	2,868	18	916	5	188							10	1,951	58	356
457 SCAPPOOSE-SAUVIE ISLAND	3	398	3	398												
458 SCHOLLS FERRY-KEMMER	5	34	2	10									3	24		
459 SCHOLLS FERRY-RAINBOW	13	120	11	101	2	2							2	19	32	173
460 SCHOLLS FERRY-ROY ROGERS	13	792	11	62	3	8							2	731	19	267
461 SCOGGINS-CHERRY GROVE	7	699	5	235	1	187	1	216			1	247			10	9
462 SCOGGINS-LAURELWOOD	18	840	12	84	4	31	1	505			1	1	4	249	20	70
463 SCOTTS MILLS-SCOTTS MILLS 13	23	719	19	705	10	256							4	14	29	144
464 SELLWOOD-KELLOGG PARK	9	81	6	61	1	36							3	20	36	221
465 SELLWOOD-SELLWOOD 13	9	400	7	119	1	70							2	282	9	71
466 SELLWOOD-WAVERLY	3	193	3	193	1	185									17	595
467 SHERIDAN-EAST	12	76	8	69	3	13					1	3	3	3	10	41
468 SHERIDAN-KADELL	22	954	16	230	4	9							6	725	21	47

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Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
469 SHUTE-LINDE 1 35KV	1	1											1	1	1	69
470 SILVERTON-NORTH	5	70	3	58	1	41							2	12	9	61
471 SILVERTON-SOUTH	9	1,293	8	166	4	64							1	1,128	58	438
472 SILVERTON-WEST	26	437	21	93	13	26							5	344	38	236
473 SIX CORNERS-13359	20	4,172	17	4,041	3	12							3	130	31	144
474 SIX CORNERS-13360	2	9	1	7									1	1	3	175
475 SIX CORNERS-BORCHERS	7	17	4	12									3	5	21	107
476 SIX CORNERS-CHAPMAN	6	253	2	143									4	110	34	705
477 SIX CORNERS-SIX CORNERS 13	4	390	1	5									3	384	1	3
478 SP NEWSPRINT-NEWBERG																
479 SPRING HILL-SPRING HILL																
480 SPRINGBROOK-FERNWOOD	10	1,305	9	337	3	7							1	968	19	55
481 SPRINGBROOK-ST PAUL	19	1,371	18	1,366	9	63							1	5	24	154
482 SPRINGBROOK-VILLA	6	688	6	688	2	529									2	19
483 SPRINGBROOK-ZIMRI	16	674	15	669	8	345							1	4	15	58
484 ST HELENS-KASTER																
485 ST LOUIS-EAST	7	242	7	242	3	13									22	205
486 ST LOUIS-NORTH	10	501	8	73	3	5							2	429	5	17
487 ST LOUIS-WEST	31	2,097	29	2,011	12	41							2	86	26	96
488 ST MARYS EAST-BETHANY	2	30	2	30											6	10
489 ST MARYS EAST-ELMONICA	7	1,551	6	1,549									1	2	14	345
490 ST MARYS EAST-JENKINS																
491 ST MARYS EAST-MILLIKAN																
492 ST MARYS EAST-ST MARYS 13																
493 STIMSON LUMBER-FORESTEX																
494 SULLIVAN-ROBINWOOD	9	427	8	426	3	16							1	2	35	618
495 SULLIVAN-SALAMO	3	11	2	8									1	3	1	13
496 SULLIVAN-SUSSEX	3	420	3	420											10	212
497 SULLIVAN-TANNER	3	487	2	484	1	53					1	3			1	7
498 SULLIVAN-WILLAMETTE	6	384	4	208									2	176	25	382
499 SULZER PUMPS-115B																
500 SUMMIT-GOVERNMENT CAMP	10	8,431	6	440	1	142	4	7,991							1	21
501 SUMMIT-MEADOWS	1	7	1	7	1	7									2	4
502 SUMMIT-SUMMIT 13	5	104	4	94	1	19							1	10		
503 SUNSET-BLANCHET	1	21						1	21							
504 SUNSET-COLFAX																

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Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
505 SUNSET-CORNELL																
506 SUNSET-DORION																
507 SUNSET-IDTA															1	0
508 SUNSET-IDTB															1	3
509 SUNSET-IDTC	1	2					1	2								
510 SUNSET-INTEL D1B1																
511 SUNSET-INTEL D1X1																
512 SUNSET-KOMATSU #1																
513 SUNSET-KOMATSU #3																
514 SUNSET-LANE																
515 SUNSET-MCCALL															1	76
516 SUNSET-MEEK																
517 SUNSET-NIXON																
518 SUNSET-OLCOTT	1	1					1	1								
519 SUNSET-PAULING																
520 SUNSET-SPALDING	2	28	1	4			1	23							1	1,440
521 SUNSET-WHITMAN															1	10
522 SUNSET-YOUNG																
523 SWAN ISLAND-BASIN															2	10
524 SWAN ISLAND-DOLPHIN																
525 SWAN ISLAND-FREIGHTLINER															2	8
526 SWAN ISLAND-GOING															3	17
527 SWAN ISLAND-SHIPYARD															1	3
528 SYLVAN-BARNES	7	58	6	54	1	1					1	4			45	212
529 SYLVAN-PATTON	13	841	11	838	2	27					1	1	1	2	31	2,884
530 TABOR-82ND	20	512	17	421	3	8							3	91	6	39
531 TABOR-HOSPITAL	2	123	2	123											2	15
532 TABOR-TABOR 13	13	2,840	11	2,828	1	1							2	12	10	1,399
533 TEKTRONIX-DUCKS															1	2
534 TEKTRONIX-HOCKEN															1	10
535 TEKTRONIX-MEADOW	7	278	6	276	1	1							1	2	22	250
536 TEKTRONIX-NORTH															1	5
537 TEKTRONIX-SHANNON	3	271	2	48	1	48							1	222	9	638
538 TEKTRONIX-SOUTH	9	839	8	791									1	47	11	245
539 TEKTRONIX-TEKTRONIX 13	2	235											2	235	2	9
540 TEKTRONIX-TERMAN																

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2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
541 TEKTRONIX-WEST															1	1
542 TEMP B-SOUTH																
543 TEMP H-NEPTUNE	4	39	3	38									1	1	2	2
544 TEMP H-SATURN															3	58
545 TIGARD-13336	5	2,232	3	2,223	1	7							2	9	7	49
546 TIGARD-13337	5	87	2	81									3	5	4	94
547 TIGARD-13361	7	291	5	241									2	50	7	60
548 TIGARD-13362	3	30	3	30	1	3									2	43
549 TIGARD-TIGARD 13	13	11,347	8	1,506									5	9,841	8	70
550 TOWN CENTER-LAWNFIELD	1	2											1	2	3	90
551 TOWN CENTER-MONTEREY	3	87	2	86									1	2	10	107
552 TOWN CENTER-NORTH															1	26
553 TOWN CENTER-PRECISION CASTPARTS															1	4
554 TOWN CENTER-SOUTH																
555 TOWN CENTER-SUNNYBROOK	1	130	1	130	1	130									3	20,177
556 TOWN CENTER-VALLEY VIEW	2	329	2	329											10	58
557 TROJAN-EAST																
558 TUALATIN-AVERY	11	1,463	9	1,459	1	19							2	4	5	47
559 TUALATIN-CIPOLE															7	93
560 TUALATIN-HERMAN																
561 TUALATIN-IBACH	8	260	5	252	1	17							3	8	2	28
562 TUALATIN-LEVETON	1	38	1	38												
563 TUALATIN-TUALATIN 13																
564 TURNER-CASCADE	7	27	7	27	4	9									16	110
565 TURNER-TURNER 13	20	575	14	471	7	295							6	104	49	225
566 TWILIGHT-BREMER	24	349	20	288	4	26							4	61	41	289
567 UNIONVALE-UNIONVALE 13	40	14,004	36	1,263	18	722			2	12,732			2	8	21	64
568 UNIVERSITY-MILL	2	4	2	4											1	24
569 UNIVERSITY-TRADE	9	491	8	456	2	89							1	35		
570 URBAN-BARBUR	2	6											2	6	1	3
571 URBAN-CAMPUS	1	16						1	16							
572 URBAN-CORBETT	2	6,197	1	4				1	6,193							
573 URBAN-GAINES	1	7	1	7											5	55
574 URBAN-GIBBS	2	3,907	1	2				1	3,905							
575 URBAN-KELLY															2	659
576 URBAN-LANDING	2	33	1	2							1	31			1	75

¹ Values captured in the PGE Equipment total

² Planned is not included as part of Total System values

Outs = Outages
Hrs = # of customers * duration hrs

2020 Outages by Cause System

Feeder Name	Total System		PGE Equipment		Cutout, Fuse, Arrestor ¹		Loss of Substation		Loss of Transmission		Human Factor		Public		Planned ²		
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	
577	URBAN-MEDICAL																
578	URBAN-OHSU																
579	WACKER-WACKER 1																
580	WACONDA-NORPAC																
581	WACONDA-RIVER	10	817	9	288	1	1						1	529	6	11	
582	WACONDA-WACONDA 13	30	832	27	448	13	28						3	384	14	56	
583	WALLACE-WALLACE 13	14	10,018	11	1,457	6	1,268						3	8,561	11	15	
584	WALLACE-WILLOW LAKE	3	137	3	137										3	8	
585	WELCHES-WELCHES 13	5	104	5	104										44	302	
586	WELCHES-ZIG ZAG	26	842	22	503	4	47						4	340	16	180	
587	WEST PORTLAND-72ND	2	40	2	40										24	99	
588	WEST PORTLAND-NORTH	10	376	9	374								1	2	27	346	
589	WEST PORTLAND-PACIFIC	6	47	5	43								1	4	16	634	
590	WEST PORTLAND-WEST PORTLAND 13	1	9	1	9										9	696	
591	WEST UNION-ALOCLEK																
592	WEST UNION-CORNELIUS PASS	9	2,134	5	139						3	1,989	1	5	56	647	
593	WEST UNION-JACOBSON																
594	WEST UNION-WEST UNION 13	14	426	12	413	2	26				1	2	1	11	2	3	
595	WILLAMINA-BRIDGE	11	1,653	7	508	3	115						4	1,145	28	144	
596	WILLAMINA-BUELL	18	569	16	548	4	445						2	22	12	70	
597	WILLAMINA-LUMBER																
598	WILLBRIDGE-WILLBRIDGE #1	2	211	1	0	1	0			1	211				2	3	
599	WILLBRIDGE-WILLBRIDGE #4	2	408							2	408				3	14	
600	WILSONVILLE-BOECKMAN	4	123	4	123	1	3								15	39	
601	WILSONVILLE-CHARBONNEAU	15	1,390	13	1,376	1	506						2	14	9	64	
602	WILSONVILLE-CITY	2	2	2	2										2	753	
603	WILSONVILLE-MENTORTEK	1	6	1	6												
604	WILSONVILLE-PARKWAY	3	540	3	540										2	2	
605	WILSONVILLE-VILLEBOIS	4	381	4	381										5	4	
606	WILSONVILLE-WEST	10	504	8	496								2	8	7	28	
607	WOODBURN-CANNERY	12	1,213	9	503	2	202						3	710	4	46	
608	WOODBURN-EAST	18	809	13	642	6	602						5	166	2	52	
609	WOODBURN-TOMLIN	16	2,031	10	322	2	21						6	1,709	5	5	
610	WOODBURN-WEST	16	2,945	14	2,871	2	12						2	73	8	71	
611	YAMHILL-CARLTON	22	2,343	17	1,704	7	56						5	639	74	200	
612	YAMHILL-YAMHILL 13	23	796	15	67	4	28						8	729	61	164	
Grand Totals:		4,226	658,762	3,345	295,603	790	32,171	47	108,099	18	55,072	66	14,032	750	185,957	7,102	568,130

¹ Values captured in the PGE Equipment total

² Planned is not included as part of Total System values

Outs = Outages
Hrs = # of customers * duration hrs

Section VI

Outages by Cause PGE Equipment

This section provides the number of customer outages (frequency) and customer outage hours (duration) caused by PGE equipment events. The information is presented by feeder and attributed to one of the following causes:

- Total PGE Equipment – This category is the sum of the following categories¹:
 - Underground Conductor
 - Primary Device
 - Underground Accessory
 - Transformer
 - Overhead Conductor
 - Overhead Hardware
 - Cutout, Fuse, Arrestor
 - Meter
 - Pole
- Substation Equipment – This category is included for reference, but is not included in the Total PGE Equipment. Outages related to this category are included in the Loss of Substation column in Section V.

NOTES:

- Idle feeders are not included in this list
- Feeders may be omitted if they are a part of an alternate/multiple feeder service

¹ See Section IX – Cause Code Categories and Mapping for detailed causes for each category

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
1 ABERNETHY-CLACKAMAS HEIGHTS	1	226													1	226						
2 ABERNETHY-OREGON CITY	10	103	1	5					1	19			1	2	7	76						
3 ABERNETHY-TRANSIT	6	166							1	37	1	1	3	127	1	1						
4 ABERNETHY-WASHINGTON	11	76									7	19			4	57						
5 ALDER-ANKENY																						
6 ALDER-IRVING	6	78									2	5	1	2	2	3	1	68				
7 ALDER-LINCOLN	15	575	1	120					1	47	1	53	8	44	4	311						
8 ALDER-STARK	3	23									2	9			1	14						
9 ALDER-TAYLOR	1	0											1	0								
10 ALDER-YAMHILL	4	52							1	15			2	3	1	34						
11 AMITY-AMITY 13	14	234	4	46							2	4	1	2	7	182						
12 AMITY-BELLEVUE	23	284	1	34					3	27	4	8	2	2	13	214						
13 ARLETA-52ND	7	102									1	0	4	17	1	3	1	82				
14 ARLETA-FOSTER	8	245	1	109							2	2	1	11	4	123						
15 ARLETA-HAROLD	5	115											5	115								
16 ARLETA-POWELL	14	10,972							4	107	4	10,819	4	16	2	30						
17 ARLETA-STEELE	15	1,402	8	1,335					2	23			2	8	3	37						
18 BANKS-BANKS 13	11	211	1	9			1	7					6	183	2	8	1	4				
19 BANKS-CEDAR CANYON	17	323	4	128					2	48	1	0	5	91	5	55						
20 BARNES-BATTLE CREEK	4	722	1	4											3	718						
21 BARNES-BOONE	4	10	2	7											2	4						
22 BARNES-COMMERCIAL	11	576	4	461			1	19	2	79			1	1	3	16						
23 BARNES-SUNNYSIDE	11	563	3	184			2	75	1	10	2	4			3	289						
24 BEAVER-KB PIPELINE																						
25 BEAVERTON-ALLEN	9	1,065	3	180					3	837			1	17	2	30						
26 BEAVERTON-JAMIESON	3	149					1	145					1	3	1	1						
27 BEAVERTON-NORTHWEST	3	79											2	77	1	2						
28 BEAVERTON-WEST SLOPE	5	748	1	82			1	317	2	348					1	1						
29 BELL-BATTIN	6	38									1	1	2	3	3	34						
30 BELL-BRENTWOOD																						
31 BELL-FLAVEL	4	50									2	4	1	2	1	45						
32 BELL-JOHNSON CREEK																						
33 BELL-KENDALL	6	20											2	4	4	16						
34 BELL-KING	4	230					1	226			1	3	2	1								
35 BELL-SOUTHGATE	4	148					1	131					2	2	1	16						
36 BELL-WICHITA	8	150									2	18	4	90	2	43						
37 BETHANY-BURTON	2	40					1	21	1	20												
38 BETHANY-GERMANTOWN	1	7							1	7												
39 BETHANY-KAISER	2	4	2	4																		
40 BETHANY-LAIDLAW	2	8							1	7							1	1				

¹ See Section IX - Cause Code Categories for category definitions

² Substation Equipment failures are a part of the Loss of Substation System category; not included in Total PGE Equipment

Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
41	BETHANY-SPRINGVILLE																					
42	BETHANY-THOMPSON	2	74	1	21				1	53												
43	BETHEL-FRUITLAND	10	8,626	2	68			2	229	2	159	1	0	1	8,108	2	61					
44	BETHEL-GEER	16	427	3	366					2	9	1	0	2	19	7	26	1	7			
45	BETHEL-MACLEAY	3	31	1	2			1	5						1	24						
46	BLUE LAKE-BLUE LAKE 13	7	2,466	2	2,317							1	4		4	145						
47	BLUE LAKE-SUNDIAL	5	25	3	17				1	6			1	2								
48	BLUE LAKE-TOYO TANSO																					
49	BOISE CASCADE-BOISE #1																					
50	BOONES FERRY-GOODALL	6	1,745	3	1,324							1	33		2	387						
51	BOONES FERRY-KRUSE	5	44	5	44																	
52	BOONES FERRY-LAKE GROVE	6	157	1	70				1	7			1	0	3	79						
53	BOONES FERRY-MOUNTAIN PARK	3	941	1	166							1	87	1	688							
54	BOONES FERRY-WEMBLEY PARK	2	464	1	151									1	313							
55	BORING-282ND	18	3,342	4	180			1	19	4	59	3	11	2	3,046	4	26					
56	BORING-CITY	23	253	6	169			3	10	7	53	1	1	4	10	2	10					
57	BORING-TELFORD																					
58	BRIGHTWOOD-BRIGHTWOOD 13	10	81	1	3					5	44	1	4	3	31							
59	BRIGHTWOOD-NORTH BANK	8	296	1	168					5	122	1	3		1	3						
60	BROOKWOOD-BORWICK																					
61	BROOKWOOD-BROOKWOOD 13																					
62	BROOKWOOD-SUNRISE	4	328	3	199			1	129													
63	CANBY-13644	4	38							1	3			1	3	2	32					
64	CANBY-BUTTEVILLE	12	200	5	155					1	5	1	6	4	23	1	12					
65	CANBY-FILBERT																					
66	CANBY-ZIMMERMAN	16	1,557	2	11			1	2			3	1,386	6	85	4	73					
67	CANYON-13114 NETWORK #1																					
68	CANYON-13115 NETWORK #1																					
69	CANYON-13116 NETWORK #1																					
70	CANYON-13117 NETWORK #1																					
71	CANYON-13118 PSU																					
72	CANYON-13120																					
73	CANYON-13121																					
74	CANYON-13122 NETWORK #2																					
75	CANYON-13123 NETWORK #2																					
76	CANYON-13124 NETWORK #2	1	18			1	18															
77	CANYON-13125 NETWORK #2																					
78	CANYON-13133 NETWORK #3																					
79	CANYON-13134 NETWORK #3																					
80	CANYON-13135 NETWORK #3																					

¹ See Section IX - Cause Code Categories for category definitions

² Substation Equipment failures are a part of the Loss of Substation System category; not included in Total PGE Equipment

Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
81	CANYON-13136 NETWORK #3																					
82	CANYON-21ST	5	1,721			2	146			1	1,563	1	1			1	11					
83	CANYON-23RD	6	5,252	1	114					1	60	1	1	3	5,077							
84	CANYON-BURNSIDE	4	569					1	273	1	288	1	6			1	2					
85	CANYON-CANYON 13	8	924	2	478			1	390	1	20	1	20	3	16							
86	CARVER-ALMOND	1	139													1	139					
87	CARVER-CARVER 13	9	3,552	1	92					3	17	1	66	3	3,376	1	0					
88	CARVER-NORTH	1	2					1	2													
89	CARVER-RIVERBEND	1	8									1	8									
90	CARVER-SOUTH	3	5													3	5					
91	CARVER-WOODS	15	13,081	1	14	2	10,656			2	7	3	21	2	6	4	47			1	2,329	
92	CEDAR HILLS-CEDAR HILLS 13																					
93	CEDAR HILLS-LEAHY	3	19	2	17							1	2									
94	CEDAR HILLS-SHOPPING CENTER	5	271	4	266									1	5							
95	CEDAR HILLS-SKYLINE																					
96	CEDAR HILLS-ST VINCENT	1	58													1	58					
97	CEDAR HILLS-SYLVAN	3	4									1	1	2	3							
98	CENTENNIAL-BARKER	12	537	2	201					3	113	1	7	3	163	3	54				4	7,544
99	CENTENNIAL-BRAECROFT	7	679									1	14	2	405	3	257	1	2			
100	CENTENNIAL-CENTENNIAL 13	10	167	4	65			1	56			2	2	2	15	1	29					
101	CENTENNIAL-TREELAND	5	73					1	49			2	12	1	6					1	7	
102	CLACKAMAS-EVELYN	1	1									1	1									
103	CLACKAMAS-GLADSTONE	10	1,705	3	736							1	2	5	967			1	0			
104	CLACKAMAS-JENNIFER	3	90					1	77	1	6	1	8									
105	CLACKAMAS-TOLBERT	6	184	1	136					1	18	2	13	1	12	1	5					
106	CLAXTAR-CLAXTAR 13																					
107	CLAXTAR-HAYESVILLE	6	437	1	207			1	89			2	2	1	140					1	0	
108	CLAXTAR-RIDGE	6	227	3	224									1	0	2	3					
109	COFFEE CREEK-FREEMAN	4	31	1	2									1	4	2	24					
110	COFFEE CREEK-HOLIDAY	2	76													2	76					
111	COLTON-DHOOGHE	5	2,790											4	2,723	1	67					
112	COLTON-GRAYS HILL	9	59							5	38			2	9	2	11					
113	CORNELIUS-ADAIR	6	19	2	3							2	7	2	8							
114	CORNELIUS-CORNELIUS 13	7	186	2	153					1	3	1	9	3	22							
115	CORNELIUS-VERBOORT	8	51	1	3							1	6	2	3	4	39					
116	CORNELL-BLUFFS	5	113	3	83											2	30					
117	CORNELL-SALTZMAN	2	51	2	51																	
118	CORNELL-WESTLAWN	4	293	1	80			1	2			1	198			1	13					
119	CULVER-GAFFIN																					
120	CULVER-SANYO #1																					

¹ See Section IX - Cause Code Categories for category definitions

² Substation Equipment failures are a part of the Loss of Substation System category; not included in Total PGE Equipment

Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
121	CURTIS-11077	3	23										2	16	1	7						
122	CURTIS-CURTIS 13	1	2										1	2								
123	DAYTON-EAST	21	476	2	168				1	14	1	5	3	9	14	279						
124	DAYTON-LAFAYETTE	11	98	1	3								2	7	8	88						
125	DAYTON-SOUTHWEST	14	248								1	4	6	233	7	12						
126	DELAWARE-DENVER	8	224						1	128	3	55	3	39			1	2				
127	DELAWARE-INTERSTATE	3	6										1	1	2	6						
128	DELAWARE-LOMBARD	9	48								1	2	8	46								
129	DENNY-EAST	5	250	1	59				1	185			2	4	1	2						
130	DENNY-NORTH	2	5										1	3	1	2						
131	DENNY-SOUTH	7	575	5	553						1	14			1	7						
132	DENNY-WEST	23	1,343	16	956			2	328	1	16	2	3	1	19	1	21					
133	DILLEY-CARPENTER																					
134	DILLEY-DILLEY 13	8	1,233			1	1,196			2	11			5	27							
135	DUNNS CORNER-DUNNS CORNER 13	17	3,423	1	4			3	98	2	19	2	13	6	3,269	3	20					
136	DUNNS CORNER-KELSO	2	188	1	182			1	7													
137	DURHAM-BONITA	1	2	1	2																	
138	DURHAM-BRIDGEPORT	2	13	1	3					1	11											
139	DURHAM-DURHAM 13	3	138	1	59										2	79						
140	DURHAM-POOPLANT																					
141	DURHAM-SATTLER	4	52	4	52																	
142	DURHAM-SOUTH	2	147	1	116												1	30				
143	E-11021	1	56	1	56																	
144	E-11039																					
145	E-11040	3	56									2	52	1	3							
146	E-11041																					
147	E-11042																					
148	E-11043	3	11												3	11						
149	E-11047	1	1												1	1						
150	E-11064																					
151	E-13139	1	7	1	7																1	295
152	E-13140	2	66							1	4			1	62							
153	E-13141																					
154	E-13142																					
155	E-13144	4	173	1	85							1	46	1	1	1	41					
156	E-13145	1	9							1	9											
157	E-13148																					
158	E-13149																					
159	E-13150	1	4												1	4					1	2,047
160	EAGLE CREEK-BARTON	15	108	5	17					4	49			3	11	3	31					

¹ See Section IX - Cause Code Categories for category definitions

² Substation Equipment failures are a part of the Loss of Substation System category; not included in Total PGE Equipment

Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
161	EAGLE CREEK-RIVER MILL	15	193	1	76					8	91	3	11			3	16					
162	EASTPORT-76TH	8	224	1	31					1	51	3	95	2	10	1	37					
163	EASTPORT-PLAZA	5	609	1	204							1	337	1	1	2	67					
164	ELMA-ELMA 13	4	26	3	25									1	1							
165	ELMA-FOUR CORNERS	15	944	5	161			1	107	3	312	2	11	2	136	2	217					
166	ELMA-HUDSON	6	5,069	4	742					1	4,319	1	7									
167	ELMA-STATE	5	32	3	21			1	8							1	3					
168	ESTACADA-ESTACADA 13	19	1,193	6	143			1	23			3	564	5	445	4	18					
169	ESTACADA-FARADAY	14	971	1	230			1	153	1	133	6	86	4	11	1	358					
170	ESTACADA-NORTH FORK	17	709	3	61					4	26	2	559	3	6	5	56					
171	FAIRMOUNT-CANDALARIA	11	188					1	21	1	4	1	0	3	9	5	153					
172	FAIRMOUNT-MISSION	6	19	1	2					2	10					3	7					
173	FAIRVIEW-CLEAR CREEK																					
174	FAIRVIEW-FAIRVIEW 13	2	4	1	1							1	3									
175	FAIRVIEW-KENNEL CLUB	2	115	1	106									1	9							
176	FAIRVIEW-TROUTDALE	10	5,334	5	5,205							3	34	1	14	1	81					
177	FAIRVIEW-WOOD VILLAGE	1	2	1	2																	
178	FARGO-FARGO 13	19	1,043	8	900			1	5	4	123			3	5	3	9					
179	GALES CREEK-GALES CREEK 13	10	347	3	30					1	30			6	286							
180	GARDEN HOME-MCKAY	7	260									2	83	4	124			1	53			
181	GARDEN HOME-METZGER	16	747	4	499					2	55	3	13	2	37	5	142					
182	GLENCOE-GLISAN	12	349							3	147	2	6	2	68	4	126	1	2		4	17,263
183	GLENCOE-PROVIDENCE	1	15							1	15											
184	GLENCOE-SUNNYSIDE	5	64							1	50	1	2	1	3	2	9					
185	GLENCULLEN-BRIDLEMILE	13	737	2	3					3	41	1	0	3	74	4	620					
186	GLENCULLEN-SUNSET	7	236	2	73							2	30	1	126	2	7					
187	GLENDOVEER-13596	3	7											2	5	1	2					
188	GLENDOVEER-13597	4	368	1	101					1	257	1	1	1	9							
189	GLENDOVEER-13598	5	214	1	54			1	2	1	155			2	3							
190	GLENDOVEER-13599	10	431	4	259					1	6			2	26	2	124			1	15	
191	GLENDOVEER-CLIFFGATE	9	70	4	14							2	24	2	5	1	28					
192	GLENDOVEER-NORTHEAST	8	400	4	386					2	12			1	1	1	1					
193	GLISAN-FAB 2A																					
194	GLISAN-UTILITY 1B																					
195	GORMLEY-MCMINNVILLE WL	2	785	2	785																	
196	GRAND RONDE-AGENCY	3	13							1	6			1	2	1	4					
197	GRAND RONDE-FORTHILL	9	740							1	7	1	2	4	612	3	118					
198	HARBORTON-BURLINGTON	16	122	2	13			1	4	3	62	4	18	4	22	2	4					
199	HARBORTON-HARBORTON 13																					
200	HARBORTON-LINNTON	4	1,064							1	16	1	3	2	1,045							

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2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
201	HARMONY-HARMONY 13	1	2	1	2																	
202	HARMONY-INTERNATIONAL	3	36						1	31			2	5								
203	HARMONY-LAKE	4	259	1	118			2	74					1	67							
204	HARMONY-LINWOOD	5	2,734	1	65								3	2,668	1	1						
205	HARMONY-MILWAUKIE	6	18	1	3			1	2				4	13								
206	HARMONY-THIESSEN	5	311	4	302														1	9		
207	HARRISON-DAVIS	2	237						1	236			1	1								
208	HARRISON-HARRISON 13	7	28						1	8	2	3	2	14	2	3						
209	HARRISON-IVON	3	9						1	5	1	2	1	3								
210	HAYDEN ISLAND-MAINLAND	2	5												2	5						
211	HAYDEN ISLAND-NORTH SHORE	2	2,740	2	2,740																	
212	HAYDEN ISLAND-SOUTH SHORE	6	618	4	596						1	5			1	17						
213	HEMLOCK-FREMONT	5	1,394	4	1,390						1	4										
214	HEMLOCK-HEMLOCK 13	9	320	2	178			1	5			3	120	1	5	2	12					
215	HEMLOCK-MASON	3	6						1	6					1	0	1	0				
216	HILLCREST-CASCADIA																					
217	HILLCREST-HILLCREST 13	2	7	1	4										1	4						
218	HILLCREST-SOUTH																					
219	HILLSBORO-DAIRY CREEK	12	822	5	386			1	35			1	4	3	15	2	382					
220	HILLSBORO-DENNIS	1	2											1	2							
221	HILLSBORO-JACKSON	11	754	5	138			1	551			1	13	2	23	2	30					
222	HILLSBORO-LAUREL	16	179	2	11					2	14	1	95	6	21	5	37					
223	HILLSBORO-SCHOLLS	5	450	2	431			1	6							2	13					
224	HOGAN NORTH-BRIGADOON	6	203	4	48			1	0							1	154					
225	HOGAN NORTH-HOGAN NORTH 13	12	252	2	32			1	6	3	116			4	90	2	7					
226	HOGAN NORTH-LINKS	24	1,411	10	1,004					8	359	4	37	1	9	1	2					
227	HOGAN NORTH-SALQUIST	6	1,321	2	5					1	4	1	17	1	1,293	1	2					
228	HOGAN SOUTH-CLEVELAND	8	2,444	4	389			1	26							3	2,028					
229	HOGAN SOUTH-LAWRENCE	18	742	12	508			1	109	2	121	1	1	2	3							
230	HOGAN SOUTH-MAIN	1	2	1	2																	
231	HOGAN SOUTH-PAROPA	5	154	1	3			2	32	1	119			1	1							
232	HOGAN SOUTH-WALLULA	6	36	2	6							3	20	1	11							
233	HOLGATE-BYBEE	9	1,903	2	1,131					3	222	2	8	1	15	1	528					
234	HOLGATE-GIDEON	2	2					1	1									1	2			
235	HOLGATE-HOLGATE 13	3	264	1	200									2	64							
236	HOLGATE-KENILWORTH	1	66															1	66			
237	HOLGATE-RHONE	2	4									1	2					1	3			
238	HUBER-BANY	5	130	1	1					3	101							1	28			
239	HUBER-FARMINGTON	4	133					1	35	1	88							2	10			
240	HUBER-HUBER 13	9	632	2	8			1	11	1	73			2	27	3	514					

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Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
241	HUBER-KINNAMAN	5	194	2	123					2	51			1	20							
242	HUBER-MARYVILLE	19	2,908	13	1,691			3	1,088			2	123			1	6					
243	INDIAN-KEIZER	3	161	1	40											2	121					
244	INDIAN-LABISH	19	633	1	6					2	16			4	20	12	592					
245	INDIAN-NORTH	23	1,284	9	930	1	288	2	12	3	28			3	19	5	8					
246	INDIAN-STATION	5	217	2	154					1	58	2	6									
247	INDIAN-WEST	14	2,890	4	461			2	1,114	5	1,031	1	280			2	4					
248	ISLAND-13180	14	496	3	155			1	3	2	36	5	17	3	285							
249	ISLAND-13187	12	727	1	7							5	39	6	682							
250	ISLAND-13188	10	378	3	174					1	20	3	15	2	166	1	3					
251	ISLAND-ISLAND 13	5	1,609							1	19			3	1,571	1	19					
252	JENNINGS LODGE-ADDIE	1	5	1	5																	
253	JENNINGS LODGE-JENNINGS 13	8	76					1	1	1	7	1	21	2	3	3	44					
254	JENNINGS LODGE-MELDRUM	7	199							1	10			2	3	4	186					
255	JENNINGS LODGE-OAK GROVE	3	235	1	233							1	1			1	1					
256	JENNINGS LODGE-WEBSTER	4	187					1	177			1	9			1	1	1	1			
257	KELLEY POINT-KELLEY POINT 13																					
258	KELLEY POINT-LEDBETTER																					
259	KELLEY POINT-MARINE	6	320	5	314							1	6									
260	KELLEY POINT-SIMMONS																					
261	KELLY BUTTE-BINNSMEAD	10	13,065							1	35	4	12,914	3	7	2	109					
262	KELLY BUTTE-FAIRLAWN	5	66	2	5									2	18	1	43				1	4,254
263	KELLY BUTTE-MALL 205	11	307							1	87	1	1	5	11	4	208					
264	KELLY BUTTE-MCGREW	6	134							3	120			3	14						1	14,629
265	KING CITY-BULL MOUNTAIN	1	418	1	418																	
266	KING CITY-FISCHER	5	1,200	3	393											2	807					
267	KING CITY-HAZELBROOK	4	200	3	186							1	14									
268	KING CITY-NORTH	7	516	4	343			2	36	1	138											
269	KING CITY-SUMMERFIELD	2	1,220					1	1,113	1	107											
270	LAKE LABISH-LAKE LABISH																					
271	LELAND-BEAVERCREEK	18	672	4	543			1	5	5	105	1	1	1	1	6	17					
272	LELAND-CARUS	31	3,757	6	88			1	2			4	121	11	3,491	9	55					
273	LELAND-KELM	1	7													1	7				1	7,536
274	LENTS-13101	12	1,080					1	6	3	532	1	1	3	17	4	523					
275	LENTS-HAPPY VALLEY	10	792	4	694			1	73	2	9	1	7	1	1	1	8					
276	LENTS-MT SCOTT																					
277	LENTS-NORTH	2	9							1	8			1	1							
278	LIBERAL-LIBERAL 13	8	117	1	88					1	12			3	7	3	11					
279	LIBERAL-SAWMILL																					
280	LIBERTY-BROWNING																					

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Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
281	LIBERTY-LONE OAK	6	234	1	2					1	194					4	38					
282	LIBERTY-MORNINGSIDE	11	516	3	294					1	41			2	4	5	177					
283	LIBERTY-ROSEDALE	7	421	4	362			1	47			1	11			1	2					
284	LIBERTY-SKYLINE	14	882	6	845			1	1					1	2	4	30	2	3			
285	LIBERTY-VISTA	7	135							1	73	2	9	2	13	2	40					
286	MAIN-AIRPORT	2	175	2	175																	
287	MAIN-BENTLEY	13	1,266	8	1,037			2	195	1	29	1	2			1	3					
288	MAIN-EXPRESS	6	191	3	59			1	25							1	18			1	89	
289	MAIN-GRIFFIN OAKS																					
290	MAIN-JONES FARM																					
291	MAIN-RIVER	14	635	6	170					2	256			5	207	1	3					
292	MARKET-ENGLEWOOD	4	1,377											4	1,377							
293	MARKET-FAIRGROUNDS	9	456	1	344							2	5	3	6	3	102					
294	MARKET-HAWTHORNE	4	78									1	62			3	15					
295	MARKET-PARK	4	71							2	66	1	1	1	4							
296	MARQUAM-MCCALL #10 NETWORK																					
297	MARQUAM-MCCALL #11 NETWORK																					
298	MARQUAM-MCCALL #12 NETWORK																					
299	MARQUAM-MCCALL #9 NETWORK																					
300	MARQUAM-ORANGE	1	1,016	1	1,016																	
301	MARQUAM-SPIRIT #1 NETWORK																					
302	MARQUAM-SPIRIT #2 NETWORK																					
303	MARQUAM-SPIRIT #3 NETWORK	1	4	1	4																	
304	MARQUAM-SPIRIT #4 NETWORK																					
305	MARQUAM-TILIKUM	1	1,541	1	1,541																	
306	MAXIM-MAXIM 13																					
307	MCCLAIN-COTTAGE	1	14													1	14					
308	MCCLAIN-FRONT	5	14									2	10			3	3					
309	MCCLAIN-HOLLYWOOD	4	40									2	19			2	21					
310	MCGILL-HORSETAIL	9	313	2	5					1	3	1	5	2	9	3	291					
311	MCGILL-LATOURELL	6	86	2	3			1	2	1	65					2	16					
312	MCGILL-LSI AIR 1A																					
313	MERIDIAN-65TH	1	1													1	1					
314	MERIDIAN-BORLAND																					
315	MERIDIAN-CHILDS	1	1											1	1							
316	MERIDIAN-LAKEVIEW	2	56	1	46			1	10													
317	MERIDIAN-MERIDIAN 13	7	64	3	33			1	6					1	8	2	18					
318	MERIDIAN-NYBERG																					
319	MERIDIAN-PILKINGTON	10	731	7	287					1	256			2	189							
320	MERIDIAN-SAGERT	5	2,363	1	159			1	24			1	2,176	1	1	1	2					

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
321	MIDDLE GROVE-BROWN	11	1,604	1	160			2	1,052	4	156	2	2	1	233	1	1					
322	MIDDLE GROVE-CHEMEKETA	5	54	3	11					1	40					1	3					
323	MIDDLE GROVE-CORDON	11	522	3	29			1	4	2	221			1	5	4	263					
324	MIDDLE GROVE-SWEGLE	8	364	3	332					2	24	1	1			2	7					
325	MIDDLE GROVE-WEST	6	232	2	149									3	82			1	1			
326	MIDWAY-DIVISION	5	160	2	116			1	35			1	4	1	4							
327	MIDWAY-DOUGLAS	11	540	1	47					1	63	2	20	3	239	4	172					
328	MIDWAY-LYNCH	7	107	2	73									3	6					2	29	
329	MIDWAY-POWELLHURST	15	523	2	113			1	2			1	1	6	25	4	381	1	2			
330	MILL CREEK-EASTLAND	13	889	3	13					1	13	1	2	1	3	6	858	1	0			
331	MILL CREEK-KUEBLER	3	345	3	345																	
332	MILL CREEK-MILL CREEK 13																					
333	MOLALLA-BUCKAROO	5	367	1	9					1	159	1	1	1	76	1	122					
334	MOLALLA-FOREST	13	311	2	28					1	5	2	3	6	263	2	12					
335	MOLALLA-MARQUAM	15	4,509	5	4,451			1	2	1	7	3	18	3	7	2	25					
336	MOLALLA-YODER	19	1,374	3	1,206			1	8	2	24	4	8	6	20	3	107					
337	MT ANGEL-EAST	3	11							1	8	1	1	1	2							
338	MT ANGEL-WEST	27	737	6	634			2	50	2	10			4	6	12	19			1	17	
339	MT PLEASANT-CLAIRMONT	11	375	4	49					1	6	1	7	2	34	3	278					
340	MT PLEASANT-MT VIEW	8	503	5	489					1	10	1	2							1	2	
341	MT PLEASANT-RIVERCREST	2	34					1	2							1	33					
342	MT PLEASANT-SOUTH END	9	211	3	54			2	79			1	61	2	4	1	13					
343	MULINO-NORTH	2	17	1	10											1	6					
344	MULINO-SOUTH	3	7											2	4	1	3					
345	MULTNOMAH-13176	7	506	2	17			1	60	2	388			1	35	1	6					
346	MULTNOMAH-13177	18	1,042							2	44	4	168	2	55	2	761	7	13	1	1	
347	MULTNOMAH-13181	20	2,505	3	127	1	3					3	676	10	935	2	762	1	2			
348	MULTNOMAH-MULTNOMAH 13	4	73	1	2							1	35	2	36							
349	MURRAYHILL-KINTON	4	122	4	122																	
350	MURRAYHILL-MURRAYHILL 13	4	1,115	2	120			1	976	1	18											
351	MURRAYHILL-REUSSER	1	2	1	2																	
352	MURRAYHILL-TEAL	5	587	4	584											1	4					
353	NEWBERG-CHEHALEM	20	609	6	81			1	2	1	26	1	19	4	300	7	181					
354	NEWBERG-DUNDEE	15	1,197	2	71					1	34	2	939			10	152					
355	NEWBERG-HOOVER PARK	6	141	2	113									3	21	1	7					
356	NEWBERG-NORTH COLLEGE	14	172	2	37									3	39	9	96					
357	NORTH MARION-CROSBY	6	205	2	173					1	23	2	6			1	3					
358	NORTH MARION-FRONT	1	1											1	1						1	558
359	NORTH MARION-HUBBARD	8	70	3	49			1	0			1	14	3	7							
360	NORTH MARION-MCLAREN	10	49	2	4					1	8			4	13	3	24					

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
361	NORTH PLAINS-MASON HILL	15	1,392					2	83	3	9	1	2	2	1,151	7	148					
362	NORTH PLAINS-NORTH PLAINS 13	10	533									2	453	3	6	5	74					
363	NORTHERN-11009	4	16									2	9	2	7							
364	NORTHERN-11016																					
365	NORTHERN-11071	7	8,939	2	5							3	8,926	2	7							
366	OAK GROVE-LAKE HARRIET																					
367	OAK GROVE-WHITE WATER																					
368	OAK HILLS-FIVE OAKS	2	151	1	4			1	147													
369	OAK HILLS-GREENBRIER	1	4											1	4							
370	OAK HILLS-OAK HILLS 13	2	10	2	10																	
371	OAK HILLS-SOMERSET	1	5	1	5																	
372	OAK HILLS-WALKER	4	167	2	12			1	2	1	154											
373	OREGON STEEL-OREGON STEEL 13																					
374	ORENCO-231ST	1	1											1	1							
375	ORENCO-AMBERGLEN	5	113	1	70			3	42									1	1			
376	ORENCO-BASELINE	5	36					1	13	1	6			2	6	1	11					
377	ORENCO-ORENCO 13	1	15											1	15							
378	ORENCO-PRIMATE	1	7	1	7																	
379	ORENCO-WILKINS																					
380	ORIENT-BARLOW	11	32	2	5			1	2			1	6	4	15	3	5					
381	ORIENT-ORIENT 13	2	21	1	19											1	2					
382	ORIENT-OXBOW	11	526	3	447					3	12	1	3	2	2	2	61					
383	OSWEGO-IRON MOUNTAIN	2	157											2	157							
384	OSWEGO-MARYLHURST	10	51	5	21							1	7	2	2	2	22					
385	OSWEGO-PALATINE	5	175									4	174	1	1							
386	OSWEGO-STAFFORD	2	126	2	126																	
387	OXFORD-FAIRVIEW	8	517	1	426			2	36	2	38			2	2	1	16					
388	OXFORD-LEE	1	47											1	47							
389	OXFORD-MADRONA																					
390	OXFORD-OXFORD 13	6	359							2	50					3	284			1	26	
391	OXFORD-RURAL	1	7	1	7																	
392	OXFORD-SHELTON	1	0											1	0							
393	PELTON-ROUND BUTTE																					
394	PENINSULA PARK-OCKLEY GREEN	1	1											1	1							
395	PENINSULA PARK-PENINSULA PARK	5	418											5	418							
396	PLEASANT VALLEY-BAXTER	1	3											1	3							
397	PLEASANT VALLEY-CLATSOP	1	87													1	87					
398	PLEASANT VALLEY-MOON	6	1,149	2	258					1	23			1	66	2	801					
399	PLEASANT VALLEY-PLEASANT 13	12	368	4	166	1	128			4	51	3	22									
400	PLEASANT VALLEY-SUN	10	2,673	5	2,654					2	11			1	1	2	6					

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
401	PORTLAND WATER-PUMPING																					
402	PORTSMOUTH-CARBIDE	13	1,919	2	5					1	38	2	49	3	5	4	1,759			1	61	
403	PORTSMOUTH-DISPOSAL																					
404	PORTSMOUTH-WILLIS	12	2,627	4	1,716			1	1			5	901	1	5	1	5					
405	PROGRESS-GREENBURG	7	214	2	66					1	9					4	139					
406	PROGRESS-HALL																					
407	PROGRESS-ROBINSON	2	419	1	225			1	194													
408	PROGRESS-SAWYER	2	516							2	516											
409	PROGRESS-WASHINGTON SQ #1																					
410	PROGRESS-WASHINGTON SQ #2																					
411	RALEIGH HILLS-DOGWOOD	6	235					1	11	1	19	2	157	2	48							
412	RALEIGH HILLS-MONTCLAIR	2	50					2	50													
413	RALEIGH HILLS-OLESON	11	716	1	38			6	664	1	7			3	7							
414	RAMAPO-EMERALD	4	44											4	44							
415	RAMAPO-GILBERT	8	85	1	34					1	31	2	8	2	3	2	10					
416	RAMAPO-RAMAPO 13	9	576	2	239					3	144	1	0	1	3	2	189					
417	REDLAND-HENRICI	20	729	1	79			1	36	4	21	3	492	4	51	6	37			1	14	
418	REDLAND-REDLAND 13	32	661	5	183			1	154	8	64	2	23	8	214	8	24					
419	REEDVILLE-AUGUSTA	10	936	2	266			3	160	2	76					2	432	1	3			
420	REEDVILLE-BLANTON	16	587	8	222			1	1	1	37	1	4	5	323							
421	REEDVILLE-HAZELDALE	11	133	3	36			2	45	2	32			2	17	2	3					
422	REEDVILLE-INTEL #5																					
423	REEDVILLE-TV	6	86	2	8					2	53			1	7	1	19					
424	RIVERGATE SOUTH-11010	2	13			1	12									1	2					
425	RIVERGATE SOUTH-11011	4	6,718			1	6,681					1	22	2	16							
426	RIVERGATE SOUTH-PEARCY	4	20							1	11							3	9			
427	RIVERGATE SOUTH-SWIFT																					
428	RIVERVIEW-FULTON	7	839									3	831	3	6	1	2					
429	RIVERVIEW-MACADAM	8	1,429	4	534			1	873	1	13					2	9					
430	RIVERVIEW-TERWILLIGER	3	66					1	18			1	46	1	2							
431	ROCK CREEK-185TH	4	1,090	2	764			2	326													
432	ROCK CREEK-FOREST PARK	1	2									1	2									
433	ROCK CREEK-NEWBERRY	8	60					1	9	1	4	3	6	2	40	1	2					
434	ROCKWOOD-AIRPORT																					
435	ROCKWOOD-BOEING																					
436	ROCKWOOD-INDUSTRIAL	5	1,056					1	53			1	1	1	2	2	1,000					
437	ROCKWOOD-REYNOLDS	3	87							1	86			1	1			1	0			
438	ROCKWOOD-ROCKWOOD 13	6	532	1	25					2	230			2	2	1	275					
439	ROCKWOOD-WILKES																					
440	ROSEMONT-HIDDEN SPRINGS	8	4,453	3	3,681			1	692	2	77			2	3							

¹ See Section IX - Cause Code Categories for category definitions

² Substation Equipment failures are a part of the Loss of Substation System category; not included in Total PGE Equipment

Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
441	ROSEMONT-MOSSY BRAE	8	495	3	102			1	266	1	4	1	3	1	119	1	1					
442	ROSEMONT-OVERLOOK	13	2,499	6	1,848			1	549	3	75			1	5	2	22					
443	ROSEWAY-ALEXANDER																					
444	ROSEWAY-ESPLANADE	11	746	3	374			1	2	4	237	1	133	2	1							
445	RUBY-CAR LINE	8	424	3	396					1	8			2	2	1	2			1	16	
446	RUBY-JUNCTION	6	213	2	196			1	1			3	16									
447	SALEM-13260																					
448	SALEM-13261	1	3	1	3																	
449	SALEM-13262																					
450	SALEM-13263																					
451	SALEM-13264																					
452	SALEM-UNION																					
453	SANDY-362ND	14	236	2	63			3	11	3	15	2	3			4	145					
454	SANDY-BLUFF	2	7													2	7					
455	SANDY-SANDY 13	21	2,361	1	76	1	1	1	8	7	34	3	1,676	2	54	5	511			1	1	
456	SANDY-WILDCAT	18	916	1	627					5	30	1	10	6	62	5	188					
457	SCAPPOOSE-SAUVIE ISLAND	3	398	1	12															2	386	
458	SCHOLLS FERRY-KEMMER	2	10	1	5			1	4													
459	SCHOLLS FERRY-RAINBOW	11	101	1	11			1	5	2	37			5	46	2	2					
460	SCHOLLS FERRY-ROY ROGERS	11	62	4	45									4	9	3	8					
461	SCOGGINS-CHERRY GROVE	5	235					1	7	2	38			1	4	1	187				1	216
462	SCOGGINS-LAURELWOOD	12	84	1	2							2	7	5	44	4	31				1	505
463	SCOTTS MILLS-SCOTTS MILLS 13	19	705	1	3					4	440	2	2	1	2	10	256	1	2			
464	SELLWOOD-KELLOGG PARK	6	61					1	11			1	10	3	4	1	36					
465	SELLWOOD-SELLWOOD 13	7	119									2	9	4	40	1	70					
466	SELLWOOD-WAVERLY	3	193									2	8			1	185					
467	SHERIDAN-EAST	8	69	2	52									2	3	3	13	1	2			
468	SHERIDAN-KADELL	16	230	3	175					4	35	1	2	4	9	4	9					
469	SHUTE-LINDE 1 35KV																					
470	SILVERTON-NORTH	3	58	1	5							1	12			1	41					
471	SILVERTON-SOUTH	8	166							2	9	2	93			4	64					
472	SILVERTON-WEST	21	93	5	60					1	5	1	1	1	1	13	26					
473	SIX CORNERS-13359	17	4,041	6	28	2	3,823	1	3	3	171			2	4	3	12					
474	SIX CORNERS-13360	1	7									1	7									
475	SIX CORNERS-BORCHERS	4	12	1	3									2	7			1	3			
476	SIX CORNERS-CHAPMAN	2	143											2	143							
477	SIX CORNERS-SIX CORNERS 13	1	5											1	5							
478	SP NEWSPRINT-NEWBERG																					
479	SPRING HILL-SPRING HILL																					
480	SPRINGBROOK-FERNWOOD	9	337	3	172			1	9					1	2	3	7	1	147			

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Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²		
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	
481	SPRINGBROOK-ST PAUL	18	1,366							2	19	1	1,270	5	11	9	63			1	5		
482	SPRINGBROOK-VILLA	6	688					1	100	1	38	2	21			2	529						
483	SPRINGBROOK-ZIMRI	15	669	3	266			3	43					1	15	8	345						
484	ST HELENS-KASTER																						
485	ST LOUIS-EAST	7	242	1	213							3	15			3	13						
486	ST LOUIS-NORTH	8	73	1	5									4	63	3	5						
487	ST LOUIS-WEST	29	2,011	6	50			1	4	4	30	1	2	5	1,884	12	41						
488	ST MARYS EAST-BETHANY	2	30	2	30																		
489	ST MARYS EAST-ELMONICA	6	1,549	5	1,314			1	235														
490	ST MARYS EAST-JENKINS																						
491	ST MARYS EAST-MILLIKAN																						
492	ST MARYS EAST-ST MARYS 13																						
493	STIMSON LUMBER-FORESTEX																						
494	SULLIVAN-ROBINWOOD	8	426	1	370			2	24	1	12	1	3			3	16						
495	SULLIVAN-SALAMO	2	8	1	2					1	6												
496	SULLIVAN-SUSSEX	3	420	1	417									2	4								
497	SULLIVAN-TANNER	2	484	1	432											1	53						
498	SULLIVAN-WILLAMETTE	4	208									1	7	3	202								
499	SULZER PUMPS-115B																						
500	SUMMIT-GOVERNMENT CAMP	6	440	2	295							3	4			1	142						
501	SUMMIT-MEADOWS	1	7													1	7						
502	SUMMIT-SUMMIT 13	4	94									1	2	2	73	1	19						
503	SUNSET-BLANCHET																						
504	SUNSET-COLFAX																						
505	SUNSET-CORNELL																						
506	SUNSET-DORION																						
507	SUNSET-IDTA																						
508	SUNSET-IDTB																						
509	SUNSET-IDTC																						
510	SUNSET-INTEL D1B1																						
511	SUNSET-INTEL D1X1																						
512	SUNSET-KOMATSU #1																						
513	SUNSET-KOMATSU #3																						
514	SUNSET-LANE																						
515	SUNSET-MCCALL																						
516	SUNSET-MEEK																						
517	SUNSET-NIXON																						
518	SUNSET-OLCOTT																						
519	SUNSET-PAULING																						
520	SUNSET-SPALDING	1	4	1	4																		

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Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
521	SUNSET-WHITMAN																					
522	SUNSET-YOUNG																					
523	SWAN ISLAND-BASIN																					
524	SWAN ISLAND-DOLPHIN																					
525	SWAN ISLAND-FREIGHTLINER																					
526	SWAN ISLAND-GOING																					
527	SWAN ISLAND-SHIPYARD																					
528	SYLVAN-BARNES	6	54	4	41						1	11			1	1						
529	SYLVAN-PATTON	11	838	6	746				1	39			2	26	2	27						
530	TABOR-82ND	17	421	8	256						1	15	4	130	3	8	1	11				
531	TABOR-HOSPITAL	2	123						2	123												
532	TABOR-TABOR 13	11	2,828						7	1,929	1	895	2	2	1	1						
533	TEKTRONIX-DUCKS																					
534	TEKTRONIX-HOCKEN																					
535	TEKTRONIX-MEADOW	6	276								2	12	3	263	1	1						
536	TEKTRONIX-NORTH																					
537	TEKTRONIX-SHANNON	2	48								1	1			1	48						
538	TEKTRONIX-SOUTH	8	791	2	280			1	12	3	495	1	3	1	1							
539	TEKTRONIX-TEKTRONIX 13																					
540	TEKTRONIX-TERMAN																					
541	TEKTRONIX-WEST																					
542	TEMP B-SOUTH																					
543	TEMP H-NEPTUNE	3	38								1	30	2	8								
544	TEMP H-SATURN																					
545	TIGARD-13336	3	2,223								1	2,214	1	1	1	7						
546	TIGARD-13337	2	81								1	77	1	4								
547	TIGARD-13361	5	241	4	229								1	12								
548	TIGARD-13362	3	30	2	27										1	3						
549	TIGARD-TIGARD 13	8	1,506	6	1,207								2	300								
550	TOWN CENTER-LAWNFIELD																					
551	TOWN CENTER-MONTEREY	2	86						1	76	1	10										
552	TOWN CENTER-NORTH																					
553	TOWN CENTER-PRECISION CASTPARTS																					
554	TOWN CENTER-SOUTH																					
555	TOWN CENTER-SUNNYBROOK	1	130												1	130						
556	TOWN CENTER-VALLEY VIEW	2	329	2	329																	
557	TROJAN-EAST																					
558	TUALATIN-AVERY	9	1,459	7	1,337				1	104					1	19						
559	TUALATIN-CIPOLE																					
560	TUALATIN-HERMAN																					

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Hrs = # of customers * duration hrs

2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
561 TUALATIN-IBACH	5	252	3	172			1	62							1	17						
562 TUALATIN-LEVETON	1	38			1	38																
563 TUALATIN-TUALATIN 13																						
564 TURNER-CASCADE	7	27	1	8			1	8	1	3					4	9						
565 TURNER-TURNER 13	14	471	3	85					2	26	2	65			7	295						
566 TWILIGHT-BREMER	20	288	4	52					4	29	4	63	4	118	4	26						
567 UNIONVALE-UNIONVALE 13	36	1,263	3	119					6	148	2	16	7	258	18	722						
568 UNIVERSITY-MILL	2	4			1	2							1	2								
569 UNIVERSITY-TRADE	8	456	2	216									4	151	2	89						
570 URBAN-BARBUR																						
571 URBAN-CAMPUS																						
572 URBAN-CORBETT	1	4	1	4																		
573 URBAN-GAINES	1	7							1	7												
574 URBAN-GIBBS	1	2											1	2								
575 URBAN-KELLY																						
576 URBAN-LANDING	1	2															1	2				
577 URBAN-MEDICAL																						
578 URBAN-OHSU																						
579 WACKER-WACKER 1																						
580 WACONDA-NORPAC																						
581 WACONDA-RIVER	9	288	2	271					2	8			2	6	1	1	2	2				
582 WACONDA-WACONDA 13	27	448	1	11					3	6	5	5	4	17	13	28			1	381		
583 WALLACE-WALLACE 13	11	1,457	1	9	1	121			1	4	1	46	1	8	6	1,268						
584 WALLACE-WILLOW LAKE	3	137	3	137																		
585 WELCHES-WELCHES 13	5	104							1	17	1	6	3	81								
586 WELCHES-ZIG ZAG	22	503							5	69	9	371	4	17	4	47						
587 WEST PORTLAND-72ND	2	40					1	30					1	10								
588 WEST PORTLAND-NORTH	9	374	4	140					1	45	2	178	2	11								
589 WEST PORTLAND-PACIFIC	5	43	1	21									4	23								
590 WEST PORTLAND-WEST PORTLAND 13	1	9							1	9												
591 WEST UNION-ALOCLEK																						
592 WEST UNION-CORNELIUS PASS	5	139	1	9							1	2	2	73					1	56		
593 WEST UNION-JACOBSON																						
594 WEST UNION-WEST UNION 13	12	413	7	301			1	1					1	84	2	26	1	1				
595 WILLAMINA-BRIDGE	7	508	1	96					1	70	1	225	1	2	3	115						
596 WILLAMINA-BUELL	16	548	2	7			1	8	7	72	2	17			4	445						
597 WILLAMINA-LUMBER																						
598 WILLBRIDGE-WILLBRIDGE #1	1	0													1	0						
599 WILLBRIDGE-WILLBRIDGE #4																						
600 WILSONVILLE-BOECKMAN	4	123	1	108					1	10			1	3	1	3						

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2020 Outages by Cause PGE Equipment ¹

Feeder Name	Total PGE Equipment		UG Conductor		Primary Device		UG Accessory		Transformer		OH Conductor		OH Hardware		Cutout, Fuse, Arrestor		Meter		Pole		Substation ²	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
601 WILSONVILLE-CHARBONNEAU	13	1,376	4	156			5	317	2	395			1	1	1	506						
602 WILSONVILLE-CITY	2	2											1	1			1	1				
603 WILSONVILLE-MENTORTEK	1	6							1	6												
604 WILSONVILLE-PARKWAY	3	540	2	538									1	1								
605 WILSONVILLE-VILLEBOIS	4	381					1	43	1	232	1	101	1	4								
606 WILSONVILLE-WEST	8	496	1	6					5	479	1	10					1	1				
607 WOODBURN-CANNERY	9	503	4	271					1	27	2	3			2	202						
608 WOODBURN-EAST	13	642	1	6					3	27			2	4	6	602	1	3				
609 WOODBURN-TOMLIN	10	322	2	38			2	217	1	30			3	15	2	21						
610 WOODBURN-WEST	14	2,871			1	2,246			4	560			7	53	2	12						
611 YAMHILL-CARLTON	17	1,704					1	7	2	61	1	796	6	784	7	56						
612 YAMHILL-YAMHILL 13	15	67					1	8	2	7	2	10	6	13	4	28						
Grand Totals:	3,345	295,603	786	83,713	18	25,359	173	15,742	428	25,032	380	53,817	790	32,171	21	3,443	16	54,847	21	3,443	16	54,847

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² Substation Equipment failures are a part of the Loss of Substation System category; not included in Total PGE Equipment

Outs = Outages

Hrs = # of customers * duration hrs

Section VII

Outages by Cause Vegetation

This section provides the number of customer outages (frequency) and customer outage hours (duration) caused by vegetation events. The information is presented by feeder and attributed to one of three primary categories and one of three subcategories, if applicable, of vegetation related events. Definitions for the primary and sub-categories are shown below:

- Total Trees: Total number of vegetation (i.e. tree) related outages. This category is the sum of Non-Preventable and Preventable outages.
- Total Non-Preventable: Total number uprooted trees, tree limbs, and broken/felled trees that resulted in an outage.
 - Tree Uprooted: Outages caused by a whole tree uprooting. This does not include broken tree parts (e.g. limb or tree top)
 - Limb on Line: Outages caused by broken tree tops or limbs
- Total Preventable (Tree / Limb Burning): Total number of outages caused by a tree growing into the conductor. This also includes tree burning events.
- Felled Tree/Limb: This category is included for reference, but is not included in Total Trees. Outages related to this category are included in the Public column in section V.

NOTES:

- Idle feeders are not included in this list
- Feeders may be omitted if they are a part of an alternate/multiple feeder service

2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
1 ABERNETHY-CLACKAMAS HEIGHTS												
2 ABERNETHY-OREGON CITY	6	194			6	194	5	177	1	17	1	2
3 ABERNETHY-TRANSIT	6	6,797	1	1,636	5	5,160	4	4,956	1	204		
4 ABERNETHY-WASHINGTON	3	901			3	901	2	900	1	1		
5 ALDER-ANKENY	5	177	1	2	4	174			4	174		
6 ALDER-IRVING	4	23			4	23			4	23		
7 ALDER-LINCOLN	4	93			4	93	2	78	2	16		
8 ALDER-STARK	2	1,222	1	1,222	1	0			1	0		
9 ALDER-TAYLOR	4	12	2	6	2	7			2	7		
10 ALDER-YAMHILL	2	6			2	6	1	4	1	2		
11 AMITY-AMITY 13	9	8,061			9	8,061	5	7,001	4	1,059		
12 AMITY-BELLEVUE	6	1,089	1	1	5	1,087	1	82	4	1,005		
13 ARLETA-52ND	2	8,979			2	8,979	2	8,979				
14 ARLETA-FOSTER	1	0	1	0								
15 ARLETA-HAROLD	1	4	1	4								
16 ARLETA-POWELL	3	134			3	134			3	134		
17 ARLETA-STEELE	6	9,399	2	4,151	4	5,248	3	5,048	1	200		
18 BANKS-BANKS 13	8	274			8	274	5	168	3	106		
19 BANKS-CEDAR CANYON	26	3,438	3	708	23	2,730	14	1,817	9	913		
20 BARNES-BATTLE CREEK	4	3,165			4	3,165	2	371	2	2,795	1	27
21 BARNES-BOONE												
22 BARNES-COMMERCIAL	5	6,388			5	6,388	2	5,189	3	1,199		
23 BARNES-SUNNYSIDE	3	164			3	164	2	149	1	16		
24 BEAVER-KB PIPELINE												
25 BEAVERTON-ALLEN	1	7			1	7			1	7		
26 BEAVERTON-JAMIESON												
27 BEAVERTON-NORTHWEST	1	6			1	6			1	6		
28 BEAVERTON-WEST SLOPE	1	66			1	66			1	66		
29 BELL-BATTIN	4	1,044	1	782	3	263	1	1	2	261		
30 BELL-BRENTWOOD												
31 BELL-FLAVEL	1	0			1	0			1	0		
32 BELL-JOHNSON CREEK												
33 BELL-KENDALL	2	6			2	6			2	6		
34 BELL-KING	8	542			8	542	3	20	5	522		
35 BELL-SOUTHGATE												
36 BELL-WICHITA	5	17	2	5	3	12	2	10	1	3		
37 BETHANY-BURTON												
38 BETHANY-GERMANTOWN	7	306	1	2	6	304	1	7	5	297		
39 BETHANY-KAISER												
40 BETHANY-LAIDLAW	1	4			1	4	1	4				

1-Total Trees = Total Prev. + Total Non-Prev.

2-Total Non-Prev. = Tree Uprooted + Limb on Line

3-Felled Tree/Limb events are included in the Public System category; not included in Total Trees

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
41	BETHANY-SPRINGVILLE											
42	BETHANY-THOMPSON											
43	BETHEL-FRUITLAND	1	2			1	2			1	2	
44	BETHEL-GEER	7	442	1	101	6	341	2	300	4	41	
45	BETHEL-MACLEAY											
46	BLUE LAKE-BLUE LAKE 13											
47	BLUE LAKE-SUNDIAL											
48	BLUE LAKE-TOYO TANSO											
49	BOISE CASCADE-BOISE #1											
50	BOONES FERRY-GOODALL	6	5,752			6	5,752	3	872	3	4,880	
51	BOONES FERRY-KRUSE	2	7			2	7	1	4	1	2	
52	BOONES FERRY-LAKE GROVE	1	331			1	331	1	331			
53	BOONES FERRY-MOUNTAIN PARK	1	18			1	18			1	18	
54	BOONES FERRY-WEMBLEY PARK	8	1,090			8	1,090	5	278	3	812	
55	BORING-282ND	5	217			5	217	3	208	2	9	
56	BORING-CITY	19	1,571	1	9	18	1,562	10	1,304	8	258	
57	BORING-TELFORD											
58	BRIGHTWOOD-BRIGHTWOOD 13	32	7,306	1	212	31	7,093	17	5,564	14	1,529	
59	BRIGHTWOOD-NORTH BANK	18	3,534			18	3,534	13	3,376	5	159	
60	BROOKWOOD-BORWICK											
61	BROOKWOOD-BROOKWOOD 13											
62	BROOKWOOD-SUNRISE	1	242			1	242			1	242	
63	CANBY-13644	4	1,083	1	956	3	127	3	127			1 18
64	CANBY-BUTTEVILLE	1	100			1	100			1	100	
65	CANBY-FILBERT											
66	CANBY-ZIMMERMAN	6	1,372	2	1,326	4	47	1	3	3	43	
67	CANYON-13114 NETWORK #1											
68	CANYON-13115 NETWORK #1											
69	CANYON-13116 NETWORK #1											
70	CANYON-13117 NETWORK #1											
71	CANYON-13118 PSU											
72	CANYON-13120											
73	CANYON-13121											
74	CANYON-13122 NETWORK #2											
75	CANYON-13123 NETWORK #2											
76	CANYON-13124 NETWORK #2											
77	CANYON-13125 NETWORK #2											
78	CANYON-13133 NETWORK #3											
79	CANYON-13134 NETWORK #3											
80	CANYON-13135 NETWORK #3											

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
81 CANYON-13136 NETWORK #3												
82 CANYON-21ST	1	725			1	725			1	725		
83 CANYON-23RD	5	456			5	456	3	14	2	442		
84 CANYON-BURNSIDE												
85 CANYON-CANYON 13	6	3,712			6	3,712	2	117	4	3,595		
86 CARVER-ALMOND	1	1			1	1			1	1		
87 CARVER-CARVER 13	7	978	1	879	6	99	4	97	2	2	1	135
88 CARVER-NORTH												
89 CARVER-RIVERBEND	1	2	1	2								
90 CARVER-SOUTH												
91 CARVER-WOODS	13	2,298	3	151	10	2,147	1	1	9	2,146		
92 CEDAR HILLS-CEDAR HILLS 13												
93 CEDAR HILLS-LEAHY	9	23,778			9	23,778	3	22,226	6	1,552		
94 CEDAR HILLS-SHOPPING CENTER	7	3,709			7	3,709	2	2,077	5	1,632		
95 CEDAR HILLS-SKYLINE												
96 CEDAR HILLS-ST VINCENT	1	46			1	46			1	46		
97 CEDAR HILLS-SYLVAN	6	399			6	399			6	399	1	1
98 CENTENNIAL-BARKER	1	23			1	23			1	23		
99 CENTENNIAL-BRAECROFT	5	276			5	276	1	1	4	275		
100 CENTENNIAL-CENTENNIAL 13	8	177	1	3	7	173			7	173		
101 CENTENNIAL-TREELAND	3	538			3	538	1	495	2	44		
102 CLACKAMAS-EVELYN												
103 CLACKAMAS-GLADSTONE	9	3,649			9	3,649	2	107	7	3,543		
104 CLACKAMAS-JENNIFER												
105 CLACKAMAS-TOLBERT	1	9			1	9			1	9		
106 CLAXTAR-CLAXTAR 13												
107 CLAXTAR-HAYESVILLE												
108 CLAXTAR-RIDGE											1	162
109 COFFEE CREEK-FREEMAN	2	41			2	41			2	41		
110 COFFEE CREEK-HOLIDAY	1	436			1	436			1	436		
111 COLTON-DHOOGHE	10	1,817			10	1,817	5	970	5	848		
112 COLTON-GRAYS HILL	25	1,059	2	63	23	996	5	177	18	819		
113 CORNELIUS-ADAIR	2	42			2	42			2	42		
114 CORNELIUS-CORNELIUS 13	1	4			1	4	1	4				
115 CORNELIUS-VERBOORT	6	55			6	55	1	4	5	51		
116 CORNELL-BLUFFS												
117 CORNELL-SALTZMAN												
118 CORNELL-WESTLAWN	3	614			3	614	2	610	1	4		
119 CULVER-GAFFIN												
120 CULVER-SANYO #1												

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Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
121	CURTIS-11077											
122	CURTIS-CURTIS 13											
123	DAYTON-EAST	8	112			8	112	3	47	5	64	
124	DAYTON-LAFAYETTE	7	45	1	1	6	44	1	11	5	33	
125	DAYTON-SOUTHWEST	5	77	1	21	4	56	2	52	2	4	
126	DELAWARE-DENVER	3	8			3	8			3	8	
127	DELAWARE-INTERSTATE	1	68			1	68			1	68	
128	DELAWARE-LOMBARD	1	1			1	1			1	1	
129	DENNY-EAST											
130	DENNY-NORTH											
131	DENNY-SOUTH											
132	DENNY-WEST	4	1,045	1	31	3	1,014			3	1,014	
133	DILLEY-CARPENTER											
134	DILLEY-DILLEY 13	13	453			13	453	2	145	11	308	
135	DUNNS CORNER-DUNNS CORNER 13	41	9,226	1	14	40	9,212	19	5,020	21	4,192	1 76
136	DUNNS CORNER-KELSO	2	10			2	10			2	10	
137	DURHAM-BONITA											
138	DURHAM-BRIDGEPORT											
139	DURHAM-DURHAM 13											
140	DURHAM-POOPLANT											
141	DURHAM-SATTLER											
142	DURHAM-SOUTH											
143	E-11021											
144	E-11039											
145	E-11040											
146	E-11041											
147	E-11042											
148	E-11043											
149	E-11047											
150	E-11064											
151	E-13139											
152	E-13140											
153	E-13141											
154	E-13142	2	55			2	55	2	55			
155	E-13144	2	685			2	685	1	349	1	337	
156	E-13145	1	14			1	14			1	14	
157	E-13148											
158	E-13149											
159	E-13150											
160	EAGLE CREEK-BARTON	17	1,898	1	27	16	1,871	11	1,336	5	535	

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Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
161 EAGLE CREEK-RIVER MILL	14	10,031	2	1,174	12	8,857	6	3,485	6	5,372	1	2
162 EASTPORT-76TH												
163 EASTPORT-PLAZA	1	1			1	1			1	1		
164 ELMA-ELMA 13												
165 ELMA-FOUR CORNERS	2	4			2	4	1	1	1	2		
166 ELMA-HUDSON												
167 ELMA-STATE	1	19			1	19			1	19		
168 ESTACADA-ESTACADA 13	25	9,593			25	9,593	6	3,442	19	6,151		
169 ESTACADA-FARADAY	4	231			4	231	2	29	2	202		
170 ESTACADA-NORTH FORK	47	18,885	1	12	46	18,873	15	3,805	31	15,068	1	220
171 FAIRMOUNT-CANDALARIA	4	384			4	384			4	384		
172 FAIRMOUNT-MISSION	28	12,562	2	114	26	12,449	13	11,214	13	1,235	1	93
173 FAIRVIEW-CLEAR CREEK												
174 FAIRVIEW-FAIRVIEW 13	1	1,669			1	1,669			1	1,669		
175 FAIRVIEW-KENNEL CLUB												
176 FAIRVIEW-TROUTDALE	3	256	2	255	1	1	1	1				
177 FAIRVIEW-WOOD VILLAGE												
178 FARGO-FARGO 13	14	1,958			14	1,958	8	590	6	1,368		
179 GALES CREEK-GALES CREEK 13	43	8,086	4	2,247	39	5,840	22	4,872	17	968	1	33
180 GARDEN HOME-MCKAY	4	388	1	1	3	387			3	387		
181 GARDEN HOME-METZGER	6	1,969			6	1,969	2	40	4	1,929		
182 GLENCOE-GLISAN	1	1			1	1			1	1		
183 GLENCOE-PROVIDENCE	1	28	1	28								
184 GLENCOE-SUNNYSIDE	6	4,758	1	27	5	4,731			5	4,731		
185 GLENCULLEN-BRIDLEMILE	28	17,036	3	4,181	25	12,855	11	747	14	12,108		
186 GLENCULLEN-SUNSET	9	1,320			9	1,320	4	459	5	862		
187 GLENDOVEER-13596												
188 GLENDOVEER-13597	2	243			2	243	1	148	1	95		
189 GLENDOVEER-13598	2	512	2	512								
190 GLENDOVEER-13599												
191 GLENDOVEER-CLIFFGATE												
192 GLENDOVEER-NORTHEAST	2	771	1	17	1	754			1	754	1	2
193 GLISAN-FAB 2A												
194 GLISAN-UTILITY 1B												
195 GORMLEY-MCMINNVILLE WL												
196 GRAND RONDE-AGENCY	7	1,033			7	1,033	4	724	3	309		
197 GRAND RONDE-FORTHILL	19	1,282	2	110	17	1,173	6	460	11	713		
198 HARBORTON-BURLINGTON	33	6,491	1	12	32	6,479	15	5,665	17	814		
199 HARBORTON-HARBORTON 13												
200 HARBORTON-LINNTON	6	1,484			6	1,484	3	1,476	3	7		

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	
201	HARMONY-HARMONY 13	1	1,140			1	1,140			1	1,140		
202	HARMONY-INTERNATIONAL												
203	HARMONY-LAKE	1	1,818			1	1,818			1	1,818		
204	HARMONY-LINWOOD	2	5,180			2	5,180			2	5,180		
205	HARMONY-MILWAUKIE	2	4			2	4	1	2	1	2		
206	HARMONY-THIESSEN	1	43			1	43			1	43		
207	HARRISON-DAVIS	2	243			2	243			2	243		
208	HARRISON-HARRISON 13	2	2			2	2			2	2		
209	HARRISON-IVON												
210	HAYDEN ISLAND-MAINLAND												
211	HAYDEN ISLAND-NORTH SHORE	1	2			1	2			1	2		
212	HAYDEN ISLAND-SOUTH SHORE												
213	HEMLOCK-FREMONT	1	117			1	117			1	117		
214	HEMLOCK-HEMLOCK 13	2	4			2	4	1	1	1	2		
215	HEMLOCK-MASON												
216	HILLCREST-CASCADIA												
217	HILLCREST-HILLCREST 13												
218	HILLCREST-SOUTH												
219	HILLSBORO-DAIRY CREEK	4	438	1	118	3	319			3	319	1	6
220	HILLSBORO-DENNIS	1	6			1	6			1	6		
221	HILLSBORO-JACKSON												
222	HILLSBORO-LAUREL	12	1,367			12	1,367	2	109	10	1,259		
223	HILLSBORO-SCHOLLS											1	1
224	HOGAN NORTH-BRIGADOON												
225	HOGAN NORTH-HOGAN NORTH 13	9	1,138			9	1,138	4	1,056	5	82		
226	HOGAN NORTH-LINKS	11	601			11	601	6	139	5	462	2	111
227	HOGAN NORTH-SALQUIST	2	5			2	5			2	5		
228	HOGAN SOUTH-CLEVELAND												
229	HOGAN SOUTH-LAWRENCE	12	342			12	342	5	151	7	191		
230	HOGAN SOUTH-MAIN												
231	HOGAN SOUTH-PAROPA												
232	HOGAN SOUTH-WALLULA												
233	HOLGATE-BYBEE	3	5,116	1	2	2	5,114			2	5,114		
234	HOLGATE-GIDEON	2	118			2	118			2	118		
235	HOLGATE-HOLGATE 13	4	12	2	10	2	2	2	2				
236	HOLGATE-KENILWORTH	1	1			1	1			1	1		
237	HOLGATE-RHONE	1	6			1	6			1	6		
238	HUBER-BANY												
239	HUBER-FARMINGTON	2	132			2	132			2	132		
240	HUBER-HUBER 13	1	2			1	2			1	2		

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
241 HUBER-KINNAMAN	1	1,028	1	1,028								
242 HUBER-MARYVILLE												
243 INDIAN-KEIZER	2	50	1	29	1	20	1	20				
244 INDIAN-LABISH	3	4			3	4	1	1	2	2		
245 INDIAN-NORTH	2	88	1	4	1	83			1	83		
246 INDIAN-STATION												
247 INDIAN-WEST	5	575	1	323	4	252	2	235	2	17		
248 ISLAND-13180	2	9			2	9			2	9		
249 ISLAND-13187	3	400	1	175	2	225	1	221	1	3		
250 ISLAND-13188	1	26			1	26			1	26		
251 ISLAND-ISLAND 13												
252 JENNINGS LODGE-ADDIE												
253 JENNINGS LODGE-JENNINGS 13	3	797			3	797	1	703	2	94		
254 JENNINGS LODGE-MELDRUM	1	102			1	102			1	102		
255 JENNINGS LODGE-OAK GROVE	4	3,518			4	3,518	2	1,670	2	1,848		
256 JENNINGS LODGE-WEBSTER												
257 KELLEY POINT-KELLEY POINT 13												
258 KELLEY POINT-LEDBETTER												
259 KELLEY POINT-MARINE												
260 KELLEY POINT-SIMMONS												
261 KELLY BUTTE-BINNSMEAD	2	13,061			2	13,061	1	62	1	12,999		
262 KELLY BUTTE-FAIRLAWN	4	9			4	9			4	9		
263 KELLY BUTTE-MALL 205	6	3,411	1	8	5	3,403	1	335	4	3,068		
264 KELLY BUTTE-MCGREW	2	616			2	616			2	616		
265 KING CITY-BULL MOUNTAIN												
266 KING CITY-FISCHER	3	226			3	226	1	6	2	220		
267 KING CITY-HAZELBROOK	1	9			1	9			1	9		
268 KING CITY-NORTH	1	14			1	14			1	14		
269 KING CITY-SUMMERFIELD												
270 LAKE LABISH-LAKE LABISH												
271 LELAND-BEAVERCREEK	11	14,260	3	1,144	8	13,116	1	450	7	12,666	1	2
272 LELAND-CARUS	25	6,458	2	879	23	5,579	12	4,838	11	741		
273 LELAND-KELM	2	5			2	5			2	5		
274 LENTS-13101	4	123	1	17	3	106	1	4	2	102		
275 LENTS-HAPPY VALLEY	5	113			5	113	2	5	3	107		
276 LENTS-MT SCOTT												
277 LENTS-NORTH	1	15			1	15			1	15		
278 LIBERAL-LIBERAL 13	8	907	1	23	7	884	2	17	5	867		
279 LIBERAL-SAWMILL												
280 LIBERTY-BROWNING												

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
281 LIBERTY-LONE OAK	2	1,654			2	1,654			2	1,654		
282 LIBERTY-MORNINGSIDE	2	83			2	83			2	83		
283 LIBERTY-ROSEDALE	9	3,022			9	3,022	5	2,996	4	26		
284 LIBERTY-SKYLINE	10	109	2	6	8	103	2	67	6	35		
285 LIBERTY-VISTA	1	105	1	105								
286 MAIN-AIRPORT												
287 MAIN-BENTLEY	3	52			3	52	1	22	2	30		
288 MAIN-EXPRESS	1	10			1	10			1	10		
289 MAIN-GRIFFIN OAKS												
290 MAIN-JONES FARM												
291 MAIN-RIVER	2	2,914	1	2,912	1	2			1	2		
292 MARKET-ENGLEWOOD	2	261	1	259	1	2			1	2		
293 MARKET-FAIRGROUNDS	1	14			1	14			1	14		
294 MARKET-HAWTHORNE	1	17			1	17			1	17		
295 MARKET-PARK												
296 MARQUAM-MCCALL #10 NETWORK												
297 MARQUAM-MCCALL #11 NETWORK												
298 MARQUAM-MCCALL #12 NETWORK												
299 MARQUAM-MCCALL #9 NETWORK												
300 MARQUAM-ORANGE												
301 MARQUAM-SPIRIT #1 NETWORK												
302 MARQUAM-SPIRIT #2 NETWORK												
303 MARQUAM-SPIRIT #3 NETWORK												
304 MARQUAM-SPIRIT #4 NETWORK												
305 MARQUAM-TILIKUM												
306 MAXIM-MAXIM 13												
307 MCCLAIN-COTTAGE	2	2,112			2	2,112			2	2,112		
308 MCCLAIN-FRONT	6	143			6	143	3	103	3	40		
309 MCCLAIN-HOLLYWOOD	1	2			1	2	1	2				
310 MCGILL-HORSETAIL	4	87			4	87	4	87				
311 MCGILL-LATOURELL	1	1			1	1			1	1		
312 MCGILL-LSI AIR 1A												
313 MERIDIAN-65TH												
314 MERIDIAN-BORLAND	2	54	1	36	1	18			1	18		
315 MERIDIAN-CHILDS	1	1,638			1	1,638			1	1,638		
316 MERIDIAN-LAKEVIEW	3	455			3	455			3	455		
317 MERIDIAN-MERIDIAN 13	9	1,512	3	1,123	6	389	4	305	2	84		
318 MERIDIAN-NYBERG												
319 MERIDIAN-PILKINGTON	5	7,138	1	3	4	7,135	2	953	2	6,183		
320 MERIDIAN-SAGERT												

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
321 MIDDLE GROVE-BROWN	1	1			1	1			1	1		
322 MIDDLE GROVE-CHEMEKETA	1	1			1	1			1	1		
323 MIDDLE GROVE-CORDON	2	524			2	524	1	133	1	390		
324 MIDDLE GROVE-SWEGLE												
325 MIDDLE GROVE-WEST											1	1
326 MIDWAY-DIVISION	2	4			2	4	1	2	1	1		
327 MIDWAY-DOUGLAS	3	130			3	130			3	130		
328 MIDWAY-LYNCH	4	546			4	546			4	546		
329 MIDWAY-POWELLHURST	4	382			4	382	1	168	3	213		
330 MILL CREEK-EASTLAND	4	853	1	736	3	117	1	1	2	116		
331 MILL CREEK-KUEBLER												
332 MILL CREEK-MILL CREEK 13												
333 MOLALLA-BUCKAROO	5	564			5	564	3	532	2	32		
334 MOLALLA-FOREST	23	497	1	10	22	486	12	364	10	122	1	8
335 MOLALLA-MARQUAM	31	4,174	6	1,985	25	2,189	16	1,678	9	512		
336 MOLALLA-YODER	6	354	1	54	5	300	2	198	3	102		
337 MT ANGEL-EAST												
338 MT ANGEL-WEST	6	230			6	230	2	98	4	132		
339 MT PLEASANT-CLAIRMONT	3	1,727			3	1,727			3	1,727		
340 MT PLEASANT-MT VIEW	2	230	1	4	1	226	1	226				
341 MT PLEASANT-RIVERCREST	1	2			1	2	1	2				
342 MT PLEASANT-SOUTH END	3	702	1	617	2	85	1	46	1	40		
343 MULINO-NORTH	4	41			4	41			4	41		
344 MULINO-SOUTH	15	1,014	1	9	14	1,005	9	338	5	668		
345 MULTNOMAH-13176	7	18,087	1	672	6	17,415	4	3,805	2	13,610		
346 MULTNOMAH-13177	9	11,395	1	13	8	11,382	2	4,103	6	7,279		
347 MULTNOMAH-13181	5	3,182			5	3,182	1	755	4	2,426		
348 MULTNOMAH-MULTNOMAH 13	6	3,885	1	314	5	3,571	2	51	3	3,521		
349 MURRAYHILL-KINTON												
350 MURRAYHILL-MURRAYHILL 13												
351 MURRAYHILL-REUSSER												
352 MURRAYHILL-TEAL												
353 NEWBERG-CHEHALEM	21	2,447			21	2,447	10	1,167	11	1,280		
354 NEWBERG-DUNDEE	8	1,554	2	1,486	6	68	3	53	3	15		
355 NEWBERG-HOOVER PARK	2	1,066			2	1,066	1	1,064	1	2		
356 NEWBERG-NORTH COLLEGE	6	965	1	924	5	41	2	11	3	30		
357 NORTH MARION-CROSBY	1	118			1	118			1	118		
358 NORTH MARION-FRONT												
359 NORTH MARION-HUBBARD	3	1,273	1	5	2	1,269			2	1,269		
360 NORTH MARION-MCLAREN	3	25	1	2	2	23	1	6	1	17		

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Outs = Outages

Hrs = # of customers * duration hrs

2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
361 NORTH PLAINS-MASON HILL	23	3,857	2	324	21	3,533	11	2,657	10	876		
362 NORTH PLAINS-NORTH PLAINS 13	23	5,563	2	97	21	5,466	16	5,311	5	155		
363 NORTHERN-11009												
364 NORTHERN-11016												
365 NORTHERN-11071	2	5			2	5			2	5		
366 OAK GROVE-LAKE HARRIET	2	488			2	488	1	18	1	470		
367 OAK GROVE-WHITE WATER												
368 OAK HILLS-FIVE OAKS												
369 OAK HILLS-GREENBRIER												
370 OAK HILLS-OAK HILLS 13												
371 OAK HILLS-SOMERSET												
372 OAK HILLS-WALKER												
373 OREGON STEEL-OREGON STEEL 13												
374 ORENCO-231ST												
375 ORENCO-AMBERGLEN												
376 ORENCO-BASELINE												
377 ORENCO-ORENCO 13												
378 ORENCO-PRIMATE												
379 ORENCO-WILKINS												
380 ORIENT-BARLOW	2	166	1	21	1	145	1	145			1	6
381 ORIENT-ORIENT 13	7	769			7	769	5	130	2	639		
382 ORIENT-OXBOW	19	4,403			19	4,403	16	3,533	3	870		
383 OSWEGO-IRON MOUNTAIN	8	1,372			8	1,372	5	31	3	1,341		
384 OSWEGO-MARYLHURST	9	780			9	780	3	18	6	762		
385 OSWEGO-PALATINE	14	1,066			14	1,066	4	610	10	456	1	2
386 OSWEGO-STAFFORD												
387 OXFORD-FAIRVIEW												
388 OXFORD-LEE												
389 OXFORD-MADRONA												
390 OXFORD-OXFORD 13	1	5			1	5			1	5		
391 OXFORD-RURAL	2	110			2	110	1	68	1	43		
392 OXFORD-SHELTON	1	284			1	284	1	284				
393 PELTON-ROUND BUTTE												
394 PENINSULA PARK-OCKLEY GREEN												
395 PENINSULA PARK-PENINSULA PARK	2	8			2	8			2	8		
396 PLEASANT VALLEY-BAXTER	4	86	1	35	3	51	2	40	1	11		
397 PLEASANT VALLEY-CLATSOP	1	63			1	63			1	63		
398 PLEASANT VALLEY-MOON												
399 PLEASANT VALLEY-PLEASANT 13	5	65	1	4	4	61	1	47	3	15		
400 PLEASANT VALLEY-SUN	2	3			2	3	1	1	1	1		

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
401 PORTLAND WATER-PUMPING												
402 PORTSMOUTH-CARBIDE	5	8,998			5	8,998			5	8,998		
403 PORTSMOUTH-DISPOSAL												
404 PORTSMOUTH-WILLIS	2	7			2	7	1	5	1	2		
405 PROGRESS-GREENBURG												
406 PROGRESS-HALL												
407 PROGRESS-ROBINSON												
408 PROGRESS-SAWYER												
409 PROGRESS-WASHINGTON SQ #1												
410 PROGRESS-WASHINGTON SQ #2												
411 RALEIGH HILLS-DOGWOOD	6	579			6	579	1	26	5	553		
412 RALEIGH HILLS-MONTCLAIR	3	87			3	87			3	87		
413 RALEIGH HILLS-OLESON	3	3,211			3	3,211	1	1,650	2	1,561		
414 RAMAPO-EMERALD	4	154			4	154			4	154		
415 RAMAPO-GILBERT	4	98			4	98	2	9	2	89		
416 RAMAPO-RAMAPO 13	14	3,537			14	3,537	5	2,894	9	644		
417 REDLAND-HENRICI	35	5,905	2	153	33	5,752	15	3,975	18	1,777		
418 REDLAND-REDLAND 13	31	4,602	3	1,594	28	3,008	5	265	23	2,743		
419 REEDVILLE-AUGUSTA	1	33			1	33			1	33		
420 REEDVILLE-BLANTON	6	18			6	18	1	1	5	17		
421 REEDVILLE-HAZELDALE	3	5,005	1	4,813	2	192			2	192		
422 REEDVILLE-INTEL #5												
423 REEDVILLE-TV												
424 RIVERGATE SOUTH-11010												
425 RIVERGATE SOUTH-11011												
426 RIVERGATE SOUTH-PEARCY												
427 RIVERGATE SOUTH-SWIFT	1	4			1	4	1	4				
428 RIVERVIEW-FULTON	7	8,333			7	8,333	2	8,269	5	63		
429 RIVERVIEW-MACADAM												
430 RIVERVIEW-TERWILLIGER	7	511	1	369	6	142	1	2	5	140		
431 ROCK CREEK-185TH	1	1			1	1	1	1				
432 ROCK CREEK-FOREST PARK	2	9			2	9			2	9	1	2
433 ROCK CREEK-NEWBERRY	10	714	1	403	9	311	3	238	6	73		
434 ROCKWOOD-AIRPORT												
435 ROCKWOOD-BOEING												
436 ROCKWOOD-INDUSTRIAL												
437 ROCKWOOD-REYNOLDS	1	4			1	4	1	4				
438 ROCKWOOD-ROCKWOOD 13	5	463	2	11	3	452			3	452		
439 ROCKWOOD-WILKES												
440 ROSEMONT-HIDDEN SPRINGS	1	15			1	15			1	15	1	3

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
441 ROSEMONT-MOSSY BRAE	6	886			6	886	3	840	3	46		
442 ROSEMONT-OVERLOOK	3	371			3	371	1	46	2	325		
443 ROSEWAY-ALEXANDER												
444 ROSEWAY-ESPLANADE	1	1			1	1			1	1		
445 RUBY-CAR LINE												
446 RUBY-JUNCTION	1	80			1	80	1	80				
447 SALEM-13260												
448 SALEM-13261												
449 SALEM-13262												
450 SALEM-13263												
451 SALEM-13264												
452 SALEM-UNION												
453 SANDY-362ND	13	2,978			13	2,978	4	131	9	2,846		
454 SANDY-BLUFF	1	2			1	2	1	2				
455 SANDY-SANDY 13	40	8,978	2	168	38	8,810	18	5,009	20	3,801		
456 SANDY-WILDCAT	26	17,443	2	1,400	24	16,043	14	13,859	10	2,184		
457 SCAPPOOSE-SAUVIE ISLAND												
458 SCHOLLS FERRY-KEMMER												
459 SCHOLLS FERRY-RAINBOW	7	1,077	1	1	6	1,076	4	1,050	2	26		
460 SCHOLLS FERRY-ROY ROGERS	10	1,352			10	1,352	3	779	7	573		
461 SCOGGINS-CHERRY GROVE	16	461	2	4	14	457	8	196	6	261		
462 SCOGGINS-LAURELWOOD	14	361	3	41	11	319	4	202	7	118		
463 SCOTTS MILLS-SCOTTS MILLS 13	31	15,696	3	260	28	15,436	14	14,433	14	1,003	2	11
464 SELLWOOD-KELLOGG PARK	2	127			2	127	1	11	1	116		
465 SELLWOOD-SELLWOOD 13	1	20			1	20	1	20				
466 SELLWOOD-WAVERLY												
467 SHERIDAN-EAST	6	786			6	786	3	771	3	15		
468 SHERIDAN-KADELL	5	200			5	200	1	99	4	101		
469 SHUTE-LINDE 1 35KV												
470 SILVERTON-NORTH	1	6			1	6	1	6				
471 SILVERTON-SOUTH	21	13,963	3	149	18	13,814	10	11,592	8	2,222		
472 SILVERTON-WEST	10	155	2	3	8	153	3	20	5	133		
473 SIX CORNERS-13359	5	433			5	433	1	234	4	200		
474 SIX CORNERS-13360												
475 SIX CORNERS-BORCHERS	12	539	2	272	10	266	2	103	8	164	1	2
476 SIX CORNERS-CHAPMAN	5	640			5	640	3	228	2	412		
477 SIX CORNERS-SIX CORNERS 13												
478 SP NEWSPRINT-NEWBERG												
479 SPRING HILL-SPRING HILL												
480 SPRINGBROOK-FERNWOOD	4	5,411	1	2	3	5,409	2	177	1	5,232	1	968

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
481 SPRINGBROOK-ST PAUL	23	1,876	1	212	22	1,664	7	410	15	1,254		
482 SPRINGBROOK-VILLA												
483 SPRINGBROOK-ZIMRI	4	498	1	322	3	176	1	2	2	174		
484 ST HELENS-KASTER												
485 ST LOUIS-EAST	1	1	1	1								
486 ST LOUIS-NORTH	7	3,621	3	2,834	4	787	2	779	2	8		
487 ST LOUIS-WEST	9	985	1	75	8	909	3	769	5	140		
488 ST MARYS EAST-BETHANY												
489 ST MARYS EAST-ELMONICA												
490 ST MARYS EAST-JENKINS												
491 ST MARYS EAST-MILLIKAN	1	10			1	10	1	10				
492 ST MARYS EAST-ST MARYS 13												
493 STIMSON LUMBER-FORESTEX												
494 SULLIVAN-ROBINWOOD	12	4,568	1	1	11	4,566	7	3,733	4	833		
495 SULLIVAN-SALAMO	7	539			7	539	1	61	6	478		
496 SULLIVAN-SUSSEX												
497 SULLIVAN-TANNER	1	9			1	9			1	9		
498 SULLIVAN-WILLAMETTE	7	731			7	731	2	232	5	500	1	1
499 SULZER PUMPS-115B												
500 SUMMIT-GOVERNMENT CAMP	8	1,498			8	1,498	5	864	3	634		
501 SUMMIT-MEADOWS												
502 SUMMIT-SUMMIT 13	8	2,520	1	2	7	2,518	3	1,535	4	983		
503 SUNSET-BLANCHET												
504 SUNSET-COLFAX												
505 SUNSET-CORNELL												
506 SUNSET-DORION												
507 SUNSET-IDTA												
508 SUNSET-IDTB												
509 SUNSET-IDTC												
510 SUNSET-INTEL D1B1												
511 SUNSET-INTEL D1X1												
512 SUNSET-KOMATSU #1												
513 SUNSET-KOMATSU #3												
514 SUNSET-LANE												
515 SUNSET-MCCALL												
516 SUNSET-MEEK												
517 SUNSET-NIXON												
518 SUNSET-OLCOTT												
519 SUNSET-PAULING												
520 SUNSET-SPALDING												

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
521	SUNSET-WHITMAN											
522	SUNSET-YOUNG											
523	SWAN ISLAND-BASIN											
524	SWAN ISLAND-DOLPHIN											
525	SWAN ISLAND-FREIGHTLINER											
526	SWAN ISLAND-GOING	2	373			2	373	1	2	1	371	
527	SWAN ISLAND-SHIPYARD											
528	SYLVAN-BARNES	27	2,254			27	2,254	10	920	17	1,334	
529	SYLVAN-PATTON	15	9,482	1	5	14	9,478	2	1,903	12	7,574	
530	TABOR-82ND	3	551	1	173	2	378			2	378	
531	TABOR-HOSPITAL											
532	TABOR-TABOR 13	1	2			1	2			1	2	
533	TEKTRONIX-DUCKS											
534	TEKTRONIX-HOCKEN											
535	TEKTRONIX-MEADOW	4	6,317	1	8	3	6,309	2	6	1	6,303	
536	TEKTRONIX-NORTH											
537	TEKTRONIX-SHANNON	2	697	1	567	1	130			1	130	
538	TEKTRONIX-SOUTH	3	421			3	421	1	10	2	411	
539	TEKTRONIX-TEKTRONIX 13	1	279			1	279			1	279	
540	TEKTRONIX-TERMAN											
541	TEKTRONIX-WEST											
542	TEMP B-SOUTH											
543	TEMP H-NEPTUNE											
544	TEMP H-SATURN											
545	TIGARD-13336											
546	TIGARD-13337											
547	TIGARD-13361	2	4,239			2	4,239	2	4,239			
548	TIGARD-13362											
549	TIGARD-TIGARD 13	2	106			2	106			2	106	
550	TOWN CENTER-LAWNFIELD											
551	TOWN CENTER-MONTEREY											
552	TOWN CENTER-NORTH											
553	TOWN CENTER-PRECISION CASTPARTS											
554	TOWN CENTER-SOUTH											
555	TOWN CENTER-SUNNYBROOK											
556	TOWN CENTER-VALLEY VIEW											
557	TROJAN-EAST											
558	TUALATIN-AVERY											
559	TUALATIN-CIPOLE	1	3			1	3			1	3	
560	TUALATIN-HERMAN											

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
561 TUALATIN-IBACH	5	52			5	52	2	26	3	26		
562 TUALATIN-LEVETON												
563 TUALATIN-TUALATIN 13												
564 TURNER-CASCADE	3	108			3	108			3	108		
565 TURNER-TURNER 13	5	276			5	276	3	24	2	252	1	33
566 TWILIGHT-BREMER	19	6,101	2	168	17	5,933	7	3,452	10	2,480	1	1
567 UNIONVALE-UNIONVALE 13	17	582	2	53	15	529	5	470	10	59		
568 UNIVERSITY-MILL	1	1			1	1			1	1		
569 UNIVERSITY-TRADE	1	21			1	21	1	21				
570 URBAN-BARBUR	1	0			1	0	1	0				
571 URBAN-CAMPUS												
572 URBAN-CORBETT	2	121			2	121	1	120	1	1		
573 URBAN-GAINES	1	5			1	5	1	5				
574 URBAN-GIBBS												
575 URBAN-KELLY												
576 URBAN-LANDING												
577 URBAN-MEDICAL	1	4			1	4			1	4		
578 URBAN-OHSU												
579 WACKER-WACKER 1												
580 WACONDA-NORPAC												
581 WACONDA-RIVER	5	1,191			5	1,191	3	636	2	555		
582 WACONDA-WACONDA 13	5	283			5	283			5	283		
583 WALLACE-WALLACE 13	17	1,431	5	672	12	759	3	159	9	601		
584 WALLACE-WILLOW LAKE												
585 WELCHES-WELCHES 13	15	11,797	1	22	14	11,775	7	64	7	11,711		
586 WELCHES-ZIG ZAG	92	27,782	4	678	88	27,105	56	20,374	32	6,731		
587 WEST PORTLAND-72ND												
588 WEST PORTLAND-NORTH	4	238			4	238	1	56	3	182		
589 WEST PORTLAND-PACIFIC	2	514			2	514	1	4	1	510		
590 WEST PORTLAND-WEST PORTLAND 13	2	813	1	409	1	404			1	404		
591 WEST UNION-ALOCLEK												
592 WEST UNION-CORNELIUS PASS	13	2,396	1	636	12	1,760	6	798	6	963		
593 WEST UNION-JACOBSON												
594 WEST UNION-WEST UNION 13												
595 WILLAMINA-BRIDGE	9	7,022			9	7,022	4	737	5	6,285		
596 WILLAMINA-BUELL	4	77			4	77	2	69	2	8		
597 WILLAMINA-LUMBER												
598 WILLBRIDGE-WILLBRIDGE #1												
599 WILLBRIDGE-WILLBRIDGE #4												
600 WILSONVILLE-BOECKMAN	3	1,004			3	1,004	1	3	2	1,000		

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2020 Outages by Cause Vegetation

Feeder Name	Total Trees ¹		Total Preventable (Tree/Limb Burning)		Total Non-Preventable ²		Tree Uprooted		Limb on Line		Felled Tree/Limb ³	
	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
601 WILSONVILLE-CHARBONNEAU	6	7,301			6	7,301	3	1,316	3	5,985		
602 WILSONVILLE-CITY												
603 WILSONVILLE-MENTORTEK												
604 WILSONVILLE-PARKWAY												
605 WILSONVILLE-VILLEBOIS	2	4			2	4			2	4		
606 WILSONVILLE-WEST	3	953			3	953	2	474	1	479		
607 WOODBURN-CANNERY	1	61			1	61	1	61				
608 WOODBURN-EAST	4	61	1	18	3	44	3	44				
609 WOODBURN-TOMLIN	6	1,204			6	1,204	3	390	3	813		
610 WOODBURN-WEST	2	284			2	284	2	284			1	1
611 YAMHILL-CARLTON	12	1,571	2	1,038	10	533	4	119	6	414	1	6
612 YAMHILL-YAMHILL 13	16	18,173	1	1	15	18,172	9	16,317	6	1,855	1	161
Grand Totals:	2,198	642,488	177	54,054	2,021	588,434	853	289,386	1,168	299,047	33	2,096

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Section VIII

2020 Feeder Information

The Feeder Information list consists of the following categories for each feeder:

- Code
- Name
- Region
- Number of Customers
- Class

NOTE:

- This list INCLUDES idle and alternate feeder services.

Attachment A
PGE 2020 Annual Reliability Report

Confidential - provided in a password protected zip file
Section III, Feeder Performance Summary
Section VIII, 2020 Feeder Information

Section IX

Appendix

- Reliability Measure Definitions
- IEEE 1366 TMED Definition and Classification
- Cause Code Categories and Mapping
- PGE Service Territory Map

Reliability Measure Definitions

1. Reliability The degree to which electric service is supplied without interruptions.

2. SAIDI The system average interruption duration index. This is the sustained interruption duration time (in minutes) that an average customer experiences during the year. It is determined by dividing the annual sum of all customer sustained interruption durations by the total number of customers served.

$$\text{SAIDI} = \frac{\text{Sum of customer sustained interruption durations}}{\text{Total number of PGE customers served}}$$

3. SAIFI The system average sustained interruption frequency index. This index is the number of times that an average customer experiences a sustained interruption during a year. It is determined by dividing the total annual number of customer sustained interruptions by the total number of customers served

$$\text{SAIFI} = \frac{\text{Total number of customer sustained interruptions}}{\text{Total number of PGE customers served}}$$

4. MAIFI_e Momentary average interruption frequency index of events for the system. This index is the number of times that an average customer experiences momentary interruption events during a year. It is determined by dividing the total annual number of customer momentary interruption events by the total number of customers served. Note that this index does not include the events immediately preceding a sustained interruption.

$$\text{MAIFI}_e = \frac{\text{Total number of customer momentary interruption events}}{\text{Total number of PGE customers served on Feeders with MV90 or SCADA}}$$

Major Event Day (MED) Definition and Classification¹

A MED is a day in which the daily system SAIDI exceeds a threshold value, TMED. The SAIDI index is used as the basis of this definition since it leads to consistent results regardless of utility size, and because SAIDI is a good indicator of operational and design stress. Even though SAIDI is used to determine the MEDs, all indices should be calculated based on removal of the identified days.

In calculating daily system SAIDI, any interruption that spans multiple days is accrued to the day on which the interruption begins. The MED identification TMED value is calculated at the end of each reporting period (typically one year) for use during the next reporting period, as follows:

- a) Collect values of daily SAIDI for five sequential years, ending on the last day of the last complete reporting period. If fewer than five years of historical data are available, use all available historical data until five years of historical data are available.
- b) Only those days that have a SAIDI/Day value will be used to calculate TMED (do not include days that did not have any interruptions).
- c) Take the natural logarithm (ln) of each daily SAIDI value in the dataset.
- d) Find α (Alpha), the average of the logarithms (also known as the log-average) of the data set.
- e) Find β (Beta), the standard deviation of the logarithms (also known as the log-standard deviation) of the data set.
- f) Compute the MED threshold, TMED, using:

$$T_{\text{MED}} = e^{(\alpha+2.5\beta)}$$

- g) Any day with daily SAIDI greater than the threshold value TMED that occurs during the subsequent reporting period is classified as a MED.

Activities that occur on days classified as MEDs should be separately analyzed and reported.

¹ Per IEEE Standard 1366-2012: IEEE Guide for Electric Power Distribution Reliability Indices

Cause Code Categories and Mapping

Due to implementation of a new OMS system, a more detailed list of cause codes have been created and mapped to performance categories

Cause Code Category Mapping - Natural		Cause Code Category Mapping - System			
Category	Cause	Category	Cause	Category	Cause
Adverse Weather	Earthquake	Cutout, Fuse, Arrestor	Arrestor	PGE Equipment	Primary Splice
Adverse Weather	Flooding	Cutout, Fuse, Arrestor	Fuse / Cutout	PGE Equipment	Recloser / Sectionalizer
Adverse Weather	Forest Fire	Human Factor	Design Error	PGE Equipment	Regulator
Adverse Weather	High Winds	Human Factor	Installation Error - Improper Install	PGE Equipment	Secondary Cable
Adverse Weather	Severe Heat	Human Factor	Installation Error - Wrong Equipment	PGE Equipment	Secondary Conductor
Adverse Weather	Snow / Ice	Human Factor	Operational Error	PGE Equipment	Secondary Deadend
Animal	Other - Animal	Human Factor	Utility Made Contact	PGE Equipment	Secondary Splice
Animal	Reportable Bird	PGE Equipment	Anchor / Guying	PGE Equipment	Sleeve
Animal	Squirrel	PGE Equipment	Arrestor	PGE Equipment	Stress Cone
Lightning	Lightning	PGE Equipment	Capacitor	PGE Equipment	Submersible Transformer
Unknown	Other - Environment / Weather	PGE Equipment	Cross Arm	PGE Equipment	Switch
Unknown	Pole Fire	PGE Equipment	Elbow	PGE Equipment	UG Connector / Clamp / Jumper
Non-Preventable Tree	Limb on Line	PGE Equipment	Fuse / Cutout	Public	Car Hit Equipment
Non-Preventable Tree	Tree Uprooted	PGE Equipment	Insulator	Public	Electrical Contact
Preventable Tree	Tree / Limb Burning	PGE Equipment	Lateral	Public	Felled Tree / Limb
		PGE Equipment	Meter	Public	Non Residential Fire
		PGE Equipment	Network Protector	Public	Object Contact
		PGE Equipment	OH Connector / Clamp / Jumper	Public	Other - PGE Intentional Outage
		PGE Equipment	Other - Pole Hardware Failure	Public	Other - Public
		PGE Equipment	Other - Underground Hardware Failure	Public	Residential Fire
		PGE Equipment	Overhead Transformer	Public	Underground Dig In
		PGE Equipment	Padmount Transformer	Public	Unplanned - Safety
		PGE Equipment	Pole / Structure	Public	Vandalism / Theft
		PGE Equipment	Primary Cable		
		PGE Equipment	Primary Conductor		

NOTE: Outages where the System is Substation are grouped into Loss of Supply - Substation and outages where the System is Transmission are grouped into Loss of Supply - Transmission

Cause Code Categories and Mapping

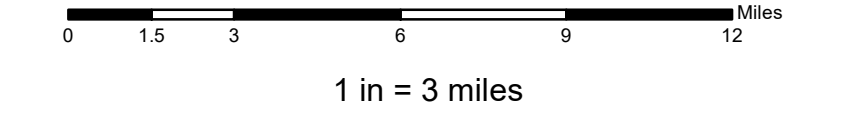
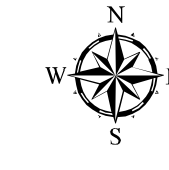
Cause Code Category Mapping - Equipment			
Category	Cause	Category	Cause
Cutout, Fuse, Arrestor	Arrestor	Pole	Pole / Structure
Cutout, Fuse, Arrestor	Fuse / Cutout	Substation	Other - Substation Equipment Failure
Meter	Meter	Substation	Protection System
OH Conductor	Primary Conductor	Substation	Terminal Equipment
OH Conductor	Secondary Conductor	Transformer	Overhead Transformer
OH Conductor	Secondary Deadend	Transformer	Padmount Transformer
OH Conductor	Sleeve	Transformer	Submersible Transformer
Primary Device	Capacitor	UG Accessory	Elbow
Primary Device	Network Protector	UG Accessory	Lateral
Primary Device	Recloser / Sectionalizer	UG Accessory	Other - Underground Hardware Failure
Primary Device	Regulator	UG Accessory	Primary Splice
Primary Device	Switch	UG Accessory	Secondary Splice
OH Hardware	Anchor / Guying	UG Accessory	Stress Cone
OH Hardware	Cross Arm	UG Accessory	UG Connector / Clamp / Jumper
OH Hardware	Insulator	UG Conductor	Primary Cable
OH Hardware	OH Connector / Clamp / Jumper	UG Conductor	Secondary Cable
OH Hardware	Other - Pole Hardware Failure		

Cause Code Category Mapping - Tree	
Category	Cause
Non-Preventable Tree	Limb on Line
Non-Preventable Tree	Tree Uprooted
Preventable Tree	Tree / Limb Burning

Service Territory

- City of Canby
- City of Forest Grove
- City of McMinnville
- Clatskani PUD Distribution
- Columbia River PUD
- Columbia Steel Casting
- Pacific Power
- Portland General Electric
- Salem Electric
- Tillamook PUD
- West Oregon Electric

REVISED DATE - 3/5/2021



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