



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 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, 2022

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

RE: RE 113 PGE 2021 Annual Reliability Report

Pursuant to OAR 860-023-0151, PGE hereby submits the Company's 2021 Annual Reliability Report.

Attachment A provides Section III, Feeder Performance Summary and Section VIII 2021 Feeder Information will be sent to the Filing Center in a pdf and marked as Confidential Information under OAR 860-001-0070. PGE will send a separate email with a password to open the 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



**Portland General Electric 2021
Annual Reliability Report**



**January 1, 2021 through
December 31, 2021**

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 2021 distribution system performance indices as they met the IEEE 1366 Major Event Day (MED) exclusion criteria: January 12th-13th, February 11th-19th and 26th, June 28th, September 18th, October 24th, December 11th.

Planned outage events³ were excluded from the 2021 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 2021 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)
2021	9,406	0.63	119	1.0
2020	7,973	0.60	100	1.4
2019	7,663	0.61	98	1.3
2018	6,884	0.52	88	1.3

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 Average Annual Momentary Interruptions per Customer (occurrences)
2021	30,319	1.67	2724	1.9
2020	10,506	0.81	312	1.4
2019	8,244	0.71	128	1.3
2018	6,884	0.52	88	1.3

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 Prior to 2021, Major Event Day exclusions were not applied to MAIFle

2021 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 ³ Average Annual Momentary Interruptions per Customer (occurrences)
EASTERN	4,130	0.62	112	1.6
SOUTHERN	2,966	0.72	158	0.7
WESTERN	2,310	0.58	105	0.5
PGE:	9,406	0.63	119	1.0

2021 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 Average Annual Momentary Interruptions per Customer (occurrences)
EASTERN	14,209	1.79	2732	2.8
SOUTHERN	11,374	2.24	5890	1.6
WESTERN	4,736	1.15	828	0.9
PGE:	30,319	1.67	2724	1.9

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 Prior to 2021, Major Event Day exclusions were not applied to MAIFle

Section II

Outage Analysis

This section provides graphical representation of 2021 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.

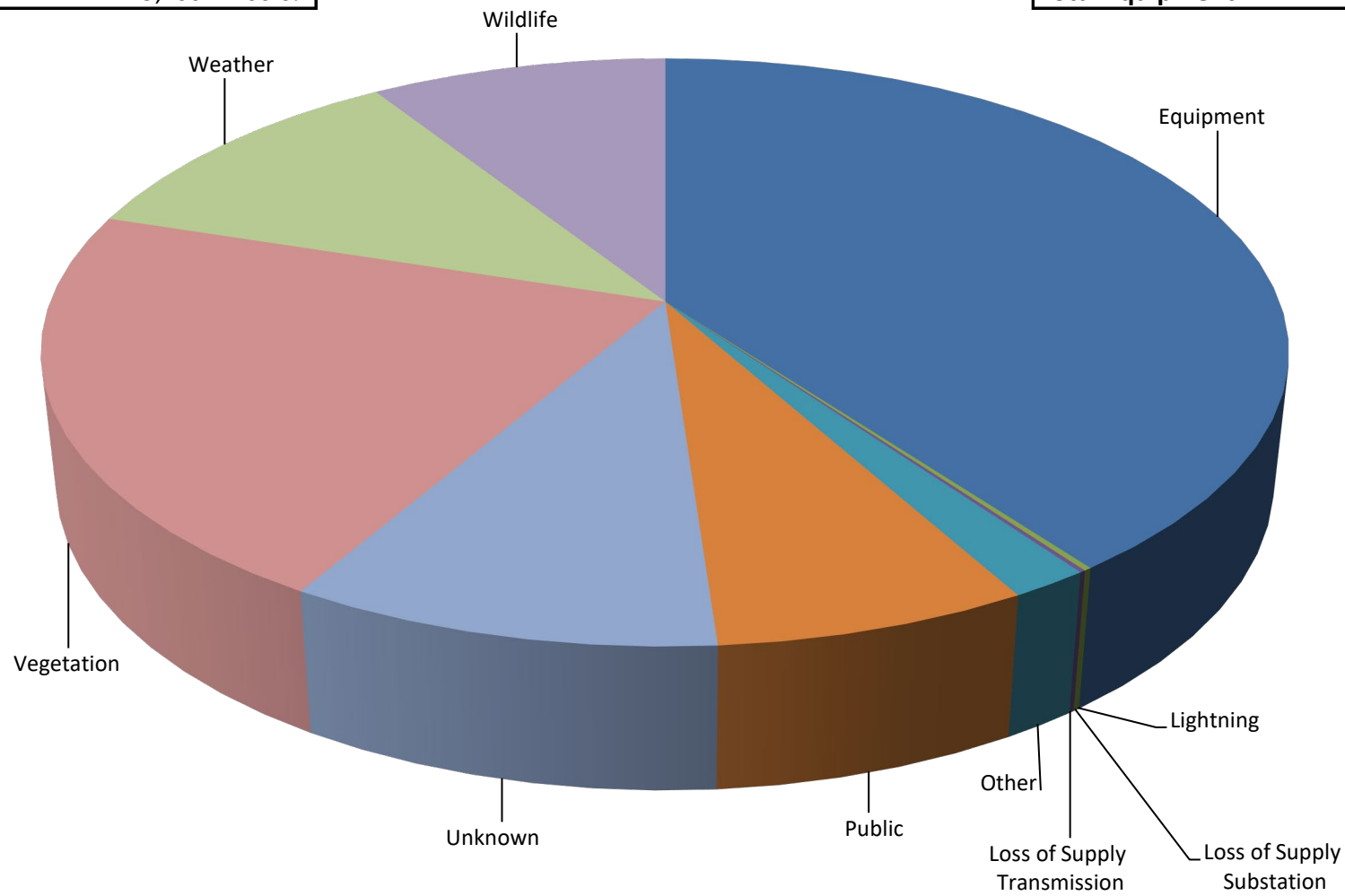
- Outage Causes by Events – Pie Chart
- Outage Causes by Events – 4 Year Comparison Bar Chart
- Outage Causes by Customer Hours – Pie Chart
- Outage Causes by Customer Hours – 4 Year Comparison Bar Chart

2021 Outages by Cause - Count

Equipment	3,749	39.9%
Lightning	0	0.0%
Loss of Supply - Substation	16	0.2%
Loss of Supply - Transmission	12	0.1%
Other	165	1.8%
Public	655	7.0%
Unknown	897	9.5%
Vegetation	2,026	21.5%
Weather	1,033	11.0%
Wildlife	853	9.1%
Total:	9,406	100.0%

Vegetation:		
Limb on Line	1,107	54.6%
Tree / Limb Burning	198	9.8%
Tree Uprooted	721	35.6%
Total Vegetation:	2,026	100.0%

Equipment:		
Cutout, Fuse, Arrestor	798	21.3%
Meter	54	1.4%
OH Conductor	470	12.5%
OH Hardware	644	17.2%
Pole / Structure	25	0.7%
Primary Device	30	0.8%
Transformer	552	14.7%
UG Accessory	196	5.2%
UG Conductor	980	26.1%
Total Equipment:	3,749	100.0%

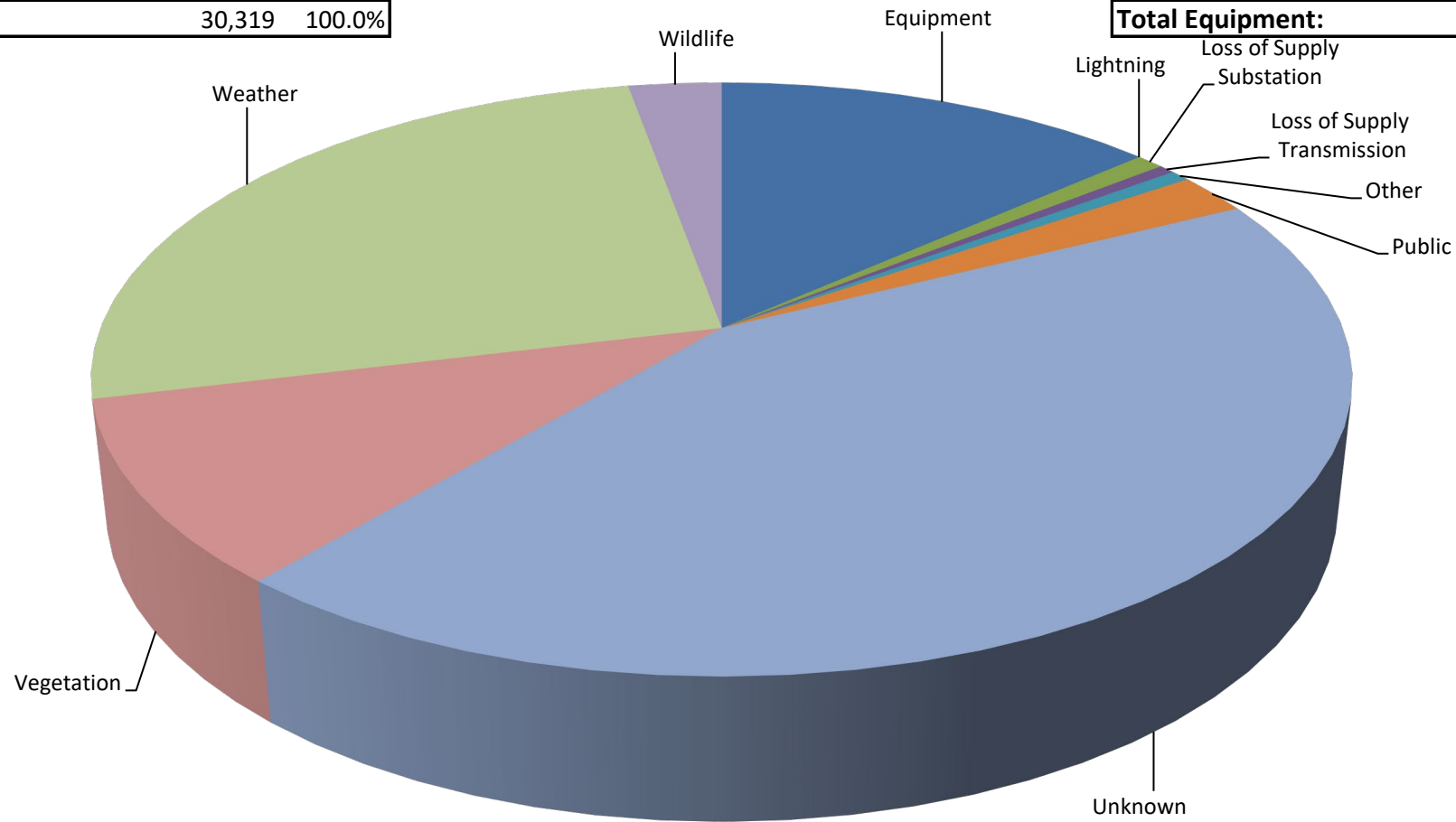


2021 Outages by Cause Including Major Event Days - Count

Equipment	4,090	13.5%
Lightning	0	0.0%
Loss of Supply - Substation	253	0.8%
Loss of Supply - Transmission	146	0.5%
Other	182	0.6%
Public	674	2.2%
Unknown	13,209	43.6%
Vegetation	3,033	10.0%
Weather	7,874	26.0%
Wildlife	858	2.8%
Total:	30,319	100.0%

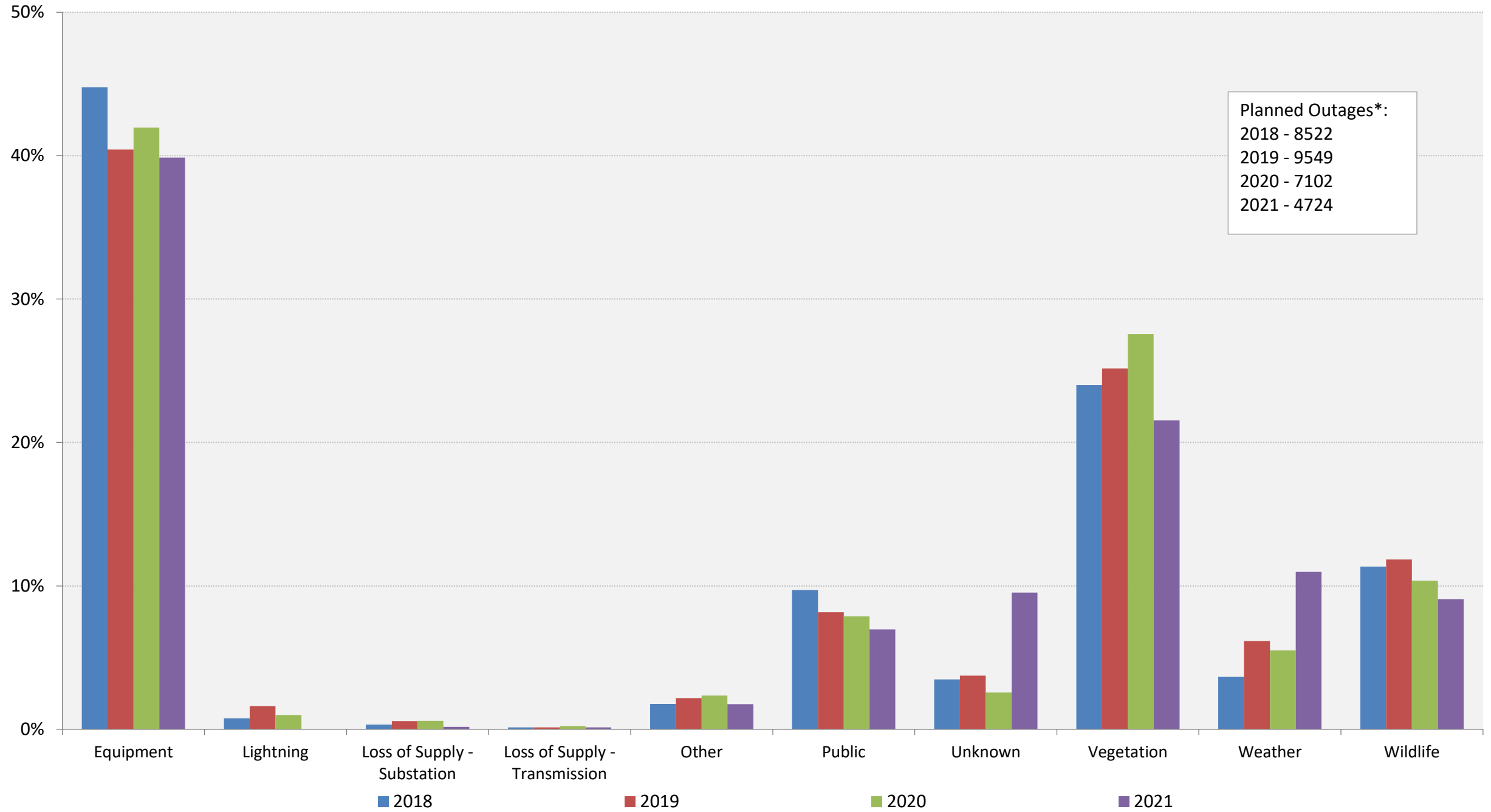
Vegetation:		
Limb on Line	1,674	55.2%
Tree / Limb Burning	257	8.5%
Tree Uprooted	1,102	36.3%
Total Vegetation:	3,033	100.0%

Equipment:		
Cutout, Fuse, Arrestor	885	21.6%
Meter	55	1.3%
OH Conductor	532	13.0%
OH Hardware	703	17.2%
Pole / Structure	34	0.8%
Primary Device	34	0.8%
Transformer	618	15.1%
UG Accessory	219	5.4%
UG Conductor	1,010	24.7%
Total Equipment:	4,090	100.0%



Outage Causes by Count

4 Year Comparison (2018-2021)



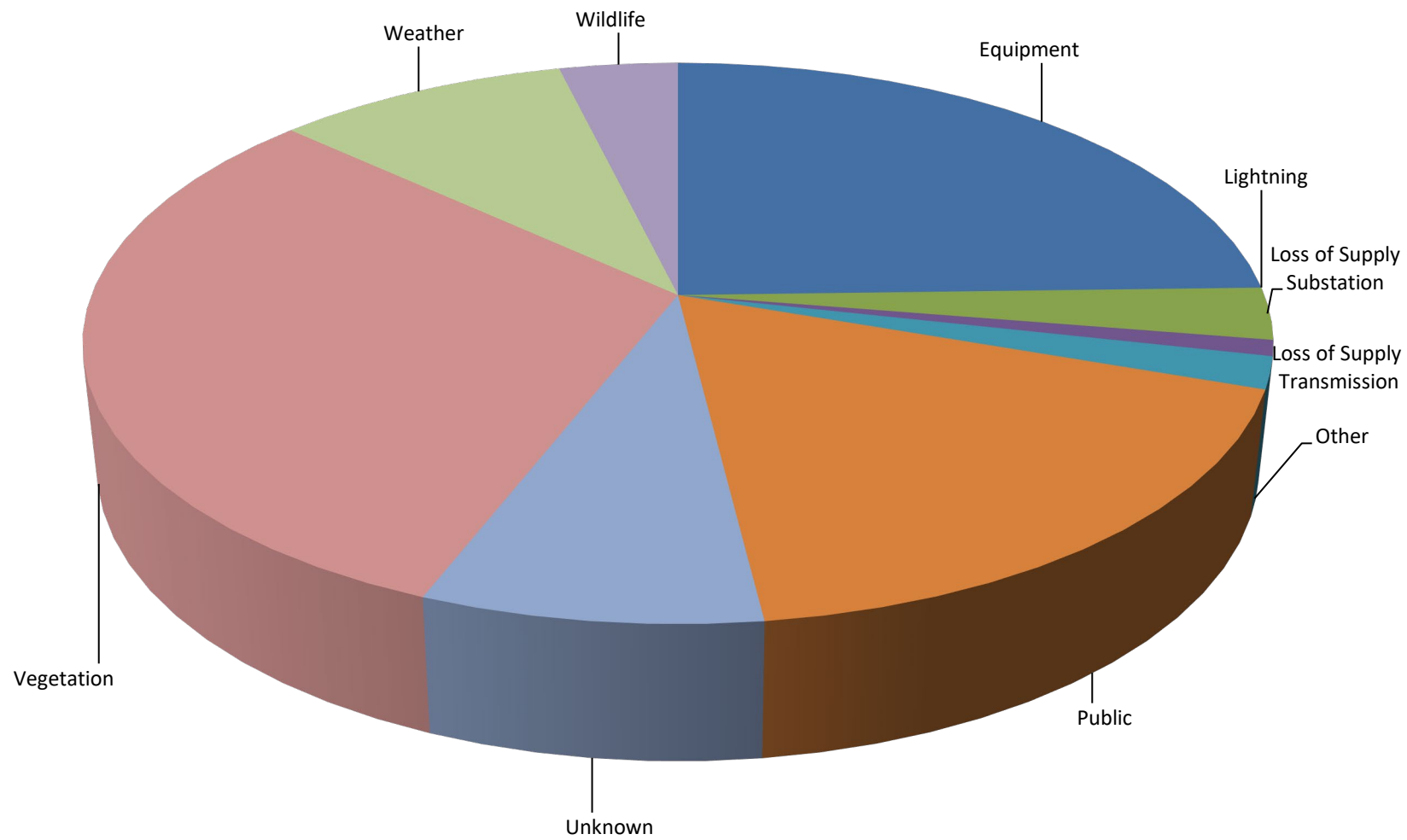
* Note: While PGE has improved the awareness and accuracy of planned outages, the Company continues to enhance processes and procedures for these events with the goal of improving the data quality.

2021 Outages by Cause - Customer Hours

Equipment	445,055	24.6%
Lightning	0	0.0%
Loss of Supply - Substation	54,281	3.0%
Loss of Supply - Transmission	16,477	0.9%
Other	33,302	1.8%
Public	321,376	17.7%
Unknown	143,078	7.9%
Vegetation	559,047	30.9%
Weather	170,120	9.4%
Wildlife	68,964	3.8%
Total:	1,811,699	100.0%

Vegetation:		
Limb on Line	235,590	42.1%
Tree / Limb Burning	66,000	11.8%
Tree Uprooted	257,457	46.1%
Total Vegetation:	559,047	100.0%

Equipment:		
Cutout, Fuse, Arrestor	64,389	14.5%
Meter	277	0.1%
OH Conductor	82,660	18.6%
OH Hardware	61,490	13.8%
Pole / Structure	3,269	0.7%
Primary Device	37,965	8.5%
Transformer	38,644	8.7%
UG Accessory	28,194	6.3%
UG Conductor	128,166	28.8%
Total Equipment:	445,055	100.0%

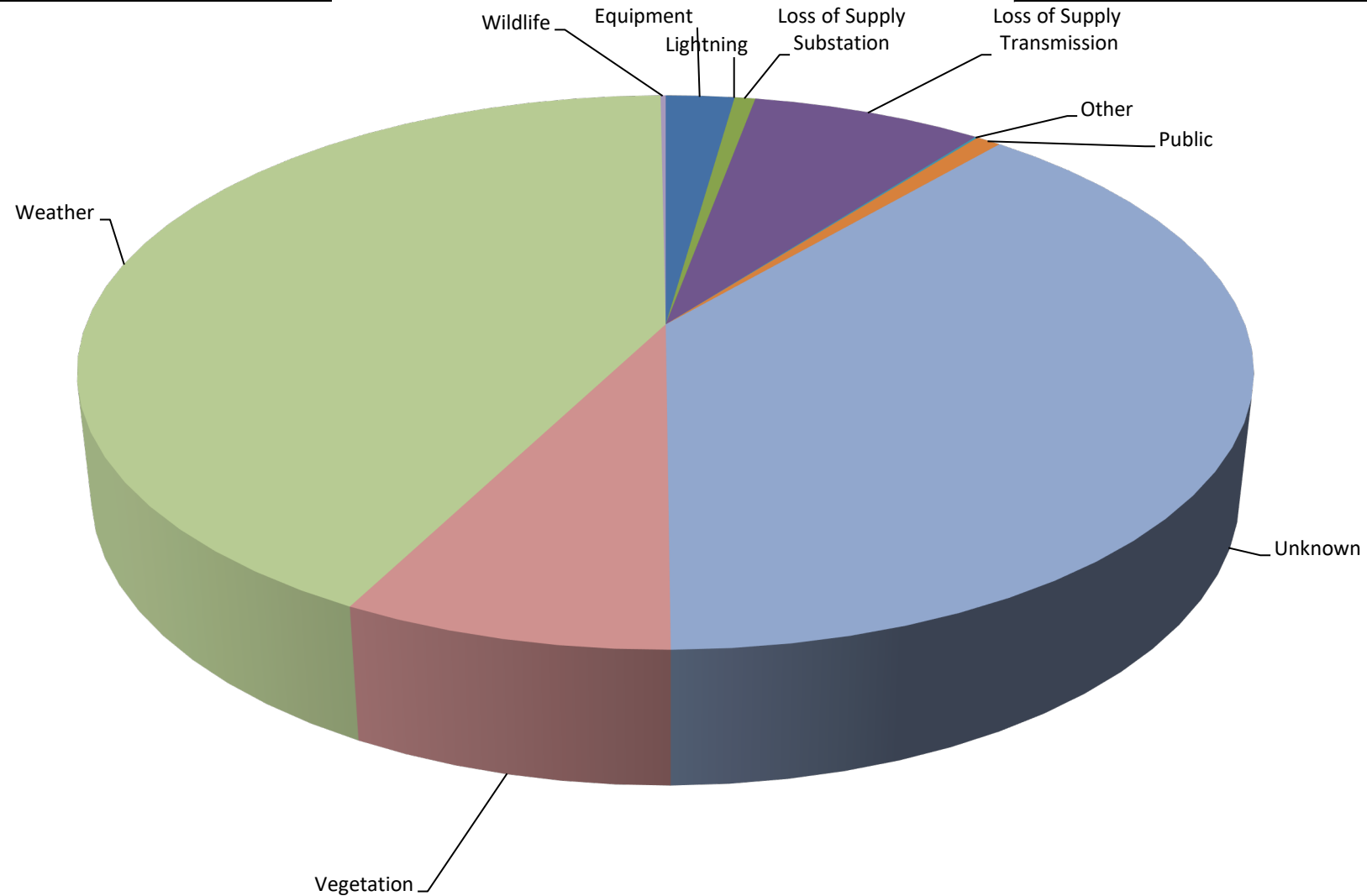


2021 Outages by Cause Including Major Event Days - Customer Hours

Equipment	924,266	2.2%
Lightning	0	0.0%
Loss of Supply - Substation	278,502	0.7%
Loss of Supply - Transmission	3,113,271	7.5%
Other	35,064	0.1%
Public	336,162	0.8%
Unknown	16,008,775	38.6%
Vegetation	3,208,291	7.7%
Weather	17,514,186	42.2%
Wildlife	69,109	0.2%
Total:	41,487,626	100.0%

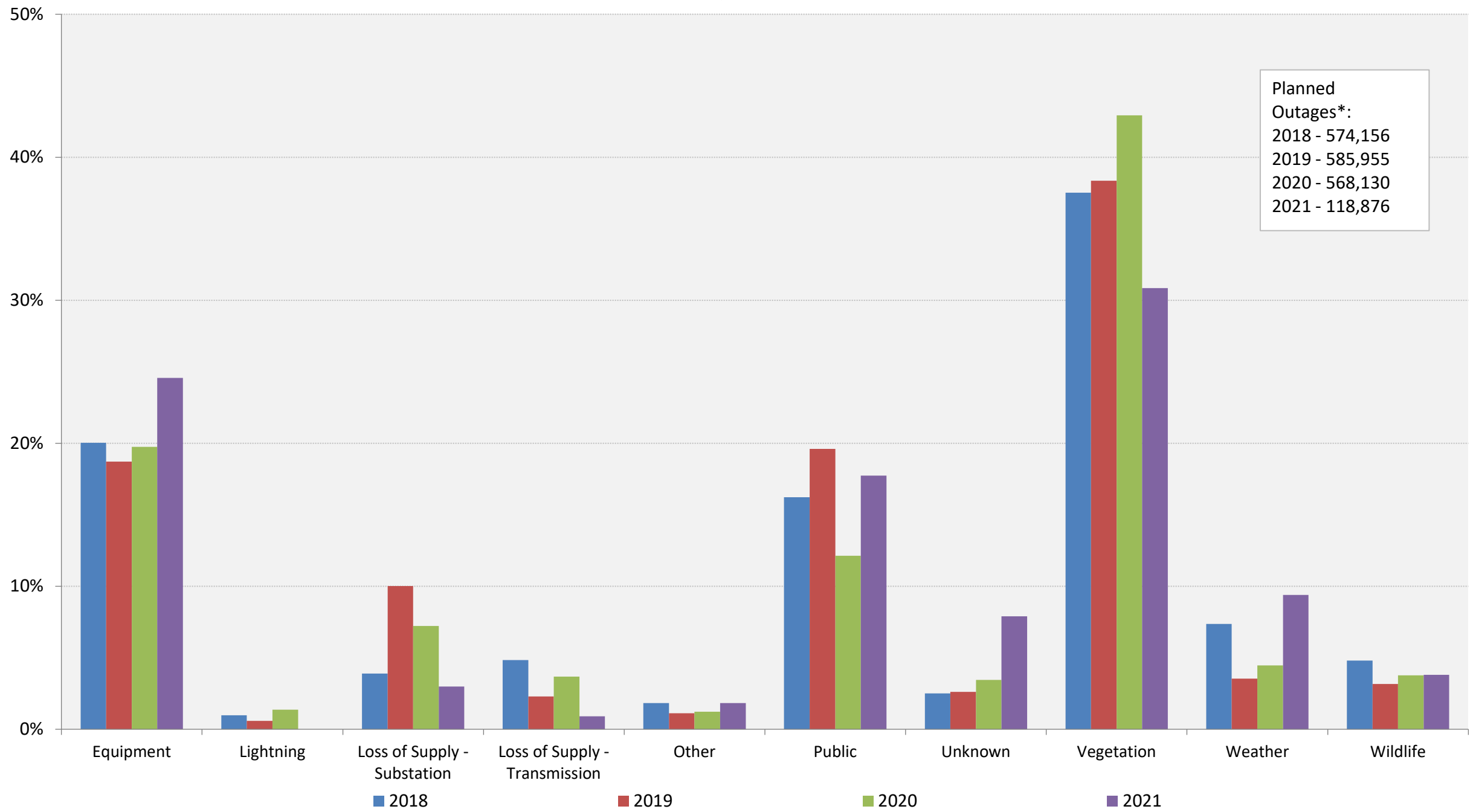
Vegetation:		
Limb on Line	1,511,022	47.1%
Tree / Limb Burning	232,517	7.2%
Tree Uprooted	1,464,751	45.7%
Total Vegetation:	3,208,291	100.0%

Equipment:		
Cutout, Fuse, Arrestor	148,644	16.1%
Meter	286	0.0%
OH Conductor	249,460	27.0%
OH Hardware	133,256	14.4%
Pole / Structure	35,792	3.9%
Primary Device	61,992	6.7%
Transformer	59,419	6.4%
UG Accessory	90,092	9.7%
UG Conductor	145,324	15.7%
Total Equipment:	924,266	100.0%



Outage Causes by Customer Hours

4 Year Comparison (2018-2021)



* 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 2021 Annual Reliability Report

Confidential - Password Protected
Section III, Feeder Performance Summary
Section VIII, 2021 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

2021 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	3	14,443	2	880					1	13,564				
2	ABERNETHY-OREGON CITY	24	1,410	8	312			4	33	6	656			6	410
3	ABERNETHY-TRANSIT	19	7,670	4	5,482			6	632	6	13			3	1,543
4	ABERNETHY-WASHINGTON	10	1,936	3	356			1	15	2	10			4	1,555
5	ALDER-ANKENY	2	5					1	1			1	4		
6	ALDER-IRVING	3	793					1	16	1	6			1	771
7	ALDER-LINCOLN	2	119					1	119	1	0				
8	ALDER-STARK	3	381					1	108			1	133	1	139
9	ALDER-TAYLOR	1	8							1	8				
10	ALDER-YAMHILL														
11	AMITY-AMITY 13	20	4,476	2	78			2	22	5	1,074	1	6	10	3,296
12	AMITY-BELLEVUE	14	2,972	4	1,393			3	62	6	1,516			1	2
13	ARLETA-52ND	10	7,017					1	470	4	46	3	6,471	2	29
14	ARLETA-FOSTER	2	72							1	37			1	35
15	ARLETA-HAROLD	12	2,315	1	2			7	2,126	3	53			1	134
16	ARLETA-POWELL	5	94	2	75					1	2	1	1	1	16
17	ARLETA-STEELE	31	2,011	1	1			6	1,384	19	552	2	4	3	70
18	BANKS-BANKS 13	36	5,234	6	365			2	14	26	4,845	2	11		
19	BANKS-CEDAR CANYON	61	12,267	17	5,832			1	6	36	5,972	3	221	4	236
20	BARNES-BATTLE CREEK	6	1,243	1	1					4	1,227			1	15
21	BARNES-BOONE	4	1,148					2	189	1	953			1	5
22	BARNES-COMMERCIAL	11	1,130	5	62					1	67			5	1,001
23	BARNES-SUNNYSIDE	4	517	2	21					1	101	1	395		
24	BEAVER-KB PIPELINE														
25	BEAVERTON-ALLEN	8	190					7	179	1	11				
26	BEAVERTON-JAMIESON	3	244					2	49	1	194				
27	BEAVERTON-NORTHWEST	4	8,123					2	87			2	8,036		
28	BEAVERTON-WEST SLOPE	4	137					4	137						
29	BELL-BATTIN	7	192					6	191					1	1
30	BELL-BRENTWOOD	3	782							2	772			1	10

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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	6	125					6	125						
32	BELL-JOHNSON CREEK														
33	BELL-KENDALL	5	156	1	37			2	111	1	6	1	2		
34	BELL-KING	18	1,254	1	14			10	456	6	783			1	0
35	BELL-SOUTHGATE	12	1,166	1	2			3	379	3	135			5	649
36	BELL-WICHITA	9	499					2	4	4	432	2	58	1	5
37	BETHANY-BURTON	4	262	3	248			1	14						
38	BETHANY-GERMANTOWN	4	228	3	228									1	0
39	BETHANY-KAISER	2	162	1	152			1	11						
40	BETHANY-LAIDLAW	5	371	3	369					2	3				
41	BETHANY-SPRINGVILLE	3	78							3	78				
42	BETHANY-THOMPSON	1	2							1	2				
43	BETHEL-FRUITLAND	4	99	2	29			1	29	1	41				
44	BETHEL-GEER	12	4,265	3	130			2	25	4	3,515	1	7	2	588
45	BETHEL-MACLEAY	2	69							2	69				
46	BLUE LAKE-BLUE LAKE 13	7	578	2	196			3	344	1	3			1	36
47	BLUE LAKE-SUNDIAL														
48	BLUE LAKE-TOYO TANSO														
49	BOISE CASCADE-BOISE #1														
50	BOONES FERRY-GOODALL	12	3,411	3	29			4	133	4	3,243			1	7
51	BOONES FERRY-KRUSE	2	1	1	0					1	1				
52	BOONES FERRY-LAKE GROVE	12	1,356	2	10			2	427	6	475	1	207	1	237
53	BOONES FERRY-MOUNTAIN PARK	1	135	1	135										
54	BOONES FERRY-WEMBLEY PARK	29	7,868	3	35			2	9	14	5,949	2	550	8	1,324
55	BORING-282ND	13	1,431					5	36	3	170			5	1,225
56	BORING-CITY	37	1,429	2	10			6	139	19	939	1	2	9	339
57	BRIGHTWOOD-BRIGHTWOOD 13	28	3,163	4	71			1	35	18	2,416	1	610	4	32
58	BRIGHTWOOD-NORTH BANK	19	1,236	5	67					9	1,027			5	143
59	BROOKWOOD-BORWICK														
60	BROOKWOOD-BROOKWOOD 13														

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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-SUNRISE														
62	CANBY-13644	17	701	5	131			1	14	5	32	1	134	5	389
63	CANBY-BUTTEVILLE	14	234	4	28			2	10	5	41			3	155
64	CANBY-FILBERT														
65	CANBY-ZIMMERMAN	42	5,024	9	488			5	111	6	170	2	279	20	3,975
66	CANYON-13115 NETWORK #1														
67	CANYON-13117 NETWORK #1														
68	CANYON-13118 PSU														
69	CANYON-13120														
70	CANYON-13121														
71	CANYON-13122 NETWORK #2														
72	CANYON-13123 NETWORK #2														
73	CANYON-13124 NETWORK #2														
74	CANYON-13125 NETWORK #2														
75	CANYON-13133 NETWORK #3														
76	CANYON-13134 NETWORK #3														
77	CANYON-13135 NETWORK #3														
78	CANYON-13136 NETWORK #3														
79	CANYON-21ST	2	671							2	671				
80	CANYON-23RD	22	4,001	3	366			1	10	10	2,645	1	902	7	78
81	CANYON-BURNSIDE	5	8,705	1	3			1	670	3	8,032				
82	CANYON-CANYON 13	4	1,768					1	47	2	1,702	1	18		
83	CARVER-ALMOND	2	90	1	32			1	58						
84	CARVER-CARVER 13	15	1,244	3	430			3	233	5	113	2	422	2	46
85	CARVER-NORTH	2	24					1	12	1	11				
86	CARVER-RIVERBEND														
87	CARVER-SOUTH	2	17	1	4									1	12
88	CARVER-WOODS	30	1,429	7	466			5	63	5	96			13	804
89	CEDAR HILLS-CEDAR HILLS 13														
90	CEDAR HILLS-LEAHY	17	19,985					9	3,051	7	16,931			1	3

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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	CEDAR HILLS-SHOPPING CENTER	6	471	1	5			2	61	3	405				
92	CEDAR HILLS-SKYLINE														
93	CEDAR HILLS-ST VINCENT	1	59							1	59				
94	CEDAR HILLS-SYLVAN	12	3,301	2	4			3	84	7	3,213				
95	CENTENNIAL-BARKER														
96	CENTENNIAL-BRAECROFT	3	82	1	2			1	14					1	66
97	CENTENNIAL-CENTENNIAL 13	15	4,160	1	258			7	79	5	3,782			2	41
98	CENTENNIAL-TREELAND	3	54	1	6			1	47	1	2				
99	CLACKAMAS-EVELYN	3	23	1	2			1	2					1	19
100	CLACKAMAS-GLADSTONE	26	1,132	6	308			6	50	8	295	1	3	5	476
101	CLACKAMAS-JENNIFER	5	1,891	2	1,863					1	3			2	25
102	CLACKAMAS-TOLBERT	3	59					1	12	1	3			1	44
103	CLAXTAR-CLAXTAR 13	1	3							1	3				
104	CLAXTAR-HAYESVILLE	5	112					3	12					2	100
105	CLAXTAR-RIDGE	11	765	2	288			2	39	3	59			4	378
106	COFFEE CREEK-FREEMAN	1	3					1	3						
107	COFFEE CREEK-HOLIDAY	3	7	1	2			1	2					1	3
108	COLTON-DHOOGHE	18	1,145	1	362			1	3	15	555	1	225		
109	COLTON-GRAYS HILL	28	874	8	100			3	9	14	736	1	23	2	6
110	CORNELIUS-ADAIR	4	37					2	21	2	17				
111	CORNELIUS-CORNELIUS 13	8	143	2	15			3	67	2	58			1	3
112	CORNELIUS-VERBOORT	5	84	1	14			2	63	1	2	1	6		
113	CORNELL-BLUFFS	8	14,374	2	462					4	3,943	2	9,969		
114	CORNELL-SALTZMAN	1	44	1	44										
115	CORNELL-WESTLAWN	8	211					6	167	2	44				
116	CULVER-CULVER 13														
117	CULVER-GAFFIN	1	18											1	18
118	CULVER-SANYO #1														
119	CURTIS-11077	1	4							1	4				
120	CURTIS-CURTIS 13	4	285							1	242			3	43

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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	DAYTON-EAST	17	1,109	5	464			3	100	5	38	1	415	3	92
122	DAYTON-LAFAYETTE	10	3,097					4	102	5	2,693			1	302
123	DAYTON-SOUTHWEST	15	1,935	3	148			2	5	7	1,720	1	15	2	46
124	DELAWARE-DENVER	2	21	1	5									1	15
125	DELAWARE-INTERSTATE	7	661					4	20	2	543			1	97
126	DELAWARE-LOMBARD	4	52	2	22			1	20					1	10
127	DENNY-EAST	5	96							4	94	1	2		
128	DENNY-NORTH	1	2					1	2						
129	DENNY-SOUTH	4	989					1	29	3	960				
130	DENNY-WEST	7	743					6	742			1	1		
131	DILLEY-CARPENTER														
132	DILLEY-DILLEY 13	23	3,172	1	7			1	3	20	3,156	1	6		
133	DUNNS CORNER-DUNNS CORNER 13	59	18,380	5	3,840			5	309	39	11,702	3	513	7	2,017
134	DUNNS CORNER-KELSO	3	85	1	16					1	36			1	33
135	DURHAM-BONITA														
136	DURHAM-BRIDGEPORT	5	123					4	122					1	1
137	DURHAM-DURHAM 13														
138	DURHAM-POOPLANT														
139	DURHAM-SATTLER	4	256					1	9	3	247				
140	DURHAM-SOUTH														
141	E-11021	1	5	1	5										
142	E-11039														
143	E-11040														
144	E-11041														
145	E-11042														
146	E-11043														
147	E-11047														
148	E-11064														
149	E-13139	1	128					1	128						
150	E-13140	4	932							3	929			1	3

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2021 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-13141														
152	E-13142	1	973	1	973										
153	E-13144	11	2,728							9	1,948	1	27	1	754
154	E-13145														
155	E-13148	1	3											1	3
156	E-13149														
157	E-13150														
158	EAGLE CREEK-BARTON	21	6,888	5	611			1	25	13	5,343			2	910
159	EAGLE CREEK-RIVER MILL	22	7,344	6	21					14	7,271			2	52
160	EASTPORT-76TH	8	367	3	47			2	255	1	1			2	64
161	EASTPORT-PLAZA	3	342					2	340			1	3		
162	ELMA-ELMA 13	8	117					4	85	3	29			1	3
163	ELMA-FOUR CORNERS	10	1,532	1	21			1	3					8	1,508
164	ELMA-HUDSON	9	5,695	2	4			2	76					5	5,615
165	ELMA-STATE	1	20											1	20
166	ESTACADA-ESTACADA 13	35	5,393	13	134			2	43	15	3,689	2	1,292	3	236
167	ESTACADA-FARADAY	22	6,110	1	1,345					12	905			9	3,860
168	ESTACADA-NORTH FORK	41	9,300	9	2,740					21	5,385	3	1,053	8	122
169	FAIRMOUNT-CANDALARIA	18	4,458	3	2,536			7	364	3	1,498			5	61
170	FAIRMOUNT-MISSION	25	9,930	3	46			2	31	12	5,579	3	4,002	5	272
171	FAIRVIEW-CLEAR CREEK														
172	FAIRVIEW-FAIRVIEW 13	5	4,147	1	2					2	1,072			2	3,073
173	FAIRVIEW-KENNEL CLUB	2	16					2	16						
174	FAIRVIEW-TROUTDALE	5	1,499	1	855					4	644				
175	FAIRVIEW-WOOD VILLAGE	2	1,081					1	1,064					1	17
176	FARGO-FARGO 13	19	4,187	3	46			1	15	5	616	1	167	9	3,344
177	GALES CREEK-GALES CREEK 13	56	13,179	8	3,500			5	11	36	7,279	3	1,748	4	641
178	GARDEN HOME-MCKAY	5	244	1	3					4	241				
179	GARDEN HOME-METZGER	8	667	3	600			3	53	2	14				
180	GLENCOE-GLISAN	9	494					3	145	2	13	3	332	1	3

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Hrs = # of customers * duration hrs

2021 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	GLENCOE-PROVIDENCE														
182	GLENCOE-SUNNYSIDE	14	1,683	1	10			4	261	8	1,410	1	2		
183	GLENCULLEN-BRIDLEMILE	23	1,859	4	18			8	500	5	1,248	1	40	5	52
184	GLENCULLEN-SUNSET	10	625					5	313	4	104			1	209
185	GLENDOVEER-13596	3	48					1	9	1	24			1	15
186	GLENDOVEER-13597	6	388	1	348					1	2			4	37
187	GLENDOVEER-13598	8	483					2	199	3	272	1	1	2	12
188	GLENDOVEER-13599	8	647	1	139			4	132	2	371			1	5
189	GLENDOVEER-CLIFFGATE	10	237					5	98	3	56			2	83
190	GLENDOVEER-NORTHEAST	3	70	2	66									1	4
191	GLISAN-FAB 2A														
192	GLISAN-UTILITY 1B														
193	GORMLEY-MCMINNVILLE WL														
194	GRAND RONDE-AGENCY	7	1,704	2	17					5	1,687				
195	GRAND RONDE-FORTHILL	31	2,933	15	712			2	10	10	1,953			4	258
196	HARBORTON-BURLINGTON	39	3,125	1	3			6	25	23	3,042	4	37	5	19
197	HARBORTON-HARBORTON 13														
198	HARBORTON-LINNTON	13	4,878					1	101	12	4,777				
199	HARMONY-HARMONY 13	7	259					6	198					1	62
200	HARMONY-INTERNATIONAL	5	220	1	2							1	9	3	209
201	HARMONY-LAKE	1	27											1	27
202	HARMONY-LINWOOD	5	701					3	78	1	4			1	620
203	HARMONY-MILWAUKIE	13	1,570	1	1					6	1,335			6	234
204	HARMONY-THIESSEN	2	1											2	1
205	HARRISON-DAVIS														
206	HARRISON-HARRISON 13	2	114									1	4	1	110
207	HARRISON-IVON	1	104							1	104				
208	HAYDEN ISLAND-MAINLAND	5	257	1	3			2	118			1	84	1	52
209	HAYDEN ISLAND-NORTH SHORE	8	11,688	1	6					5	11,663			2	20
210	HAYDEN ISLAND-SOUTH SHORE	3	988							3	988				

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2021 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	HEMLOCK-FREMONT	1	1											1	1
212	HEMLOCK-HEMLOCK 13	1	4											1	4
213	HEMLOCK-MASON	3	3,851	2	3,849					1	2				
214	HILLCREST-CASCADIA														
215	HILLCREST-HILLCREST 13	1	294											1	294
216	HILLCREST-SOUTH														
217	HILLSBORO-DAIRY CREEK	5	440	2	35			2	247	1	158				
218	HILLSBORO-DENNIS	3	156	2	9							1	148		
219	HILLSBORO-JACKSON	3	10					2	8	1	2				
220	HILLSBORO-LAUREL	24	6,517	2	618			1	1	18	5,879	1	13	2	6
221	HILLSBORO-SCHOLLS	1	114					1	114						
222	HOGAN NORTH-BRIGADOON	4	999	1	907			2	20					1	72
223	HOGAN NORTH-HOGAN NORTH 13	10	1,491	2	3					8	1,488				
224	HOGAN NORTH-LINKS	17	20,751	1	402			2	25	10	19,980	1	12	3	332
225	HOGAN NORTH-SALQUIST	1	116					1	116						
226	HOGAN SOUTH-CLEVELAND	6	3,868					2	187	4	3,681				
227	HOGAN SOUTH-LAWRENCE	6	143	2	49			4	95						
228	HOGAN SOUTH-MAIN	1	2											1	2
229	HOGAN SOUTH-PAROPA	3	109	2	85			1	24						
230	HOGAN SOUTH-WALLULA	1	4					1	4						
231	HOLGATE-BYBEE	12	624	1	33			2	37	6	503			3	51
232	HOLGATE-GIDEON	2	204					1	201					1	3
233	HOLGATE-HOLGATE 13	3	88	1	13			2	75						
234	HOLGATE-KENILWORTH	1	27							1	27				
235	HOLGATE-RHONE	3	97	1	1			1	70					1	26
236	HUBER-BANY	3	57	1	0					2	57				
237	HUBER-FARMINGTON	4	6					2	3	2	3				
238	HUBER-HUBER 13	2	885	1	638									1	247
239	HUBER-KINNAMAN	3	467	1	439			1	18	1	11				
240	HUBER-MARYVILLE	5	90	2	52			1	6	2	32				

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2021 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	INDIAN-KEIZER	14	700	5	123			3	84					6	493
242	INDIAN-LABISH	20	2,939	10	1,280			1	1	2	473	1	31	6	1,154
243	INDIAN-NORTH	15	2,463	5	306			5	27	3	2,099	1	13	1	18
244	INDIAN-STATION	1	860											1	860
245	INDIAN-WEST	6	502	1	0					4	500			1	2
246	ISLAND-13180	9	602					5	287	3	181			1	134
247	ISLAND-13187	19	7,177	3	35			1	22	6	6,706	5	1	4	413
248	ISLAND-13188	28	2,010	2	40			7	710	13	664	3	417	3	179
249	ISLAND-ISLAND 13	1	2,568	1	2,568										
250	JENNINGS LODGE-ADDIE	7	318	1	159			2	62	3	77			1	19
251	JENNINGS LODGE-JENNINGS 13	17	1,487	3	24			3	133	3	409			8	921
252	JENNINGS LODGE-MELDRUM	16	4,839	2	4,134			7	299	3	209			4	196
253	JENNINGS LODGE-OAK GROVE	14	733	5	522			4	133	1	21			4	57
254	JENNINGS LODGE-WEBSTER	8	1,116					5	1,084	1	3			2	29
255	KELLEY POINT-KELLEY POINT 13														
256	KELLEY POINT-LEDBETTER														
257	KELLEY POINT-MARINE														
258	KELLEY POINT-SIMMONS														
259	KELLY BUTTE-BINNSMEAD	12	881	2	61			6	189	3	395	1	235		
260	KELLY BUTTE-FAIRLAWN	7	340	2	263			2	26	2	14			1	37
261	KELLY BUTTE-MALL 205	9	620					7	373	1	6			1	241
262	KELLY BUTTE-MCGREW	7	271					1	126	2	82	1	2	3	61
263	KING CITY-BULL MOUNTAIN														
264	KING CITY-FISCHER	5	3,432	2	78					2	3,346			1	7
265	KING CITY-HAZELBROOK	4	414							1	12			3	402
266	KING CITY-NORTH	1	150	1	150										
267	KING CITY-SUMMERFIELD	2	342	1	0			1	342						
268	LAKE LABISH-LAKE LABISH														
269	LELAND-BEAVERCREEK	21	3,683	3	76			2	927	12	2,630			4	50
270	LELAND-CARUS	54	13,777	12	1,890			5	10	23	9,684	1	3	13	2,191

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2021 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-KELM														
272	LENTS-13101	4	172					2	166			2	6		
273	LENTS-HAPPY VALLEY	10	6,046							5	69	1	4,695	4	1,282
274	LENTS-MT SCOTT	4	1,170	1	1					1	158	2	1,010		
275	LENTS-NORTH	4	109					1	16					3	93
276	LIBERAL-LIBERAL 13	22	460	8	23			2	65	3	66	2	15	7	290
277	LIBERAL-SAWMILL														
278	LIBERTY-BROWNING	3	242	1	2			1	30	1	210				
279	LIBERTY-LONE OAK	11	6,832	3	213			3	126	1	5,675			4	818
280	LIBERTY-MORNINGSIDE	26	6,712	4	136			6	278	2	5,207			14	1,091
281	LIBERTY-ROSEDALE	33	2,684	5	381			2	7	13	429	7	423	6	1,444
282	LIBERTY-SKYLINE	25	1,047	11	597			5	85	3	87	1	146	5	132
283	LIBERTY-VISTA	6	505					2	157	3	239	1	109		
284	MAIN-AIRPORT	4	175	1	111			2	63	1	1				
285	MAIN-BENTLEY	4	287	1	266			3	21						
286	MAIN-EXPRESS	7	224	1	2			4	210					2	13
287	MAIN-GRIFFIN OAKS	1	9					1	9						
288	MAIN-JONES FARM														
289	MAIN-RIVER	2	8					1	4					1	4
290	MARKET-ENGLEWOOD	10	227					6	188	2	7	1	3	1	29
291	MARKET-FAIRGROUNDS	4	270					1	3	2	186	1	81		
292	MARKET-HAWTHORNE	4	127	1	70			3	57						
293	MARKET-PARK	4	89	1	0			1	44	2	44				
294	MARQUAM-MCCALL #10 NETWORK														
295	MARQUAM-MCCALL #11 NETWORK														
296	MARQUAM-MCCALL #12 NETWORK														
297	MARQUAM-MCCALL #9 NETWORK														
298	MARQUAM-MEADE	2	2,556							2	2,556				
299	MARQUAM-ORANGE														
300	MARQUAM-PORTER	1	44							1	44				

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2021 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	9	691	2	101			2	56					5 534
308	MCCLAIN-FRONT	7	135	2	78			3	50	1	3	1	3	
309	MCCLAIN-HOLLYWOOD	8	443	1	14			4	52			1	7	2 370
310	MCGILL-HORSETAIL	5	231	1	33					4	198			
311	MCGILL-LATOURELL													
312	MCGILL-LSI AIR 1A													
313	MCGILL-TOKETEE													
314	MERIDIAN-65TH	2	8					2	8					
315	MERIDIAN-BORLAND	2	5	2	5									
316	MERIDIAN-CHILDS	1	2	1	2									
317	MERIDIAN-LAKEVIEW	2	4					1	2	1	2			
318	MERIDIAN-MERIDIAN 13	10	2,723					1	27	8	2,691			1 4
319	MERIDIAN-NYBERG													
320	MERIDIAN-PILKINGTON	8	359	3	9			1	1	2	270			2 80
321	MERIDIAN-SAGERT	3	141					1	6	1	1			1 134
322	MIDDLE GROVE-BROWN	4	36					4	36					
323	MIDDLE GROVE-CHEMEKETA	2	38					2	38					
324	MIDDLE GROVE-CORDON	13	2,106	1	13			7	1,899	3	105			2 89
325	MIDDLE GROVE-SWEGLE	4	540					1	1					3 539
326	MIDDLE GROVE-WEST	6	3,688	1	7					1	5			4 3,677
327	MIDWAY-DIVISION	5	1,359	2	36					1	674	2	649	
328	MIDWAY-DOUGLAS	11	850	1	3			4	41	1	3			5 803
329	MIDWAY-LYNCH	15	1,767	1	50			3	201	4	183	1	305	6 1,029
330	MIDWAY-POWELLHURST	13	491					6	342	5	139	1	8	1 3

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2021 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-EASTLAND	20	875	3	84					7	395	1	293	9	102
332	MILL CREEK-KUEBLER	2	160	2	160										
333	MILL CREEK-MILL CREEK 13	1	5					1	5						
334	MOLALLA-BUCKAROO	1	14	1	14										
335	MOLALLA-FOREST	21	2,388	4	9			1	6	14	2,370	1	1	1	2
336	MOLALLA-MARQUAM	62	6,319	14	874			5	28	31	4,006	1	2	11	1,410
337	MOLALLA-YODER	20	894	6	47					7	638	1	24	6	185
338	MT ANGEL-EAST	3	57	1	6					1	1	1	50		
339	MT ANGEL-WEST	101	1,477	93	1,394			3	33	3	4			2	46
340	MT PLEASANT-CLAIRMONT	15	5,020	8	2,030			4	2,517	2	472			1	1
341	MT PLEASANT-MT VIEW	7	161	3	154			3	4					1	3
342	MT PLEASANT-RIVERCREST	14	320	8	242			3	19	1	19			2	40
343	MT PLEASANT-SOUTH END	15	1,200	2	362			1	1	9	827	1	4	2	6
344	MULINO-NORTH	7	368							5	144			2	224
345	MULINO-SOUTH	15	812	3	67			2	8	9	734			1	2
346	MULTNOMAH-13176	17	526	3	20			6	376	2	3	1	106	5	21
347	MULTNOMAH-13177	9	914					1	8	2	757	2	13	4	136
348	MULTNOMAH-13181	11	1,485	2	46			3	119	1	58	3	776	2	487
349	MULTNOMAH-MULTNOMAH 13	6	1,017	1	2			1	12	4	1,004				
350	MURRAYHILL-KINTON	3	104	3	104										
351	MURRAYHILL-MURRAYHILL 13														
352	MURRAYHILL-REUSSER														
353	MURRAYHILL-TEAL	6	82					1	24	4	56			1	2
354	NEWBERG-CHEHALEM	26	15,829	8	1,464					13	13,664	2	563	3	139
355	NEWBERG-DUNDEE	21	1,563	3	221			4	199	13	1,121	1	22		
356	NEWBERG-HOOVER PARK	4	401					2	302	1	4			1	96
357	NEWBERG-NORTH COLLEGE	9	327	2	55			5	201	2	72				
358	NORTH MARION-CROSBY	4	24	3	2					1	22				
359	NORTH MARION-FRONT	1	24							1	24				
360	NORTH MARION-HUBBARD	14	1,399	2	5			1	25	2	308			9	1,061

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2021 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 MARION-MCLAREN	12	1,404	4	387					4	17	1	497	3	503
362	NORTH PLAINS-MASON HILL	76	18,274	18	8,678			4	43	48	8,793	3	88	3	672
363	NORTH PLAINS-NORTH PLAINS 13	24	8,576	7	4,733			1	1	16	3,842				
364	NORTHERN-11009	3	85	1	3			1	51					1	31
365	NORTHERN-11016														
366	NORTHERN-11071	2	13							2	13				
367	OAK GROVE-LAKE HARRIET	5	531	1	23					3	490			1	18
368	OAK GROVE-WHITE WATER														
369	OAK HILLS-FIVE OAKS														
370	OAK HILLS-GREENBRIER														
371	OAK HILLS-OAK HILLS 13	1	242	1	242										
372	OAK HILLS-SOMERSET														
373	OAK HILLS-WALKER	1	143	1	143										
374	OREGON STEEL-OREGON STEEL 13														
375	ORENCO-231ST														
376	ORENCO-AMBERGLEN														
377	ORENCO-BASELINE	1	203	1	203										
378	ORENCO-ORENCO 13														
379	ORENCO-PRIMATE														
380	ORENCO-WILKINS														
381	ORIENT-BARLOW	9	105	1	10			2	18	4	51			2	25
382	ORIENT-ORIENT 13	7	573					2	18	3	526			2	28
383	ORIENT-OXBOW	41	9,279	8	5,906			3	14	22	1,766			8	1,594
384	OSWEGO-IRON MOUNTAIN	4	1,354					1	62	3	1,293				
385	OSWEGO-MARYLHURST	23	3,777	4	1,814			7	794	5	611			7	558
386	OSWEGO-PALATINE	11	17,910	3	627			2	16,625	5	632			1	26
387	OSWEGO-STAFFORD	4	622					3	621	1	1				
388	OXFORD-FAIRVIEW	10	805	2	92			1	273	1	2	1	19	5	419
389	OXFORD-LEE	3	465					2	124			1	341		
390	OXFORD-MADRONA														

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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-OXFORD 13	26	2,117	1	30			4	85	1	15	1	263	19	1,724
392	OXFORD-RURAL	1	279											1	279
393	OXFORD-SHELTON	4	264	1	48			2	168					1	48
394	PELTON-ROUND BUTTE														
395	PENINSULA PARK-OCKLEY GREEN	2	4	1	1			1	3						
396	PENINSULA PARK-PENINSULA PARK	7	79							5	33			2	46
397	PLEASANT VALLEY-BAXTER	11	9,355	3	256					6	8,844			2	255
398	PLEASANT VALLEY-CLATSOP	3	199					2	30	1	169				
399	PLEASANT VALLEY-MOON	5	400					1	5	3	6			1	390
400	PLEASANT VALLEY-PLEASANT 13	14	5,176	4	155			1	9	6	5,005			3	7
401	PLEASANT VALLEY-SUN	11	4,599	1	8			4	209	3	90			3	4,292
402	PORTLAND WATER-PUMPING														
403	PORTSMOUTH-CARBIDE	6	911	1	883					3	18			2	9
404	PORTSMOUTH-DISPOSAL														
405	PORTSMOUTH-WILLIS	4	80					1	41	1	3			2	35
406	PROGRESS-GREENBURG	8	1,996					7	1,976	1	21				
407	PROGRESS-HALL														
408	PROGRESS-ROBINSON	2	131					2	131						
409	PROGRESS-SAWYER	2	8	1	6			1	3						
410	PROGRESS-WASHINGTON SQ #1														
411	PROGRESS-WASHINGTON SQ #2														
412	RALEIGH HILLS-DOGWOOD	9	735	4	698			2	17	2	9			1	11
413	RALEIGH HILLS-MONTCLAIR	12	1,503	3	412			4	67	4	578	1	446		
414	RALEIGH HILLS-OLESON	11	1,535					5	204	4	1,008	2	324		
415	RAMAPO-EMERALD	4	3,438	1	187			1	10	2	3,240				
416	RAMAPO-GILBERT	4	509					2	144	1	11			1	354
417	RAMAPO-RAMAPO 13	14	167	1	30			2	30	6	16	1	2	4	88
418	REDLAND-HENRICI	32	3,286	5	968			9	35	12	549			6	1,734
419	REDLAND-REDLAND 13	70	18,169	15	3,565			8	457	19	10,814	1	90	27	3,244
420	REEDVILLE-AUGUSTA	2	892	2	892										

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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-BLANTON	7	583							6	284			1	299
422	REEDVILLE-HAZELDALE	20	9,866	3	57			3	26	11	9,703	2	57	1	22
423	REEDVILLE-INTEL #5														
424	REEDVILLE-TV	2	22					2	22						
425	RIVERGATE SOUTH-11010														
426	RIVERGATE SOUTH-11011	1	3					1	3						
427	RIVERGATE SOUTH-PEARCY														
428	RIVERGATE SOUTH-SWIFT														
429	RIVERVIEW-FULTON	12	2,041	2	6					3	1,785	1	4	6	246
430	RIVERVIEW-MACADAM	1	28					1	28						
431	RIVERVIEW-TERWILLIGER	10	4,670	1	4,082			2	101	6	485	1	2		
432	ROCK CREEK-185TH	1	132	1	132										
433	ROCK CREEK-FOREST PARK	10	911	3	376					5	354	1	1	1	180
434	ROCK CREEK-NEWBERRY	27	10,473	5	1,827			1	2	18	7,721	1	412	2	512
435	ROCKWOOD-AIRPORT														
436	ROCKWOOD-BOEING														
437	ROCKWOOD-INDUSTRIAL														
438	ROCKWOOD-REYNOLDS	6	959	1	636			1	41	4	282				
439	ROCKWOOD-ROCKWOOD 13	16	475					4	205	7	123			5	147
440	ROCKWOOD-WILKES														
441	ROSEMONT-HIDDEN SPRINGS	10	2,048	4	69			2	6	3	213			1	1,760
442	ROSEMONT-MOSSY BRAE	6	1,910							4	1,514			2	396
443	ROSEMONT-OVERLOOK	13	1,278	1	1			3	175	4	264			5	839
444	ROSEWAY-ALEXANDER														
445	ROSEWAY-ESPLANADE	3	42	1	5			1	5					1	32
446	ROSEWAY-ROSEWAY 13	4	58	2	38			1	12	1	7				
447	ROSEWAY-SOHI														
448	RUBY-CAR LINE	5	29	1	2			1	16	2	10			1	1
449	RUBY-JUNCTION	6	204	4	43			2	161						
450	SALEM-13260														

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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-13261														
452	SALEM-13262														
453	SALEM-13263														
454	SALEM-13264														
455	SALEM-UNION														
456	SANDY-362ND	22	3,746	9	139			1	45	8	3,312			4	250
457	SANDY-BLUFF	3	1,224					2	62			1	1,162		
458	SANDY-SANDY 13	67	4,036	20	1,751			3	12	28	1,094	3	914	13	264
459	SANDY-WILDCAT	37	12,819	17	9,469			3	135	6	950	3	1,149	8	1,116
460	SCAPPOOSE-SAUVIE ISLAND	5	520					3	80	2	440				
461	SCHOLLS FERRY-KEMMER	8	1,279	2	1,156					6	123				
462	SCHOLLS FERRY-RAINBOW	17	3,856					3	170	11	2,623	2	1,033	1	30
463	SCHOLLS FERRY-ROY ROGERS	8	560	1	18					6	539			1	3
464	SCOGGINS-CHERRY GROVE	46	7,834	8	2,178			4	94	32	5,537	2	25		
465	SCOGGINS-LAURELWOOD	27	731	3	82			13	149	9	270	2	229		
466	SCOTTS MILLS-SCOTTS MILLS 13	72	14,058	17	2,565			4	1,487	27	6,115	4	521	20	3,371
467	SELLWOOD-KELLOGG PARK	8	8,072	2	910			2	100	2	101			2	6,960
468	SELLWOOD-SELLWOOD 13	8	80	1	3			3	15	2	3	1	12	1	46
469	SELLWOOD-WAVERLY	4	1,098					2	146	1	900	1	52		
470	SHERIDAN-EAST	24	2,281	3	430			5	387	16	1,464				
471	SHERIDAN-KADELL	15	2,608	5	1,213			2	62	6	950	1	4	1	378
472	SHUTE-BIRCH														
473	SHUTE-LINDE 1														
474	SHUTE-MAPLE														
475	SHUTE-PINE														
476	SHUTE-RONLER 1														
477	SHUTE-RONLER 2														
478	SILVERTON-NORTH	9	604	2	56					1	2			6	546
479	SILVERTON-SOUTH	39	20,049	13	1,798			2	7	17	17,645	2	10	5	588
480	SILVERTON-WEST	61	10,383	25	6,057			5	117	7	160	1	8	23	4,040

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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	SIX CORNERS-13359	18	4,732	1	73					13	2,832	2	1,355	2	472
482	SIX CORNERS-13360	1	6											1	6
483	SIX CORNERS-BORCHERS	14	3,643	1	225			4	126	7	2,609	2	683		
484	SIX CORNERS-CHAPMAN	8	7,073	1	32					6	6,887			1	153
485	SIX CORNERS-SIX CORNERS 13	3	59					2	30	1	29				
486	SP NEWSPRINT-NEWBERG														
487	SPRING HILL-SPRING HILL														
488	SPRINGBROOK-FERNWOOD	14	7,983	2	6,857			2	76	8	1,022			2	27
489	SPRINGBROOK-ST PAUL	13	592	1	36			4	81	5	464	2	6	1	5
490	SPRINGBROOK-VILLA														
491	SPRINGBROOK-ZIMRI	9	5,924	1	2,545			2	11	4	2,740			2	629
492	ST HELENS-HOULTON														
493	ST LOUIS-EAST	4	96	3	21									1	76
494	ST LOUIS-NORTH	17	3,434	6	94			1	3	3	20			7	3,317
495	ST LOUIS-WEST	13	598	3	87					5	140	2	23	3	348
496	ST MARYS EAST-BETHANY														
497	ST MARYS EAST-ELMONICA	7	8,949							4	284	1	151	2	8,514
498	ST MARYS EAST-JENKINS														
499	ST MARYS EAST-MILLIKAN	3	234					2	27	1	208				
500	ST MARYS EAST-ST MARYS 13														
501	STIMSON LUMBER-FORESTEX														
502	SULLIVAN-ROBINWOOD	29	1,669	7	345			6	254	4	54			12	1,016
503	SULLIVAN-SALAMO	7	253	3	3					2	154	1	74	1	22
504	SULLIVAN-SUSSEX	3	578											3	578
505	SULLIVAN-TANNER	6	208	1	94			3	91	1	2			1	21
506	SULLIVAN-WILLAMETTE	18	8,158	7	4,678			1	1	3	2,264			7	1,215
507	SULZER PUMPS-115B	1	4					1	4						
508	SUMMIT-GOVERNMENT CAMP	7	6,393	4	3,792					1	1			2	2,600
509	SUMMIT-MEADOWS	3	334	2	140									1	194
510	SUMMIT-SUMMIT 13	6	210	4	157									2	53

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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-BLANCHET														
512	SUNSET-COLFAX														
513	SUNSET-CORNELL														
514	SUNSET-DORION														
515	SUNSET-IDTA														
516	SUNSET-IDTB														
517	SUNSET-IDTC														
518	SUNSET-INTEL D1B1														
519	SUNSET-INTEL D1X1														
520	SUNSET-KOMATSU #2														
521	SUNSET-KOMATSU #3														
522	SUNSET-LANE														
523	SUNSET-MCCALL														
524	SUNSET-MEEK														
525	SUNSET-NIXON														
526	SUNSET-OLCOTT														
527	SUNSET-PAULING														
528	SUNSET-SPALDING														
529	SUNSET-WHITMAN														
530	SUNSET-YOUNG														
531	SWAN ISLAND-BASIN														
532	SWAN ISLAND-DOLPHIN														
533	SWAN ISLAND-FREIGHTLINER														
534	SWAN ISLAND-GOING														
535	SWAN ISLAND-SHIPYARD														
536	SYLVAN-BARNES	22	3,284	3	167			3	36	14	2,495	1	566	1	20
537	SYLVAN-PATTON	26	10,486	7	1,664			4	109	12	8,382			3	332
538	TABOR-82ND	8	435					2	19	5	367			1	49
539	TABOR-HOSPITAL	1	1											1	1
540	TABOR-TABOR 13														

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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-DUCKS														
542	TEKTRONIX-HOCKEN														
543	TEKTRONIX-MEADOW	10	436	1	30			7	176	2	230				
544	TEKTRONIX-NORTH														
545	TEKTRONIX-SHANNON	11	1,579					5	64	5	1,502			1	13
546	TEKTRONIX-SOUTH	6	3,020					5	2,617			1	403		
547	TEKTRONIX-TEKTRONIX 13	1	12					1	12						
548	TEKTRONIX-TERMAN														
549	TEKTRONIX-WEST														
550	TEMP B-SOUTH														
551	TEMP C-R3006														
552	TEMP H-NEPTUNE														
553	TEMP H-SATURN														
554	TIGARD-13336	1	40					1	40						
555	TIGARD-13337														
556	TIGARD-13361	11	1,242					10	1,240	1	2				
557	TIGARD-13362	5	993	2	982			1	1	1	4			1	5
558	TIGARD-TIGARD 13	7	170	1	1			4	166	2	3				
559	TOWN CENTER-LAWNFIELD														
560	TOWN CENTER-MONTEREY	1	1					1	1						
561	TOWN CENTER-NORTH														
562	TOWN CENTER-PRECISION CASTPARTS														
563	TOWN CENTER-SOUTH														
564	TOWN CENTER-SUNNYBROOK														
565	TOWN CENTER-VALLEY VIEW														
566	TROJAN-EAST														
567	TUALATIN-AVERY	3	1,416					1	10					2	1,406
568	TUALATIN-CIPOLE	1	83											1	83
569	TUALATIN-HERMAN														
570	TUALATIN-IBACH	3	492											3	492

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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	TUALATIN-LEVETON														
572	TUALATIN-TUALATIN 13	2	9					2	9						
573	TURNER-CASCADE	11	433	1	14			1	5	6	326			3	89
574	TURNER-TURNER 13	22	2,651	11	1,469			3	630	3	357	1	37	4	158
575	TWILIGHT-BREMER	26	4,040	5	1,995			3	5	6	81			12	1,958
576	UNIONVALE-UNIONVALE 13	20	397	5	110			4	57	7	87			4	144
577	UNIVERSITY-MILL	7	453	2	5			3	288					2	160
578	UNIVERSITY-TRADE	11	3,883					2	115	6	370	2	3,331	1	67
579	URBAN-BARBUR	2	612							2	612				
580	URBAN-CAMPUS														
581	URBAN-CORBETT	6	205	1	1			1	13	1	3	1	6	2	182
582	URBAN-GAINES	6	1,744	2	18					3	1,722			1	4
583	URBAN-GIBBS														
584	URBAN-KELLY														
585	URBAN-LANDING														
586	URBAN-MEDICAL														
587	URBAN-OHSU														
588	WACKER-WACKER 1														
589	WACONDA-NORPAC														
590	WACONDA-RIVER	8	210	1	69			3	3	1	26	1	78	2	35
591	WACONDA-WACONDA 13	25	2,278	6	49			4	15	8	2,052	1	1	6	161
592	WALLACE-WALLACE 13	27	1,825	5	321			4	10	16	1,414	1	69	1	11
593	WALLACE-WILLOW LAKE	2	53					1	6	1	47				
594	WELCHES-WELCHES 13	24	9,596	12	493			1	4	8	8,718	1	64	2	317
595	WELCHES-ZIG ZAG	103	22,184	27	3,903					65	15,932	2	2,010	9	339
596	WEST PORTLAND-72ND	2	22	1	20			1	2						
597	WEST PORTLAND-NORTH	6	5,038					5	222	1	4,816				
598	WEST PORTLAND-PACIFIC	15	939	4	36			4	215	4	74	1	333	2	282
599	WEST PORTLAND-WEST PORTLAND 13	8	874					5	675	3	199				
600	WEST UNION-ALOCLEK														

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

Outs = Outages
Hrs = # of customers * duration hrs

2021 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	WEST UNION-CORNELIUS PASS	3	1,898					1	3					2	1,895
602	WEST UNION-JACOBSON														
603	WEST UNION-WEST UNION 13	2	4					2	4						
604	WILLAMINA-BRIDGE	18	6,033	2	14			1	7	11	5,650	1	269	3	93
605	WILLAMINA-BUELL	24	859	4	25			4	13	12	778			4	44
606	WILLAMINA-LUMBER														
607	WILLBRIDGE-SALMONBERRY														
608	WILLBRIDGE-WILDWOOD	2	545							2	545				
609	WILSONVILLE-BOECKMAN	3	24							3	24				
610	WILSONVILLE-CHARBONNEAU	11	670	4	494			3	67	2	6			2	103
611	WILSONVILLE-CITY	1	4							1	4				
612	WILSONVILLE-MENTORTEK														
613	WILSONVILLE-PARKWAY	1	1,463					1	1,463						
614	WILSONVILLE-VILLEBOIS	1	91											1	91
615	WILSONVILLE-WEST	10	5,293	1	0					4	539	1	57	4	4,697
616	WOODBURN-CANNERY	6	994	5	38									1	956
617	WOODBURN-EAST	14	203	4	136			5	30	3	32	1	2	1	4
618	WOODBURN-TOMLIN	13	709	4	15			1	101	3	504			5	89
619	WOODBURN-WEST	15	550	4	20			1	91			1	1	9	439
620	YAMHILL-CARLTON	19	7,094	5	1,170			4	10	9	5,913			1	2
621	YAMHILL-YAMHILL 13	26	5,119	7	1,613			1	10	16	3,280	1	179	1	37
Grand Totals:		4,809	941,208	1,033	170,120	0	0	853	68,964	1,828	493,047	198	66,000	897	143,078

*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.

2021 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	1	27	1	27	1	27									2	5
2 ABERNETHY-OREGON CITY	21	2,355	15	71	6	22					1	3	5	2,280	14	79
3 ABERNETHY-TRANSIT	2	11	1	10									1	1	5	204
4 ABERNETHY-WASHINGTON	12	56	10	54	2	9							2	2	4	86
5 ALDER-ANKENY	4	181	3	180									1	1	2	30
6 ALDER-IRVING	4	6,739	3	6,736	1	1,601							1	4	11	688
7 ALDER-LINCOLN	7	549	7	549	1	210									9	69
8 ALDER-STARK	10	35,148	3	31									7	35,116	6	141
9 ALDER-TAYLOR	6	1,492	4	209	1	204							2	1,282	5	197
10 ALDER-YAMHILL	5	213	3	14									2	199		
11 AMITY-AMITY 13	16	643	13	59	7	13							3	585	7	51
12 AMITY-BELLEVUE	18	128	18	128	8	49									13	63
13 ARLETA-52ND	10	56	9	44	3	30							1	12	13	98
14 ARLETA-FOSTER	7	3,863	3	293									4	3,570	1	1
15 ARLETA-HAROLD	10	611	6	598	2	504							4	13	10	169
16 ARLETA-POWELL	7	157	7	157	2	98									12	252
17 ARLETA-STEELE	11	74	7	50	3	44							4	24	12	336
18 BANKS-BANKS 13	10	3,307	7	131	4	29							3	3,176	2	5
19 BANKS-CEDAR CANYON	17	1,687	16	1,686	3	64							1	1	12	42
20 BARNES-BATTLE CREEK	9	1,849	7	1,730	2	535							2	119	12	257
21 BARNES-BOONE	5	295	5	295											1	14
22 BARNES-COMMERCIAL	12	841	8	295	1	1							4	547	7	32
23 BARNES-SUNNYSIDE	11	2,490	11	2,490	1	8									12	265
24 BEAVER-KB PIPELINE																
25 BEAVERTON-ALLEN	9	1,800	8	1,229	1	27							1	572	18	462
26 BEAVERTON-JAMIESON	3	586	3	586											1	74
27 BEAVERTON-NORTHWEST	5	556	3	106									2	451	4	714
28 BEAVERTON-WEST SLOPE	11	970	9	939									2	31	11	382
29 BELL-BATTIN	5	58	4	56	2	47					1	2			8	109
30 BELL-BRENTWOOD	3	15	2	14	1	7							1	1	5	12
31 BELL-FLAVEL	10	161	8	126	1	3							2	34	6	118
32 BELL-JOHNSON CREEK	2	3,058	2	3,058											1	23
33 BELL-KENDALL	3	13	1	3									2	10	5	144
34 BELL-KING	14	3,105	13	3,082	3	1,032							1	24	13	249
35 BELL-SOUTHGATE	12	1,368	7	972	2	747							5	396	7	416
36 BELL-WICHITA	9	1,612	5	1,521	1	1,327							4	90	13	151

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2021 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	5	826	5	826											1	2
38 BETHANY-GERMANTOWN	6	141	4	98									2	43	5	635
39 BETHANY-KAISER	3	1,787	2	52									1	1,735		
40 BETHANY-LAIDLAW	3	52	3	52											5	57
41 BETHANY-SPRINGVILLE	9	183	7	158									2	25	1	23
42 BETHANY-THOMPSON	4	12	4	12												
43 BETHEL-FRUITLAND	16	563	13	547	2	4							3	15	3	23
44 BETHEL-GEER	25	2,991	18	1,688	3	5							7	1,303	13	91
45 BETHEL-MACLEAY	8	536	6	505	1	9							2	30	1	1
46 BLUE LAKE-BLUE LAKE 13	10	948	5	377									5	571	12	353
47 BLUE LAKE-SUNDIAL	8	66	6	50	1	4							2	16	4	36
48 BLUE LAKE-TOYO TANSO	1	146	1	146												
49 BOISE CASCADE-BOISE #1																
50 BOONES FERRY-GOODALL	8	1,335	8	1,335	2	337									1	6
51 BOONES FERRY-KRUSE	2	3,659											2	3,659		
52 BOONES FERRY-LAKE GROVE	11	2,960	6	729	2	69					1	6	4	2,225	21	274
53 BOONES FERRY-MOUNTAIN PARK	13	3,611	12	3,605									1	6	3	34
54 BOONES FERRY-WEMBLEY PARK	12	1,955	10	1,947									2	8	8	109
55 BORING-282ND	11	1,140	9	46	1	6							2	1,094	11	199
56 BORING-CITY	28	848	25	735	5	325					1	77	2	36	18	33
57 BRIGHTWOOD-BRIGHTWOOD 13	10	1,547	8	1,537	2	459							2	10	20	71
58 BRIGHTWOOD-NORTH BANK	5	1,465	4	235									1	1,230	9	115
59 BROOKWOOD-BORWICK	1	185	1	185											2	59
60 BROOKWOOD-BROOKWOOD 13	2	392	2	392											1	117
61 BROOKWOOD-SUNRISE	6	1,381	6	1,381	1	24									3	44
62 CANBY-13644	3	20	3	20											3	14
63 CANBY-BUTTEVILLE	4	17	3	15	1	2							1	2	6	428
64 CANBY-FILBERT																
65 CANBY-ZIMMERMAN	18	1,962	15	456	5	130							3	1,506	12	31
66 CANYON-13115 NETWORK #1																
67 CANYON-13117 NETWORK #1																
68 CANYON-13118 PSU	2	2,231	1	0				1	2,231							
69 CANYON-13120	1	3	1	3												
70 CANYON-13121																
71 CANYON-13122 NETWORK #2																
72 CANYON-13123 NETWORK #2	1	4	1	4												

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2021 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-13124 NETWORK #2															
74	CANYON-13125 NETWORK #2															
75	CANYON-13133 NETWORK #3															
76	CANYON-13134 NETWORK #3															
77	CANYON-13135 NETWORK #3															
78	CANYON-13136 NETWORK #3															
79	CANYON-21ST	2	5	2	5	2	5								1	0
80	CANYON-23RD	3	26,287	2	15			1	26,273						5	455
81	CANYON-BURNSIDE	10	353	9	351	1	1					1	1		14	2,062
82	CANYON-CANYON 13	9	248	9	248										2	13
83	CARVER-ALMOND	2	61	2	61										5	51
84	CARVER-CARVER 13	18	684	15	604	5	141					3	80		10	25
85	CARVER-NORTH	6	849	5	842							1	7		2	7
86	CARVER-RIVERBEND	4	493	2	451							2	41			
87	CARVER-SOUTH	2	7	2	7	1	3								1	1
88	CARVER-WOODS	11	483	8	473	1	1					3	10		8	86
89	CEDAR HILLS-CEDAR HILLS 13															
90	CEDAR HILLS-LEAHY	18	1,313	17	1,264	3	65					1	49		32	328
91	CEDAR HILLS-SHOPPING CENTER	4	48	3	40						1	8			25	594
92	CEDAR HILLS-SKYLINE															
93	CEDAR HILLS-ST VINCENT														2	56
94	CEDAR HILLS-SYLVAN	9	504	7	357	1	34					2	147		56	1,075
95	CENTENNIAL-BARKER															
96	CENTENNIAL-BRAECROFT	15	902	13	898	5	145				1	2	1	2	9	180
97	CENTENNIAL-CENTENNIAL 13	24	7,795	18	907	1	20					6	6,888		13	893
98	CENTENNIAL-TREELAND	15	1,945	11	303	2	103					4	1,642		4	270
99	CLACKAMAS-EVELYN	3	47	2	20	1	14					1	27		3	13
100	CLACKAMAS-GLADSTONE	22	5,978	17	528	2	6					5	5,450		11	141
101	CLACKAMAS-JENNIFER	9	2,074	9	2,074	1	2								1	29
102	CLACKAMAS-TOLBERT	10	4,318	6	75	1	1					4	4,243		5	1,225
103	CLAXTAR-CLAXTAR 13	4	327	1	1					2	229	1	97			
104	CLAXTAR-HAYESVILLE	7	2,142	5	573	2	142			2	1,569				2	27
105	CLAXTAR-RIDGE	18	1,851	15	881	2	6			2	968	1	2		2	36
106	COFFEE CREEK-FREEMAN	2	40	2	40	1	3								2	14
107	COFFEE CREEK-HOLIDAY	3	402	2	137							1	265		2	45
108	COLTON-DHOOGHE	9	355	6	117	3	42					3	238		9	41

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2021 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
109 COLTON-GRAYS HILL	14	215	14	215	5	73									16	47
110 CORNELIUS-ADAIR	7	900	5	22									2	878		
111 CORNELIUS-CORNELIUS 13	18	5,671	14	3,929	3	2,529							4	1,741	8	15
112 CORNELIUS-VERBOORT	11	358	9	304	3	291							2	54	6	42
113 CORNELL-BLUFFS	9	832	9	832	4	305									13	298
114 CORNELL-SALTZMAN	4	2,700	3	2,694									1	6	4	48
115 CORNELL-WESTLAWN	12	5,889	12	5,889											10	167
116 CULVER-CULVER 13	1	2	1	2											1	2
117 CULVER-GAFFIN	1	7	1	7												
118 CULVER-SANYO #1																
119 CURTIS-11077															1	31
120 CURTIS-CURTIS 13	2	178	2	178	1	20									6	200
121 DAYTON-EAST	16	1,038	14	258	7	163					1	291	1	489	53	385
122 DAYTON-LAFAYETTE	13	1,831	12	1,824	8	634							1	7	49	426
123 DAYTON-SOUTHWEST	15	548	9	178	5	80							6	370	14	53
124 DELAWARE-DENVER	3	9	3	9											5	39
125 DELAWARE-INTERSTATE	3	12	3	12	2	7									4	244
126 DELAWARE-LOMBARD	12	3,428	8	715	2	220					1	31	3	2,682	17	315
127 DENNY-EAST	8	631	8	631											9	693
128 DENNY-NORTH	2	45	2	45	1	3										
129 DENNY-SOUTH	13	1,784	12	1,782									1	1	3	44
130 DENNY-WEST	21	2,607	20	2,602									1	4	1	7
131 DILLEY-CARPENTER																
132 DILLEY-DILLEY 13	5	749	5	749	2	3									20	77
133 DUNNS CORNER-DUNNS CORNER 13	20	1,971	17	1,942	3	46							3	30	25	187
134 DUNNS CORNER-KELSO	4	106	3	9									1	97	3	24
135 DURHAM-BONITA	2	5											2	5	1	0
136 DURHAM-BRIDGEPORT	10	948	9	793	3	130							1	156	6	134
137 DURHAM-DURHAM 13	4	32	3	30									1	2	1	1
138 DURHAM-POOPLANT																
139 DURHAM-SATTLER	11	3,118	10	3,116									1	2	4	20
140 DURHAM-SOUTH	1	18	1	18											1	0
141 E-11021																
142 E-11039																
143 E-11040	2	4	1	3									1	2	1	1
144 E-11041	1	3	1	3	1	3										

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2021 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-11042	1	6	1	6												
146 E-11043	3	14	3	14	1	4										
147 E-11047																
148 E-11064																
149 E-13139	1	35										1	35			
150 E-13140	3	54	2	50	2	50						1	3			
151 E-13141	6	932										6	932			
152 E-13142	1	7	1	7	1	7										
153 E-13144	4	62	3	61								1	2	11	125	
154 E-13145	1	47										1	47	2	129	
155 E-13148	4	12,287	4	12,287											1	1,323
156 E-13149																
157 E-13150	2	55	1	6	1	6						1	49	2	393	
158 EAGLE CREEK-BARTON	15	220	14	218	3	9						1	2	30	128	
159 EAGLE CREEK-RIVER MILL	24	4,168	15	352								9	3,817	19	199	
160 EASTPORT-76TH	10	1,168	7	197	1	5						3	971	1	13	
161 EASTPORT-PLAZA	7	128	7	128	4	112								6	670	
162 ELMA-ELMA 13	5	317	5	317	2	40								2	7	
163 ELMA-FOUR CORNERS	12	1,269	12	1,269	4	188								3	63	
164 ELMA-HUDSON	5	4,286	4	378								1	3,908	2	7	
165 ELMA-STATE	3	1,937	1	1	1	1						2	1,936	1	26	
166 ESTACADA-ESTACADA 13	28	981	23	898	8	128					1	1	4	81	61	728
167 ESTACADA-FARADAY	20	312	15	284	4	158					1	10	4	18	60	445
168 ESTACADA-NORTH FORK	29	6,537	22	3,984	3	231							7	2,554	103	986
169 FAIRMOUNT-CANDALARIA	13	818	11	677	1	2							2	141	16	568
170 FAIRMOUNT-MISSION	8	353	6	337	2	162							2	16	2	46
171 FAIRVIEW-CLEAR CREEK																
172 FAIRVIEW-FAIRVIEW 13	6	1,619	4	1,320	1	1,256							2	298	21	1,365
173 FAIRVIEW-KENNEL CLUB	2	9	2	9										3	62	
174 FAIRVIEW-TROUTDALE	14	2,351	14	2,351	1	29								19	257	
175 FAIRVIEW-WOOD VILLAGE	4	1,585	2	398									2	1,188		
176 FARGO-FARGO 13	15	1,109	14	1,107	3	10							1	2	11	46
177 GALES CREEK-GALES CREEK 13	17	10,132	9	61	3	9			4	8,945			4	1,125	13	67
178 GARDEN HOME-MCKAY	8	87	7	86									1	1	14	122
179 GARDEN HOME-METZGER	20	712	20	712											11	251
180 GLENCOE-GLISAN	13	530	11	511	3	38							2	19	28	627

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2021 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	GLENCOE-PROVIDENCE	1	2	1	2											
182	GLENCOE-SUNNYSIDE	4	1,161	1	688								3	473	10	211
183	GLENCULLEN-BRIDLEMILE	14	581	13	510	2	252						1	72	7	29
184	GLENCULLEN-SUNSET	8	351	8	351										9	118
185	GLENDOVEER-13596	2	33	2	33											
186	GLENDOVEER-13597	7	248	4	165	3	143						3	83	6	35
187	GLENDOVEER-13598	15	298	11	219	2	104						4	79	8	69
188	GLENDOVEER-13599	7	161	7	161										10	54
189	GLENDOVEER-CLIFFGATE	9	134	8	76	1	31						1	58	4	14
190	GLENDOVEER-NORTHEAST	5	73	3	39								2	34	8	123
191	GLISAN-FAB 2A															
192	GLISAN-UTILITY 1B															
193	GORMLEY-MCMINNVILLE WL	1	29										1	29	6	8
194	GRAND RONDE-AGENCY	3	1,270	1	15								2	1,255	17	44
195	GRAND RONDE-FORTHILL	12	456	11	446	7	192			1	10					
196	HARBORTON-BURLINGTON	17	3,873	14	1,293	2	8						3	2,580	70	1,046
197	HARBORTON-HARBORTON 13															
198	HARBORTON-LINNTON	3	38	3	38	1	22								4	24
199	HARMONY-HARMONY 13	5	69	5	69	2	12								3	166
200	HARMONY-INTERNATIONAL	2	7	1	4								1	3	18	583
201	HARMONY-LAKE	3	492	1	16			2	476						1	85
202	HARMONY-LINWOOD	15	500	15	500										12	68
203	HARMONY-MILWAUKIE	13	1,061	12	1,038	3	10						1	23	10	317
204	HARMONY-THIESSEN	9	2,159	7	483	3	146	1	1,675	1	1					
205	HARRISON-DAVIS														2	167
206	HARRISON-HARRISON 13	6	361	3	14	1	11						3	347		
207	HARRISON-IVON	2	25	2	25										5	646
208	HAYDEN ISLAND-MAINLAND	9	185	8	184	1	2						1	1		
209	HAYDEN ISLAND-NORTH SHORE	11	7,470	10	7,407								1	63	13	762
210	HAYDEN ISLAND-SOUTH SHORE	3	234	2	227								1	7	1	18
211	HEMLOCK-FREMONT	10	1,458	8	1,453								2	5		
212	HEMLOCK-HEMLOCK 13	14	3,992	12	3,857	1	27						2	135	4	58
213	HEMLOCK-MASON	5	5,969	2	3,098	1	88						3	2,871	1	5
214	HILLCREST-CASCADIA															
215	HILLCREST-HILLCREST 13	3	15	3	15											
216	HILLCREST-SOUTH															

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
217 HILLSBORO-DAIRY CREEK	6	17	5	15	1	4							1	2	6	51
218 HILLSBORO-DENNIS	7	61	4	53									3	8	3	18
219 HILLSBORO-JACKSON	7	1,949	4	50	1	4							3	1,899	32	568
220 HILLSBORO-LAUREL	14	1,913	13	1,910	4	194							1	3	35	195
221 HILLSBORO-SCHOLLS	1	15	1	15											3	64
222 HOGAN NORTH-BRIGADOON	4	26	4	26	1	3									4	72
223 HOGAN NORTH-HOGAN NORTH 13	12	3,918	12	3,918	2	14									18	644
224 HOGAN NORTH-LINKS	39	4,743	37	4,597	5	184							2	146	14	103
225 HOGAN NORTH-SALQUIST	11	697	11	697	3	79									6	51
226 HOGAN SOUTH-CLEVELAND	8	335	3	269									5	66	2	20
227 HOGAN SOUTH-LAWRENCE	14	527	12	454									2	73	46	928
228 HOGAN SOUTH-MAIN	4	49	4	49	2	37									1	3
229 HOGAN SOUTH-PAROPA	15	167	11	134	1	1							4	33	12	342
230 HOGAN SOUTH-WALLULA	6	50	3	17						1	1		2	33	6	428
231 HOLGATE-BYBEE	9	871	8	174	1	51							1	697	7	288
232 HOLGATE-GIDEON	3	5	2	3						1	2				1	4
233 HOLGATE-HOLGATE 13	3	145	3	145	1	18									5	69
234 HOLGATE-KENILWORTH	7	35	7	35	1	7									4	27
235 HOLGATE-RHONE															4	650
236 HUBER-BANY	10	405	7	352						1	28		2	26	2	36
237 HUBER-FARMINGTON	7	319	7	319											9	393
238 HUBER-HUBER 13	9	2,132	6	142			1	1,720					2	269	25	543
239 HUBER-KINNAMAN	19	2,380	18	2,375	3	449							1	4	16	274
240 HUBER-MARYVILLE	23	11,541	20	2,109			1	1,661		1	7,559		1	213	12	382
241 INDIAN-KEIZER	7	3,633	3	201			1	3,429		2	2		1	1	2	6
242 INDIAN-LABISH	31	1,579	24	1,362	14	242				1	12		6	205	9	804
243 INDIAN-NORTH	14	159	9	87	5	42							5	72	5	30
244 INDIAN-STATION	3	8	3	8											5	186
245 INDIAN-WEST	12	23,398	11	9,604	3	513							1	13,794	6	8,388
246 ISLAND-13180	4	61	4	61	1	3									17	281
247 ISLAND-13187	9	622	8	613									1	9	26	668
248 ISLAND-13188	16	1,025	15	1,013	6	449							1	13	9	85
249 ISLAND-ISLAND 13	1	41	1	41											11	525
250 JENNINGS LODGE-ADDIE	10	87	10	87	4	64									8	131
251 JENNINGS LODGE-JENNINGS 13	13	185	11	184	3	108				1	1		1	1	15	432
252 JENNINGS LODGE-MELDRUM	9	204	7	202	2	44							2	2	7	236

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2021 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
253 JENNINGS LODGE-OAK GROVE	8	572	7	570	1	247							1	1	5	68
254 JENNINGS LODGE-WEBSTER	12	1,673	9	1,537	2	909					1	112	2	24	6	151
255 KELLEY POINT-KELLEY POINT 13																
256 KELLEY POINT-LEDBETTER																
257 KELLEY POINT-MARINE	2	199	2	199												
258 KELLEY POINT-SIMMONS																
259 KELLY BUTTE-BINNSMEAD	19	6,296	11	101	1	23							8	6,194	6	309
260 KELLY BUTTE-FAIRLAWN	4	65	4	65											2	19
261 KELLY BUTTE-MALL 205	19	3,205	18	2,606	5	70							1	599	9	90
262 KELLY BUTTE-MCGREW	21	3,997	18	1,611	1	19							3	2,385	9	146
263 KING CITY-BULL MOUNTAIN	5	2,125	4	2,123									1	2		
264 KING CITY-FISCHER	7	534	7	534											1	4
265 KING CITY-HAZELBROOK	2	5											2	5		
266 KING CITY-NORTH	7	721	7	721	1	6									2	35
267 KING CITY-SUMMERFIELD	7	824	7	824											1	1
268 LAKE LABISH-LAKE LABISH																
269 LELAND-BEAVERCREEK	21	5,754	14	865	5	365							7	4,890	30	54
270 LELAND-CARUS	37	5,434	30	4,826	8	172							7	608	50	109
271 LELAND-KELM	10	3,381	7	3,365	2	3,208							3	16	10	72
272 LENTS-13101	8	879	4	116									4	763	4	28
273 LENTS-HAPPY VALLEY	10	885	7	804	2	87							3	81	2	2
274 LENTS-MT SCOTT																
275 LENTS-NORTH	4	48	1	3									3	45	4	110
276 LIBERAL-LIBERAL 13	28	4,543	28	4,543	7	20									2	195
277 LIBERAL-SAWMILL																
278 LIBERTY-BROWNING	7	405	7	405	1	6										
279 LIBERTY-LONE OAK	9	596	8	591									1	5	4	19
280 LIBERTY-MORNINGSIDE	15	4,848	12	682									3	4,166	3	3
281 LIBERTY-ROSEDALE	34	14,556	27	743	5	406							7	13,814	8	49
282 LIBERTY-SKYLINE	7	877	7	877	1	32									17	128
283 LIBERTY-VISTA	12	3,430	10	3,261	2	54							2	169	25	895
284 MAIN-AIRPORT	16	1,406	16	1,406	2	30									28	1,108
285 MAIN-BENTLEY	18	1,792	18	1,792	3	56									2	37
286 MAIN-EXPRESS	11	8,254	11	8,254	2	7,598										
287 MAIN-GRIFFIN OAKS	3	58	3	58												
288 MAIN-JONES FARM																

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2021 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-RIVER	19	442	18	394	1	3							1	47	2	41
290 MARKET-ENGLEWOOD	13	144	12	138	2	6							1	6	6	26
291 MARKET-FAIRGROUNDS	8	152	6	90	3	70							2	62		
292 MARKET-HAWTHORNE	4	46	4	46	2	30									10	421
293 MARKET-PARK	2	5	2	5	1	3										
294 MARQUAM-MCCALL #10 NETWORK																
295 MARQUAM-MCCALL #11 NETWORK																
296 MARQUAM-MCCALL #12 NETWORK																
297 MARQUAM-MCCALL #9 NETWORK																
298 MARQUAM-MEADE	3	3,463	3	3,463											1	24
299 MARQUAM-ORANGE																
300 MARQUAM-PORTER	1	5	1	5												
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	6	16	6	16	2	9										
308 MCCLAIN-FRONT	6	29	6	29	2	6										
309 MCCLAIN-HOLLYWOOD	4	45	4	45											3	23
310 MCGILL-HORSETAIL	9	604	7	579	1	2							2	24	4	13
311 MCGILL-LATOURELL	7	641	6	551									1	90	3	74
312 MCGILL-LSI AIR 1A																
313 MCGILL-TOKETEE																
314 MERIDIAN-65TH																
315 MERIDIAN-BORLAND																
316 MERIDIAN-CHILDS	2	88	2	88												
317 MERIDIAN-LAKEVIEW	1	5	1	5												
318 MERIDIAN-MERIDIAN 13	12	5,544	7	126									5	5,418	33	568
319 MERIDIAN-NYBERG															1	4
320 MERIDIAN-PILKINGTON	21	5,932	16	3,993	4	36					1	1	4	1,937	14	441
321 MERIDIAN-SAGERT	8	825	8	825	1	35									1	1
322 MIDDLE GROVE-BROWN	5	189	4	185									1	4	10	3,895
323 MIDDLE GROVE-CHEMEKETA	3	756	3	756												
324 MIDDLE GROVE-CORDON	36	11,622	33	4,325	8	63							3	7,296	25	327

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2021 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-SWEGLE	3	457	1	195									2	262	1	4
326 MIDDLE GROVE-WEST	5	4,442	3	4,433									2	9		
327 MIDWAY-DIVISION	11	1,009	9	854	1	15							2	154		
328 MIDWAY-DOUGLAS	27	870	20	544	5	203							7	325	19	624
329 MIDWAY-LYNCH	18	12,641	14	12,547	3	435							4	94	8	125
330 MIDWAY-POWELLHURST	24	6,113	19	4,242	3	15							5	1,870	2	9
331 MILL CREEK-EASTLAND	3	48	3	48	2	11									3	3
332 MILL CREEK-KUEBLER	3	252	3	252												
333 MILL CREEK-MILL CREEK 13	1	40	1	40											1	6
334 MOLALLA-BUCKAROO	6	493	5	446	2	13							1	48	7	64
335 MOLALLA-FOREST	13	87	11	83	4	30							2	4	3	9
336 MOLALLA-MARQUAM	27	6,795	20	808	3	58					1	2	6	5,985	12	97
337 MOLALLA-YODER	15	4,672	8	76	3	53							7	4,596	27	117
338 MT ANGEL-EAST	7	408	6	405	3	392							1	3	1	3
339 MT ANGEL-WEST	35	1,748	29	1,184	11	44					1	2	5	562	7	15
340 MT PLEASANT-CLAIRMONT	14	2,007	13	2,005	3	804							1	1	15	260
341 MT PLEASANT-MT VIEW	13	3,017	9	2,981	3	2,920					1	17	3	19	5	25
342 MT PLEASANT-RIVERCREST	5	563	4	563	2	176							1	1		
343 MT PLEASANT-SOUTH END	18	2,135	16	2,128	3	793							2	7	6	123
344 MULINO-NORTH	6	29	2	18									4	11	3	14
345 MULINO-SOUTH	6	81	6	81											6	6
346 MULTNOMAH-13176	9	274	9	274											20	131
347 MULTNOMAH-13177	9	9,846	7	9,834	1	2							2	12	4	121
348 MULTNOMAH-13181	19	1,284	17	437	6	281							2	847	11	138
349 MULTNOMAH-MULTNOMAH 13	2	8	2	8											7	11,242
350 MURRAYHILL-KINTON	7	1,560	3	473									4	1,087		
351 MURRAYHILL-MURRAYHILL 13	8	3,031	7	3,026							1	4				
352 MURRAYHILL-REUSSER	2	201	2	201	1	35										
353 MURRAYHILL-TEAL	2	355	2	355											1	178
354 NEWBERG-CHEHALEM	34	19,702	19	290	11	127					5	7,986	10	11,425	146	920
355 NEWBERG-DUNDEE	19	678	17	649	5	264							2	28	99	1,502
356 NEWBERG-HOOVER PARK	3	431	3	431	1	373									13	509
357 NEWBERG-NORTH COLLEGE	9	143	8	142	2	77							1	1	25	133
358 NORTH MARION-CROSBY	1	49											1	49	1	35
359 NORTH MARION-FRONT	3	335	3	335											2	3
360 NORTH MARION-HUBBARD	9	91	9	91	2	4									7	57

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2021 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 MARION-MCLAREN	14	1,379	10	315	2	4							4	1,064	3	124
362 NORTH PLAINS-MASON HILL	25	2,506	15	1,336	7	1,242					1	2	9	1,167	31	135
363 NORTH PLAINS-NORTH PLAINS 13	12	2,253	9	860	2	28							3	1,394	31	363
364 NORTHERN-11009	8	248	7	243	2	90							1	6	15	106
365 NORTHERN-11016	3	15	2	13	1	5							1	2	2	28
366 NORTHERN-11071	7	85	5	78	1	15					1	3	1	3	19	597
367 OAK GROVE-LAKE HARRIET	3	25	2	23	2	23							1	2		
368 OAK GROVE-WHITE WATER																
369 OAK HILLS-FIVE OAKS	3	1,735	3	1,735											2	16
370 OAK HILLS-GREENBRIER	1	51	1	51												
371 OAK HILLS-OAK HILLS 13	2	7	1	3									1	5		
372 OAK HILLS-SOMERSET	1	5	1	5												
373 OAK HILLS-WALKER	4	292	4	292												
374 OREGON STEEL-OREGON STEEL 13																
375 ORENCO-231ST																
376 ORENCO-AMBERGLEN																
377 ORENCO-BASELINE	3	5	3	5	1	2									2	30
378 ORENCO-ORENCO 13															1	12
379 ORENCO-PRIMATE	4	3,292	4	3,292												
380 ORENCO-WILKINS																
381 ORIENT-BARLOW	14	547	8	48	1	1							6	498	12	27
382 ORIENT-ORIENT 13	11	40	11	40	4	8									4	11
383 ORIENT-OXBOW	18	3,820	16	3,805	6	71							2	16	24	285
384 OSWEGO-IRON MOUNTAIN	3	1,515	1	8			1	1,353					1	153	7	61
385 OSWEGO-MARYLHURST	6	47	5	45									1	2	28	1,078
386 OSWEGO-PALATINE	8	149	8	149											33	75
387 OSWEGO-STAFFORD	7	1,832	6	216			1	1,616							9	123
388 OXFORD-FAIRVIEW	13	158	11	135	4	10							2	22	2	37
389 OXFORD-LEE	7	9,188	4	248	3	240							3	8,940		
390 OXFORD-MADRONA																
391 OXFORD-OXFORD 13	6	201	6	201	2	29									2	14
392 OXFORD-RURAL	2	4	2	4	1	4										
393 OXFORD-SHELTON	5	64	5	64	2	20									1	0
394 PELTON-ROUND BUTTE																
395 PENINSULA PARK-OCKLEY GREEN	2	4	2	4	1	2									3	16
396 PENINSULA PARK-PENINSULA PARK	5	97	3	63	1	5					1	2	1	32	3	40

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2021 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-BAXTER	13	1,463	11	1,452	1	13							2	11	3	10
398 PLEASANT VALLEY-CLATSOP	9	371	7	366	3	159					2	5			2	11
399 PLEASANT VALLEY-MOON	8	1,866	8	1,866											70	950
400 PLEASANT VALLEY-PLEASANT 13	25	1,986	22	1,882	2	522							3	104	28	125
401 PLEASANT VALLEY-SUN	15	4,783	12	3,705	3	403					1	146	2	932	46	187
402 PORTLAND WATER-PUMPING																
403 PORTSMOUTH-CARBIDE	6	287	5	273									1	14	23	516
404 PORTSMOUTH-DISPOSAL																
405 PORTSMOUTH-WILLIS	6	8,032	3	301							1	5	2	7,726	19	354
406 PROGRESS-GREENBURG	5	158	5	158											3	1
407 PROGRESS-HALL															2	32
408 PROGRESS-ROBINSON	3	2,383	3	2,383												
409 PROGRESS-SAWYER	1	4	1	4												
410 PROGRESS-WASHINGTON SQ #1																
411 PROGRESS-WASHINGTON SQ #2																
412 RALEIGH HILLS-DOGWOOD	6	74	5	53	1	6							1	21	17	319
413 RALEIGH HILLS-MONTCLAIR	9	632	8	628	1	1							1	3	12	264
414 RALEIGH HILLS-OLESON	12	2,789	12	2,789	2	173									6	220
415 RAMAPO-EMERALD	5	1,913	3	9									2	1,904	3	31
416 RAMAPO-GILBERT	12	5,125	9	5,061	1	10							3	63	21	175
417 RAMAPO-RAMAPO 13	20	4,877	18	4,437	4	34					1	1	1	438	15	245
418 REDLAND-HENRICI	23	473	19	423	2	5							4	51	9	235
419 REDLAND-REDLAND 13	35	17,366	26	3,969	8	128	1	5,514					8	7,883	42	357
420 REEDVILLE-AUGUSTA	13	5,222	11	634									2	4,589	6	144
421 REEDVILLE-BLANTON	13	1,260	11	1,194	1	11					1	42	1	23	31	827
422 REEDVILLE-HAZELDALE	13	234	12	172	3	16							1	62	15	129
423 REEDVILLE-INTEL #5	1	44							1	44						
424 REEDVILLE-TV	17	14,801	12	2,149									5	12,652		
425 RIVERGATE SOUTH-11010																
426 RIVERGATE SOUTH-11011	5	39	5	39	2	35									7	263
427 RIVERGATE SOUTH-PEARCY															1	4
428 RIVERGATE SOUTH-SWIFT	2	35	2	35												
429 RIVERVIEW-FULTON	6	1,541	3	734	2	115							3	807	9	114
430 RIVERVIEW-MACADAM	10	7,877	9	7,874	1	2							1	2		
431 RIVERVIEW-TERWILLIGER	5	319	5	319	3	309									5	24
432 ROCK CREEK-185TH	3	146	3	146												

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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
433 ROCK CREEK-FOREST PARK	7	861	6	186	2	7							1	675	8	48
434 ROCK CREEK-NEWBERRY	17	2,138	10	1,115	1	1					1	1	6	1,022	36	148
435 ROCKWOOD-AIRPORT																
436 ROCKWOOD-BOEING																
437 ROCKWOOD-INDUSTRIAL	1	2	1	2											1	1
438 ROCKWOOD-REYNOLDS	8	239	6	213									2	26	10	628
439 ROCKWOOD-ROCKWOOD 13	14	1,201	12	1,026	1	4							2	174	27	782
440 ROCKWOOD-WILKES	1	8	1	8												
441 ROSEMONT-HIDDEN SPRINGS	14	1,504	10	1,488	2	724							4	16	7	46
442 ROSEMONT-MOSSY BRAE	5	630	5	630											14	140
443 ROSEMONT-OVERLOOK	17	1,216	14	1,128	1	29							3	89	24	534
444 ROSEWAY-ALEXANDER	3	256	3	256	1	240									2	15
445 ROSEWAY-ESPLANADE	12	1,352	10	594	2	40							2	758	2	26
446 ROSEWAY-ROSEWAY 13	5	7,363	1	35									4	7,329	1	4
447 ROSEWAY-SOHI	3	64	3	64												
448 RUBY-CAR LINE	7	534	6	492	2	15							1	42	12	419
449 RUBY-JUNCTION	14	1,275	12	1,258	2	155							2	17	4	64
450 SALEM-13260																
451 SALEM-13261																
452 SALEM-13262															2	88
453 SALEM-13263																
454 SALEM-13264																
455 SALEM-UNION																
456 SANDY-362ND	22	8,387	17	1,556	2	4							5	6,831	20	109
457 SANDY-BLUFF	6	405	6	405	3	316									4	12
458 SANDY-SANDY 13	18	2,010	18	2,010	2	40									17	675
459 SANDY-WILDCAT	14	459	12	447	2	57							2	13	39	240
460 SCAPPOOSE-SAUVIE ISLAND	1	4	1	4												
461 SCHOLLS FERRY-KEMMER	5	232	5	232											8	64
462 SCHOLLS FERRY-RAINBOW	11	437	11	437	2	24									4	18
463 SCHOLLS FERRY-ROY ROGERS	12	736	11	733									1	3	9	54
464 SCOGGINS-CHERRY GROVE	9	235	9	235	3	7									6	31
465 SCOGGINS-LAURELWOOD	13	2,477	13	2,477	4	10									20	88
466 SCOTTS MILLS-SCOTTS MILLS 13	36	16,552	31	5,310	10	164			1	2,512			4	8,730	32	197
467 SELLWOOD-KELLOGG PARK	19	4,326	15	846	5	754							4	3,480	1	85
468 SELLWOOD-SELLWOOD 13	12	2,939	6	1,014									6	1,925	21	192

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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 SELLWOOD-WAVERLY	2	101	2	101	2	101									12	425
470 SHERIDAN-EAST	12	1,755	9	74	3	53							3	1,681	5	18
471 SHERIDAN-KADELL	13	1,152	9	119	1	4							4	1,033	4	42
472 SHUTE-BIRCH																
473 SHUTE-LINDE 1																
474 SHUTE-MAPLE																
475 SHUTE-PINE																
476 SHUTE-RONLER 1																
477 SHUTE-RONLER 2																
478 SILVERTON-NORTH	22	929	15	152	5	73							7	777	10	308
479 SILVERTON-SOUTH	19	2,725	15	2,081	7	1,178							4	643	92	448
480 SILVERTON-WEST	42	4,746	31	499	13	49							11	4,247	133	752
481 SIX CORNERS-13359	20	10,114	13	759	1	3							7	9,355	24	126
482 SIX CORNERS-13360	4	540	2	34	1	3	1	476					1	29		
483 SIX CORNERS-BORCHERS	7	208	6	205						1	4				6	13
484 SIX CORNERS-CHAPMAN	6	122	5	117									1	5	18	180
485 SIX CORNERS-SIX CORNERS 13	9	500	6	460									3	40	8	57
486 SP NEWSPRINT-NEWBERG																
487 SPRING HILL-SPRING HILL																
488 SPRINGBROOK-FERNWOOD	12	2,830	10	2,819	2	12							2	12	5	34
489 SPRINGBROOK-ST PAUL	14	738	12	707	5	26							2	31	3	23
490 SPRINGBROOK-VILLA	8	1,171	8	1,171	1	97									4	1
491 SPRINGBROOK-ZIMRI	14	844	13	835	5	211							1	9	13	66
492 ST HELENS-HOULTON																
493 ST LOUIS-EAST	10	3,328	8	3,323						1	3		1	2	6	72
494 ST LOUIS-NORTH	21	7,936	20	7,929	9	7,792							1	7	4	9
495 ST LOUIS-WEST	28	690	25	440	8	31							3	250	24	181
496 ST MARYS EAST-BETHANY																
497 ST MARYS EAST-ELMONICA	13	4,105	12	4,080									1	25	3	31
498 ST MARYS EAST-JENKINS																
499 ST MARYS EAST-MILLIKAN	9	2,354	5	330	1	296							4	2,025		
500 ST MARYS EAST-ST MARYS 13																
501 STIMSON LUMBER-FORESTEX																
502 SULLIVAN-ROBINWOOD	13	282	11	228	4	31							2	54	8	1,679
503 SULLIVAN-SALAMO	2	466	1	450									1	16	3	12
504 SULLIVAN-SUSSEX	5	573	5	573											7	87

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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 SULLIVAN-TANNER	2	3,232	1	3,217									1	14	8	34
506 SULLIVAN-WILLAMETTE	5	260	5	260												
507 SULZER PUMPS-115B																
508 SUMMIT-GOVERNMENT CAMP	3	321	3	321											2	74
509 SUMMIT-MEADOWS	1	19	1	19	1	19									1	13
510 SUMMIT-SUMMIT 13	8	1,010	7	848									1	163	5	158
511 SUNSET-BLANCHET																
512 SUNSET-COLFAX	1	411									1	411			2	12
513 SUNSET-CORNELL																
514 SUNSET-DORION																
515 SUNSET-IDTA															1	29
516 SUNSET-IDTB																
517 SUNSET-IDTC															1	142
518 SUNSET-INTEL D1B1															1	509
519 SUNSET-INTEL D1X1																
520 SUNSET-KOMATSU #2																
521 SUNSET-KOMATSU #3																
522 SUNSET-LANE	1	24	1	24												
523 SUNSET-MCCALL															1	266
524 SUNSET-MEEK																
525 SUNSET-NIXON																
526 SUNSET-OLCOTT																
527 SUNSET-PAULING																
528 SUNSET-SPALDING															1	266
529 SUNSET-WHITMAN															1	4
530 SUNSET-YOUNG																
531 SWAN ISLAND-BASIN															1	2
532 SWAN ISLAND-DOLPHIN																
533 SWAN ISLAND-FREIGHTLINER	1	6											1	6		
534 SWAN ISLAND-GOING	3	15	3	15	2	11										
535 SWAN ISLAND-SHIPYARD	1	4	1	4												
536 SYLVAN-BARNES	3	86	3	86	1	49									20	194
537 SYLVAN-PATTON	21	3,656	18	3,634	5	753					1	16	2	6	54	849
538 TABOR-82ND	8	1,355	4	28									4	1,326	4	30
539 TABOR-HOSPITAL	1	1											1	1	6	13
540 TABOR-TABOR 13	7	174	7	174	1	152									10	177

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

2021 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-DUCKS															
542	TEKTRONIX-HOCKEN	4	961	4	961											
543	TEKTRONIX-MEADOW	14	3,086	10	294	1	1				1	4	3	2,788	31	1,022
544	TEKTRONIX-NORTH															
545	TEKTRONIX-SHANNON	7	3,339	5	3,334								2	5	16	465
546	TEKTRONIX-SOUTH	12	724	10	714								2	10	1	10
547	TEKTRONIX-TEKTRONIX 13	1	3	1	3										2	67
548	TEKTRONIX-TERMAN															
549	TEKTRONIX-WEST															
550	TEMP B-SOUTH															
551	TEMP C-R3006															
552	TEMP H-NEPTUNE	2	25	1	24	1	24						1	1	1	518
553	TEMP H-SATURN															
554	TIGARD-13336	1	132	1	132											
555	TIGARD-13337	6	357	6	357	3	136								1	19
556	TIGARD-13361	9	621	7	54								2	567	3	14
557	TIGARD-13362	11	755	10	689								1	66	20	194
558	TIGARD-TIGARD 13	5	609	5	609										4	40
559	TOWN CENTER-LAWNFIELD	5	38	4	11								1	27	1	5
560	TOWN CENTER-MONTEREY	4	135	2	26	1	20						2	109	2	38
561	TOWN CENTER-NORTH															
562	TOWN CENTER-PRECISION CASTPARTS															
563	TOWN CENTER-SOUTH														1	5
564	TOWN CENTER-SUNNYBROOK	2	19										2	19		
565	TOWN CENTER-VALLEY VIEW	2	4	1	1								1	3		
566	TROJAN-EAST															
567	TUALATIN-AVERY	16	8,525	13	8,158								3	367	19	159
568	TUALATIN-CIPOLE	3	784	3	784	1	2								2	7
569	TUALATIN-HERMAN	2	4	1	1								1	4		
570	TUALATIN-IBACH	6	408	6	408	2	219								6	1,036
571	TUALATIN-LEVETON	1	26	1	26										3	73
572	TUALATIN-TUALATIN 13	3	31	3	31	1	8									
573	TURNER-CASCADE	5	12	4	11	2	6						1	1	5	8
574	TURNER-TURNER 13	19	2,071	15	225	6	35						4	1,846	13	184
575	TWILIGHT-BREMER	19	4,461	13	186	3	17						6	4,275	11	48
576	UNIONVALE-UNIONVALE 13	38	3,317	33	349	18	108			1	2,253		4	715	24	599

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

2021 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 UNIVERSITY-MILL	3	25	2	6									1	19		
578 UNIVERSITY-TRADE	6	872	5	868									1	4	3	384
579 URBAN-BARBUR	1	105	1	105	1	105									8	312
580 URBAN-CAMPUS																
581 URBAN-CORBETT	6	615	6	615											1	1
582 URBAN-GAINES	2	17	2	17	1	11										
583 URBAN-GIBBS																
584 URBAN-KELLY															2	4
585 URBAN-LANDING																
586 URBAN-MEDICAL																
587 URBAN-OHSU																
588 WACKER-WACKER 1																
589 WACONDA-NORPAC															1	38
590 WACONDA-RIVER	12	138	10	117	6	14							2	21	8	44
591 WACONDA-WACONDA 13	43	706	40	473	17	117							3	233	16	8,670
592 WALLACE-WALLACE 13	23	4,416	20	1,527	3	307	1	2,886					2	3	12	32
593 WALLACE-WILLOW LAKE	5	2,539	4	177	1	143	1	2,362							1	1
594 WELCHES-WELCHES 13	17	860	16	858	4	701							1	3	28	292
595 WELCHES-ZIG ZAG	21	3,057	20	493	2	59	1	2,564							36	4,503
596 WEST PORTLAND-72ND	5	134	5	134	1	39									7	315
597 WEST PORTLAND-NORTH	9	342	7	275	3	190							2	67	23	338
598 WEST PORTLAND-PACIFIC	13	1,868	13	1,868	1	19									13	325
599 WEST PORTLAND-WEST PORTLAND 13	6	8,688	6	8,688	2	224									2	20
600 WEST UNION-ALOCLEK																
601 WEST UNION-CORNELIUS PASS	5	1,427	4	1,426							1	1			6	35
602 WEST UNION-JACOBSON																
603 WEST UNION-WEST UNION 13	10	1,161	9	1,146									1	15	3	33
604 WILLAMINA-BRIDGE	11	367	10	222	3	106							1	145	3	8
605 WILLAMINA-BUELL	19	915	15	337	3	31							4	578	4	24
606 WILLAMINA-LUMBER																
607 WILLBRIDGE-SALMONBERRY	1	5	1	5												
608 WILLBRIDGE-WILDWOOD																
609 WILSONVILLE-BOECKMAN	17	252	13	234	2	4							4	18	5	15
610 WILSONVILLE-CHARBONNEAU	19	10,674	14	3,459	2	15					1	7,110	4	104	8	492
611 WILSONVILLE-CITY	11	4,359	9	2,570									2	1,789	5	36
612 WILSONVILLE-MENTORTEK																

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

2021 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
613 WILSONVILLE-PARKWAY	4	54	4	54												
614 WILSONVILLE-VILLEBOIS	2	36	1	6	1	6							1	30	2	5
615 WILSONVILLE-WEST	16	1,336	10	931									6	405	1	1
616 WOODBURN-CANNERY	11	5,929	7	4,814	2	4,184							4	1,114	1	5
617 WOODBURN-EAST	16	2,047	13	457	5	17							3	1,590		
618 WOODBURN-TOMLIN	15	524	14	523	2	25							1	1	3	34
619 WOODBURN-WEST	19	3,425	13	1,520	2	150							6	1,906	9	246
620 YAMHILL-CARLTON	25	1,912	19	378	12	60							6	1,534	15	95
621 YAMHILL-YAMHILL 13	13	817	9	581	4	59					1	4	3	232	57	249
Grand Totals:	4,597	870,492	3,749	445,055	798	64,389	16	54,281	12	16,477	49	23,933	771	330,745	4,724	118,876

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

2021 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	27													1	27						
2	ABERNETHY-OREGON CITY	15	71	2	18					1	11	2	8	4	13	6	22						
3	ABERNETHY-TRANSIT	1	10											1	10								
4	ABERNETHY-WASHINGTON	10	54							1	31	1	6	6	8	2	9						
5	ALDER-ANKENY	3	180							1	84			2	97								
6	ALDER-IRVING	3	6,736									1	10	1	5,125	1	1,601						
7	ALDER-LINCOLN	7	549									2	46	3	289	1	210	1	4				
8	ALDER-STARK	3	31	1	24							1	5	1	3								
9	ALDER-TAYLOR	4	209									1	1	2	4	1	204						
10	ALDER-YAMHILL	3	14							1	9	1	3	1	2								
11	AMITY-AMITY 13	13	59	1	2			1	2					3	20	7	13	1	21				
12	AMITY-BELLEVUE	18	128	3	23					5	50	1	4	1	2	8	49						
13	ARLETA-52ND	9	44									1	4	5	10	3	30						
14	ARLETA-FOSTER	3	293							2	220			1	73								
15	ARLETA-HAROLD	6	598									2	15	2	79	2	504						
16	ARLETA-POWELL	7	157											5	59	2	98						
17	ARLETA-STEELE	7	50	1	2							1	2	2	1	3	44						
18	BANKS-BANKS 13	7	131	1	29									2	73	4	29						
19	BANKS-CEDAR CANYON	16	1,686	1	3			1	2	2	73	2	18	6	1,523	3	64	1	3				
20	BARNES-BATTLE CREEK	7	1,730	2	78					1	369	2	749			2	535						
21	BARNES-BOONE	5	295	2	240			1	20	1	31			1	4								
22	BARNES-COMMERCIAL	8	295	3	209					2	82	1	2	1	1	1	1						
23	BARNES-SUNNYSIDE	11	2,490	7	1,373					1	4			2	1,105	1	8						
24	BEAVER-KB PIPELINE																						
25	BEAVERTON-ALLEN	8	1,229	4	920					1	230	1	10	1	40	1	27						
26	BEAVERTON-JAMIESON	3	586	2	579									1	8								
27	BEAVERTON-NORTHWEST	3	106							1	96	1	9	1	1								
28	BEAVERTON-WEST SLOPE	9	939	4	784	1	95	1	45	2	13			1	3								
29	BELL-BATTIN	4	56							1	9			1	0	2	47						
30	BELL-BRENTWOOD	2	14													1	7			1	7		
31	BELL-FLAVEL	8	126	1	7					4	106	1	2	1	8	1	3						
32	BELL-JOHNSON CREEK	2	3,058	1	37	1	3,021																
33	BELL-KENDALL	1	3											1	3								
34	BELL-KING	13	3,082									4	1,827	6	222	3	1,032						
35	BELL-SOUTHGATE	7	972	1	31							1	2	3	192	2	747						
36	BELL-WICHITA	5	1,521									2	168	2	27	1	1,327						
37	BETHANY-BURTON	5	826	2	3			1	101	1	268	1	454										
38	BETHANY-GERMANTOWN	4	98	1	6					2	74							1	17				
39	BETHANY-KAISER	2	52							2	52												
40	BETHANY-LAIDLAW	3	52							2	43			1	9								

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

2021 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	7	158	2	22			3	12	1	123			1	1								
42 BETHANY-THOMPSON	4	12	3	10			1	1														
43 BETHEL-FRUITLAND	13	547	6	419			2	105			3	18			2	4						
44 BETHEL-GEER	18	1,688			2	1,439	1	8	6	106	1	4	5	126	3	5						
45 BETHEL-MACLEAY	6	505	2	444			2	51					1	1	1	9						
46 BLUE LAKE-BLUE LAKE 13	5	377							4	228	1	149										
47 BLUE LAKE-SUNDIAL	6	50	2	22			1	15	2	10					1	4						
48 BLUE LAKE-TOYO TANSO	1	146	1	146																		
49 BOISE CASCADE-BOISE #1																						
50 BOONES FERRY-GOODALL	8	1,335	2	862							3	136	1	0	2	337						
51 BOONES FERRY-KRUSE																						
52 BOONES FERRY-LAKE GROVE	6	729	2	620							1	1	1	39	2	69						
53 BOONES FERRY-MOUNTAIN PARK	12	3,605	7	1,835			2	1,622	3	148												
54 BOONES FERRY-WEMBLEY PARK	10	1,947	2	23	2	1,004			1	29	3	888	2	4								
55 BORING-282ND	9	46	2	5					3	25	1	6	2	4	1	6						
56 BORING-CITY	25	735	4	172					7	64	4	62	5	112	5	325						
57 BRIGHTWOOD-BRIGHTWOOD 13	8	1,537							1	88	4	987	1	2	2	459						
58 BRIGHTWOOD-NORTH BANK	4	235	2	162			1	71			1	2										
59 BROOKWOOD-BORWICK	1	185	1	185																		
60 BROOKWOOD-BROOKWOOD 13	2	392					2	392														
61 BROOKWOOD-SUNRISE	6	1,381	2	1,052					2	304			1	1	1	24						
62 CANBY-13644	3	20							2	18			1	2								
63 CANBY-BUTTEVILLE	3	15	1	2					1	10					1	2						
64 CANBY-FILBERT																						
65 CANBY-ZIMMERMAN	15	456	3	260			1	22	1	26	2	7	3	11	5	130						
66 CANYON-13115 NETWORK #1																						
67 CANYON-13117 NETWORK #1																						
68 CANYON-13118 PSU	1	0					1	0														
69 CANYON-13120	1	3					1	3														
70 CANYON-13121																						
71 CANYON-13122 NETWORK #2																						
72 CANYON-13123 NETWORK #2	1	4															1	4				
73 CANYON-13124 NETWORK #2																						
74 CANYON-13125 NETWORK #2																						
75 CANYON-13133 NETWORK #3																						
76 CANYON-13134 NETWORK #3																						
77 CANYON-13135 NETWORK #3																						
78 CANYON-13136 NETWORK #3																						
79 CANYON-21ST	2	5													2	5						
80 CANYON-23RD	2	15							1	13			1	1							1	26,273

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

2021 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-BURNSIDE	9	351					4	232	3	116			1	2	1	1					
82	CANYON-CANYON 13	9	248	3	179					1	57	2	5	3	8							
83	CARVER-ALMOND	2	61	1	2					1	59											
84	CARVER-CARVER 13	15	604	2	391			3	31	2	19	2	20	1	3	5	141					
85	CARVER-NORTH	5	842	1	25			2	765	1	48	1	5									
86	CARVER-RIVERBEND	2	451											2	451							
87	CARVER-SOUTH	2	7							1	4					1	3					
88	CARVER-WOODS	8	473	2	207					3	263	1	1	1	2	1	1					
89	CEDAR HILLS-CEDAR HILLS 13																					
90	CEDAR HILLS-LEAHY	17	1,264	9	784					4	400			1	14	3	65					
91	CEDAR HILLS-SHOPPING CENTER	3	40							1	10			1	2					1	29	
92	CEDAR HILLS-SKYLINE																					
93	CEDAR HILLS-ST VINCENT																					
94	CEDAR HILLS-SYLVAN	7	357	4	276					1	26					1	34			1	21	
95	CENTENNIAL-BARKER																					
96	CENTENNIAL-BRAECROFT	13	898	3	268			1	2			3	481	1	2	5	145					
97	CENTENNIAL-CENTENNIAL 13	18	907	6	646			1	125	1	12	3	15	6	89	1	20					
98	CENTENNIAL-TREELAND	11	303	2	104					2	63	3	3	2	30	2	103					
99	CLACKAMAS-EVELYN	2	20													1	14			1	7	
100	CLACKAMAS-GLADSTONE	17	528	7	291			1	95	1	4	3	116	3	15	2	6					
101	CLACKAMAS-JENNIFER	9	2,074	1	6			1	131	6	1,934					1	2					
102	CLACKAMAS-TOLBERT	6	75							1	24	3	45			1	1			1	5	
103	CLAXTAR-CLAXTAR 13	1	1					1	1													
104	CLAXTAR-HAYESVILLE	5	573	2	387					1	44					2	142					
105	CLAXTAR-RIDGE	15	881	6	435			2	128	3	308	2	4			2	6					
106	COFFEE CREEK-FREEMAN	2	40									1	38			1	3					
107	COFFEE CREEK-HOLIDAY	2	137					1	90	1	47											
108	COLTON-DHOOGHE	6	117	1	28					1	45			1	2	3	42					
109	COLTON-GRAYS HILL	14	215					1	8	6	128			2	5	5	73					
110	CORNELIUS-ADAIR	5	22	3	16									2	6							
111	CORNELIUS-CORNELIUS 13	14	3,929	3	28							2	61	6	1,311	3	2,529					
112	CORNELIUS-VERBOORT	9	304	3	5									2	5	3	291	1	3			
113	CORNELL-BLUFFS	9	832	2	291			2	3			1	234			4	305					
114	CORNELL-SALTZMAN	3	2,694	2	77									1	2,617							
115	CORNELL-WESTLAWN	12	5,889	1	41			2	239	1	26	2	14	6	5,569							
116	CULVER-CULVER 13	1	2	1	2																	
117	CULVER-GAFFIN	1	7					1	7													
118	CULVER-SANYO #1																					
119	CURTIS-11077																					
120	CURTIS-CURTIS 13	2	178											1	157	1	20					

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

2021 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	DAYTON-EAST	14	258							3	19	2	70	2	5	7	163					
122	DAYTON-LAFAYETTE	12	1,824	1	2					1	4	1	112	1	1,072	8	634					
123	DAYTON-SOUTHWEST	9	178									2	29	2	69	5	80					
124	DELAWARE-DENVER	3	9											2	7			1	3			
125	DELAWARE-INTERSTATE	3	12											1	5	2	7					
126	DELAWARE-LOMBARD	8	715									2	465	4	30	2	220					
127	DENNY-EAST	8	631	4	577			2	10					2	45							
128	DENNY-NORTH	2	45					1	43							1	3					
129	DENNY-SOUTH	12	1,782	8	634			3	1,079	1	69											
130	DENNY-WEST	20	2,602	14	1,071			2	463			3	1,057	1	12							
131	DILLEY-CARPENTER																					
132	DILLEY-DILLEY 13	5	749	1	6					1	8					2	3			1	732	
133	DUNNS CORNER-DUNNS CORNER 13	17	1,942	3	78					3	432	4	1,367	3	17	3	46	1	2			
134	DUNNS CORNER-KELSO	3	9	1	6									2	3							
135	DURHAM-BONITA																					
136	DURHAM-BRIDGEPORT	9	793	3	173									3	490	3	130					
137	DURHAM-DURHAM 13	3	30	1	16			1	12					1	2							
138	DURHAM-POOPLANT																					
139	DURHAM-SATTLER	10	3,116	7	2,501					2	530	1	85									
140	DURHAM-SOUTH	1	18							1	18											
141	E-11021																					
142	E-11039																					
143	E-11040	1	3											1	3							
144	E-11041	1	3													1	3					
145	E-11042	1	6	1	6																	
146	E-11043	3	14	1	9									1	1	1	4					
147	E-11047																					
148	E-11064																					
149	E-13139																					
150	E-13140	2	50													2	50					
151	E-13141																					
152	E-13142	1	7													1	7					
153	E-13144	3	61	2	11									1	50							
154	E-13145																					
155	E-13148	4	12,287	4	12,287																	
156	E-13149																					
157	E-13150	1	6													1	6					
158	EAGLE CREEK-BARTON	14	218	1	18			2	11	4	36	2	4	2	140	3	9					
159	EAGLE CREEK-RIVER MILL	15	352	1	193			1	48	1	10	8	47	4	53							
160	EASTPORT-76TH	7	197							3	184	1	1	2	7	1	5					

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2021 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	EASTPORT-PLAZA	7	128							1	3	1	2	1	10	4	112					
162	ELMA-ELMA 13	5	317							1	40	2	237			2	40					
163	ELMA-FOUR CORNERS	12	1,269	3	914							2	164	3	4	4	188					
164	ELMA-HUDSON	4	378	2	341					1	37			1	1							
165	ELMA-STATE	1	1													1	1					
166	ESTACADA-ESTACADA 13	23	898	5	139			2	594	4	27	3	5	1	4	8	128					
167	ESTACADA-FARADAY	15	284	1	85					3	30	3	4	3	6	4	158	1	2			
168	ESTACADA-NORTH FORK	22	3,984	1	32					8	128	4	3,577	5	13	3	231	1	3			
169	FAIRMOUNT-CANDALARIA	11	677	2	574							4	47	4	54	1	2					
170	FAIRMOUNT-MISSION	6	337	1	161			2	7	1	7					2	162					
171	FAIRVIEW-CLEAR CREEK																					
172	FAIRVIEW-FAIRVIEW 13	4	1,320	1	61									2	3	1	1,256					
173	FAIRVIEW-KENNEL CLUB	2	9							2	9											
174	FAIRVIEW-TROUTDALE	14	2,351	9	2,043			2	2	2	277					1	29					
175	FAIRVIEW-WOOD VILLAGE	2	398	2	398																	
176	FARGO-FARGO 13	14	1,107	7	909									4	188	3	10					
177	GALES CREEK-GALES CREEK 13	9	61			1	11			1	5			4	37	3	9					
178	GARDEN HOME-MCKAY	7	86	3	17					2	65			1	2			1	2			
179	GARDEN HOME-METZGER	20	712	11	546					3	52	2	86	4	28							
180	GLENCOE-GLISAN	11	511	3	464							3	5	2	3	3	38					
181	GLENCOE-PROVIDENCE	1	2											1	2							
182	GLENCOE-SUNNYSIDE	1	688											1	688							
183	GLENCULLEN-BRIDLEMILE	13	510	3	161			1	16	1	65	1	3	4	11	2	252	1	1			
184	GLENCULLEN-SUNSET	8	351	3	33					1	21	1	280	2	12			1	5			
185	GLENDOVEER-13596	2	33	1	2									1	31							
186	GLENDOVEER-13597	4	165											1	23	3	143					
187	GLENDOVEER-13598	11	219	1	69							4	27	3	4	2	104	1	15			
188	GLENDOVEER-13599	7	161							5	155	1	3	1	3							
189	GLENDOVEER-CLIFFGATE	8	76	4	27							1	15	2	4	1	31					
190	GLENDOVEER-NORTHEAST	3	39	2	31									1	8							
191	GLISAN-FAB 2A																					
192	GLISAN-UTILITY 1B																					
193	GORMLEY-MCMINNVILLE WL																					
194	GRAND RONDE-AGENCY	1	15											1	15							
195	GRAND RONDE-FORTHILL	11	446									2	30	2	224	7	192					
196	HARBORTON-BURLINGTON	14	1,293	3	52			1	2	2	11	1	5	5	1,215	2	8					
197	HARBORTON-HARBORTON 13																					
198	HARBORTON-LINNTON	3	38			1	10							1	6	1	22					
199	HARMONY-HARMONY 13	5	69	1	6					1	49	1	3			2	12					
200	HARMONY-INTERNATIONAL	1	4	1	4																	

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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
201	HARMONY-LAKE	1	16	1	16																	
202	HARMONY-LINWOOD	15	500	6	133				2	31	5	317	2	19								
203	HARMONY-MILWAUKIE	12	1,038	4	468				1	158	3	110			3	10			1	292		
204	HARMONY-THIESSEN	7	483	3	302						1	34			3	146						
205	HARRISON-DAVIS																					
206	HARRISON-HARRISON 13	3	14						1	2					1	11	1	0				
207	HARRISON-IVON	2	25						1	24			1	1								
208	HAYDEN ISLAND-MAINLAND	8	184	4	135						2	40	1	7	1	2						
209	HAYDEN ISLAND-NORTH SHORE	10	7,407	6	6,935			2	234		1	77	1	161								
210	HAYDEN ISLAND-SOUTH SHORE	2	227	2	227																	
211	HEMLOCK-FREMONT	8	1,453	5	1,209			1	94	2	150											
212	HEMLOCK-HEMLOCK 13	12	3,857	5	1,157				2	480	1	6	3	2,186	1	27						
213	HEMLOCK-MASON	2	3,098								1	3,010			1	88						
214	HILLCREST-CASCADIA																					
215	HILLCREST-HILLCREST 13	3	15					2	6	1	10											
216	HILLCREST-SOUTH																					
217	HILLSBORO-DAIRY CREEK	5	15								2	8	2	3	1	4						
218	HILLSBORO-DENNIS	4	53						1	4			2	5					1	45		
219	HILLSBORO-JACKSON	4	50						1	23	1	21	1	3	1	4						
220	HILLSBORO-LAUREL	13	1,910	5	46						2	1,607	2	64	4	194						
221	HILLSBORO-SCHOLLS	1	15						1	15												
222	HOGAN NORTH-BRIGADOON	4	26	3	23										1	3						
223	HOGAN NORTH-HOGAN NORTH 13	12	3,918	1	49				4	106	3	3,683	2	66	2	14						
224	HOGAN NORTH-LINKS	37	4,597	21	4,119	1	11		4	76	4	202	2	5	5	184						
225	HOGAN NORTH-SALQUIST	11	697	4	554				3	62			1	2	3	79						
226	HOGAN SOUTH-CLEVELAND	3	269	2	239				1	30												
227	HOGAN SOUTH-LAWRENCE	12	454	10	429				2	25												
228	HOGAN SOUTH-MAIN	4	49						1	7	1	5			2	37						
229	HOGAN SOUTH-PAROPA	11	134	10	133										1	1						
230	HOGAN SOUTH-WALLULA	3	17	1	2				1	9	1	6										
231	HOLGATE-BYBEE	8	174	1	7				1	49	1	2	2	60	1	51	2	4				
232	HOLGATE-GIDEON	2	3										2	3								
233	HOLGATE-HOLGATE 13	3	145						1	54	1	73			1	18						
234	HOLGATE-KENILWORTH	7	35								1	7	5	20	1	7						
235	HOLGATE-RHONE																					
236	HUBER-BANY	7	352	3	21			1	39	1	2	1	220	1	70							
237	HUBER-FARMINGTON	7	319	3	236			1	66	2	7			1	10							
238	HUBER-HUBER 13	6	142	4	137						1	1	1	4								
239	HUBER-KINNAMAN	18	2,375	10	1,626			2	160	1	136	1	3	1	1	3	449					
240	HUBER-MARYVILLE	20	2,109	10	1,321					8	778	2	10									

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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 INDIAN-KEIZER	3	201									2	199	1	2							1	3,429
242 INDIAN-LABISH	24	1,362	4	942					1	4	2	133	3	41	14	242						
243 INDIAN-NORTH	9	87	1	2					1	12			2	32	5	42						
244 INDIAN-STATION	3	8	2	7									1	2								
245 INDIAN-WEST	11	9,604	2	251					2	840	2	7,997	2	4	3	513						
246 ISLAND-13180	4	61	1	2							1	52	1	4	1	3						
247 ISLAND-13187	8	613	2	275							2	207	4	132								
248 ISLAND-13188	15	1,013	3	105					2	26			4	432	6	449						
249 ISLAND-ISLAND 13	1	41							1	41												
250 JENNINGS LODGE-ADDIE	10	87	2	12					1	5			3	6	4	64						
251 JENNINGS LODGE-JENNINGS 13	11	184						1	8	2	59	1	3	4	5	3	108					
252 JENNINGS LODGE-MELDRUM	7	202	1	1				1	1				2	155	2	44	1	1				
253 JENNINGS LODGE-OAK GROVE	7	570	4	316				1	2				1	6	1	247						
254 JENNINGS LODGE-WEBSTER	9	1,537	1	54				1	177	5	397			2	909							
255 KELLEY POINT-KELLEY POINT 13																						
256 KELLEY POINT-LEDBETTER																						
257 KELLEY POINT-MARINE	2	199	2	199																		
258 KELLEY POINT-SIMMONS																						
259 KELLY BUTTE-BINNSMEAD	11	101							1	43	4	23	5	12	1	23						
260 KELLY BUTTE-FAIRLAWN	4	65										2	29	2	36							
261 KELLY BUTTE-MALL 205	18	2,606	7	2,313								4	161	2	62	5	70					
262 KELLY BUTTE-MCGREW	18	1,611	4	481					4	472	3	39	6	600	1	19						
263 KING CITY-BULL MOUNTAIN	4	2,123						1	26	2	1,036	1	1,062									
264 KING CITY-FISCHER	7	534	2	165						5	369											
265 KING CITY-HAZELBROOK																						
266 KING CITY-NORTH	7	721	4	109				2	606					1	6							
267 KING CITY-SUMMERFIELD	7	824	7	824																		
268 LAKE LABISH-LAKE LABISH																						
269 LELAND-BEAVERCREEK	14	865	5	409	1	1	1	1			2	88			5	365						
270 LELAND-CARUS	30	4,826	1	6	2	3,799			11	140	2	588	5	119	8	172	1	2				
271 LELAND-KELM	7	3,365	1	2				1	32	1	98			2	25	2	3,208					
272 LENTS-13101	4	116								1	35	3	80									
273 LENTS-HAPPY VALLEY	7	804	1	23				1	161	1	483	1	25	1	25	2	87					
274 LENTS-MT SCOTT																						
275 LENTS-NORTH	1	3						1	3													
276 LIBERAL-LIBERAL 13	28	4,543	4	317					3	46	6	1,542	8	2,618	7	20						
277 LIBERAL-SAWMILL																						
278 LIBERTY-BROWNING	7	405	2	257				1	84	1	49	1	7	1	2	1	6					
279 LIBERTY-LONE OAK	8	591	4	470				2	31			2	89									
280 LIBERTY-MORNINGSIDE	12	682	7	502						1	130	3	50	1	0							

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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-ROSEDALE	27	743	9	202			2	51	4	45	3	25	3	10	5	406	1	1			
282	LIBERTY-SKYLINE	7	877	3	281									3	564	1	32					
283	LIBERTY-VISTA	10	3,261					2	322	1	15	5	2,870			2	54					
284	MAIN-AIRPORT	16	1,406	7	100					2	768	2	291	3	218	2	30					
285	MAIN-BENTLEY	18	1,792	11	1,005			1	32	2	666			1	32	3	56					
286	MAIN-EXPRESS	11	8,254	4	613			1	27					3	6	2	7,598	1	9			
287	MAIN-GRIFFIN OAKS	3	58							2	49			1	9							
288	MAIN-JONES FARM																					
289	MAIN-RIVER	18	394	6	241			1	3	2	81	1	0	6	65	1	3	1	1			
290	MARKET-ENGLEWOOD	12	138							2	49	3	68	4	13	2	6	1	1			
291	MARKET-FAIRGROUNDS	6	90	1	11									1	8	3	70	1	1			
292	MARKET-HAWTHORNE	4	46									1	8	1	8	2	30					
293	MARKET-PARK	2	5											1	2	1	3					
294	MARQUAM-MCCALL #10 NETWORK																					
295	MARQUAM-MCCALL #11 NETWORK																					
296	MARQUAM-MCCALL #12 NETWORK																					
297	MARQUAM-MCCALL #9 NETWORK																					
298	MARQUAM-MEADE	3	3,463	2	3,454							1	9									
299	MARQUAM-ORANGE																					
300	MARQUAM-PORTER	1	5							1	5											
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	6	16					1	4			2	2	1	1	2	9					
308	MCCLAIN-FRONT	6	29									2	6	2	17	2	6					
309	MCCLAIN-HOLLYWOOD	4	45	1	17							1	3	2	25							
310	MCGILL-HORSETAIL	7	579	2	11					2	339	1	210			1	2	1	17			
311	MCGILL-LATOURELL	6	551	6	551																	
312	MCGILL-LSI AIR 1A																					
313	MCGILL-TOKETEE																					
314	MERIDIAN-65TH																					
315	MERIDIAN-BORLAND																					
316	MERIDIAN-CHILDS	2	88					1	6					1	82							
317	MERIDIAN-LAKEVIEW	1	5	1	5																	
318	MERIDIAN-MERIDIAN 13	7	126							4	109			2	7			1	10			
319	MERIDIAN-NYBERG																					
320	MERIDIAN-PILKINGTON	16	3,993	7	3,890			2	27	1	28			2	12	4	36					

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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	MERIDIAN-SAGERT	8	825	6	506			1	284						1	35						
322	MIDDLE GROVE-BROWN	4	185	2	127					2	58											
323	MIDDLE GROVE-CHEMEKETA	3	756			2	754	1	1													
324	MIDDLE GROVE-CORDON	33	4,325	9	2,471	1	410	4	390	5	113	1	2	4	874	8	63	1	2			
325	MIDDLE GROVE-SWEGLE	1	195	1	195																	
326	MIDDLE GROVE-WEST	3	4,433			2	4,431					1	2									
327	MIDWAY-DIVISION	9	854					1	322	4	137			3	380	1	15					
328	MIDWAY-DOUGLAS	20	544	5	77			2	216	1	12	5	24	2	12	5	203					
329	MIDWAY-LYNCH	14	12,547	1	20					3	138	4	11,951	3	4	3	435					
330	MIDWAY-POWELLHURST	19	4,242	8	2,914					1	76	1	196	5	1,040	3	15	1	1			
331	MILL CREEK-EASTLAND	3	48							1	37					2	11					
332	MILL CREEK-KUEBLER	3	252	1	248							2	4									
333	MILL CREEK-MILL CREEK 13	1	40							1	40											
334	MOLALLA-BUCKAROO	5	446	3	433											2	13					
335	MOLALLA-FOREST	11	83	1	5					2	7	1	14	3	27	4	30					
336	MOLALLA-MARQUAM	20	808	4	43	1	179			3	31	2	140	7	357	3	58					
337	MOLALLA-YODER	8	76							2	2	1	4	2	17	3	53					
338	MT ANGEL-EAST	6	405							1	6	1	1	1	5	3	392					
339	MT ANGEL-WEST	29	1,184	8	920					5	53	3	158	2	9	11	44					
340	MT PLEASANT-CLAIRMONT	13	2,005	5	415					2	250	1	534	1	1	3	804	1	1			
341	MT PLEASANT-MT VIEW	9	2,981	3	47					2	10	1	5			3	2,920					
342	MT PLEASANT-RIVERCREST	4	563					1	254	1	133					2	176					
343	MT PLEASANT-SOUTH END	16	2,128	4	247			2	66	3	315	2	6	1	700	3	793	1	2			
344	MULINO-NORTH	2	18							1	18			1	1							
345	MULINO-SOUTH	6	81							5	65	1	16									
346	MULTNOMAH-13176	9	274	4	232					1	8	4	34									
347	MULTNOMAH-13177	7	9,834									3	6,927	3	2,905	1	2					
348	MULTNOMAH-13181	17	437	2	52							4	22	5	82	6	281					
349	MULTNOMAH-MULTNOMAH 13	2	8	1	7									1	1							
350	MURRAYHILL-KINTON	3	473							3	473											
351	MURRAYHILL-MURRAYHILL 13	7	3,026	2	1,282			1	168	3	1,570							1	7			
352	MURRAYHILL-REUSSER	2	201							1	166					1	35					
353	MURRAYHILL-TEAL	2	355	1	286					1	69											
354	NEWBERG-CHEHALEM	19	290	7	92									1	71	11	127					
355	NEWBERG-DUNDEE	17	649	6	107							3	255	3	23	5	264					
356	NEWBERG-HOOVER PARK	3	431	1	58			1	0							1	373					
357	NEWBERG-NORTH COLLEGE	8	142	1	8					1	1	1	46	2	9	2	77	1	1			
358	NORTH MARION-CROSBY																					
359	NORTH MARION-FRONT	3	335	3	335																	
360	NORTH MARION-HUBBARD	9	91	4	37					1	37			2	13	2	4					

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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 MARION-MCLAREN	10	315	3	290					4	20			1	2	2	4					
362	NORTH PLAINS-MASON HILL	15	1,336	4	75					1	3	2	6	1	12	7	1,242					
363	NORTH PLAINS-NORTH PLAINS 13	9	860	1	2					2	25	3	117	1	688	2	28					
364	NORTHERN-11009	7	243	1	139							1	1	3	13	2	90					
365	NORTHERN-11016	2	13							1	8					1	5					
366	NORTHERN-11071	5	78	1	2					1	7	1	41	1	13	1	15					
367	OAK GROVE-LAKE HARRIET	2	23													2	23					
368	OAK GROVE-WHITE WATER																					
369	OAK HILLS-FIVE OAKS	3	1,735	1	28			2	1,707													
370	OAK HILLS-GREENBRIER	1	51					1	51													
371	OAK HILLS-OAK HILLS 13	1	3	1	3																	
372	OAK HILLS-SOMERSET	1	5	1	5																	
373	OAK HILLS-WALKER	4	292	2	121			1	8	1	163											
374	OREGON STEEL-OREGON STEEL 13																					
375	ORENCO-231ST																					
376	ORENCO-AMBERGLEN																					
377	ORENCO-BASELINE	3	5					2	3							1	2					
378	ORENCO-ORENCO 13																					
379	ORENCO-PRIMATE	4	3,292	4	3,292																	
380	ORENCO-WILKINS																					
381	ORIENT-BARLOW	8	48	1	19					2	21	2	2	2	5	1	1					
382	ORIENT-ORIENT 13	11	40					1	3	3	19			2	8	4	8			1	2	
383	ORIENT-OXBOW	16	3,805			1	114			2	9	6	3,610	1	1	6	71					
384	OSWEGO-IRON MOUNTAIN	1	8									1	8									
385	OSWEGO-MARYLHURST	5	45	2	18							2	25	1	1							
386	OSWEGO-PALATINE	8	149	3	83					1	57	2	2	1	4			1	3			
387	OSWEGO-STAFFORD	6	216	3	109							1	2	2	105							
388	OXFORD-FAIRVIEW	11	135	3	53					4	73					4	10					
389	OXFORD-LEE	4	248	1	8											3	240					
390	OXFORD-MADRONA																					
391	OXFORD-OXFORD 13	6	201	1	163									3	10	2	29					
392	OXFORD-RURAL	2	4									1	1			1	4					
393	OXFORD-SHELTON	5	64	2	29							1	15			2	20					
394	PELTON-ROUND BUTTE																					
395	PENINSULA PARK-OCKLEY GREEN	2	4											1	2	1	2					
396	PENINSULA PARK-PENINSULA PARK	3	63									1	44			1	5			1	14	
397	PLEASANT VALLEY-BAXTER	11	1,452	4	386					4	603			2	450	1	13					
398	PLEASANT VALLEY-CLATSOP	7	366	2	66					1	33			1	108	3	159					
399	PLEASANT VALLEY-MOON	8	1,866	2	311					6	1,554											
400	PLEASANT VALLEY-PLEASANT 13	22	1,882	8	530					6	288	2	7	3	528	2	522			1	6	

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2021 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
401 PLEASANT VALLEY-SUN	12	3,705	3	21			1	2,792	3	169			1	74	3	403			1	248		
402 PORTLAND WATER-PUMPING																						
403 PORTSMOUTH-CARBIDE	5	273	2	257							1	11	2	5								
404 PORTSMOUTH-DISPOSAL																						
405 PORTSMOUTH-WILLIS	3	301	2	299			1	2														
406 PROGRESS-GREENBURG	5	158	4	156			1	2														
407 PROGRESS-HALL																						
408 PROGRESS-ROBINSON	3	2,383	3	2,383																		
409 PROGRESS-SAWYER	1	4											1	4								
410 PROGRESS-WASHINGTON SQ #1																						
411 PROGRESS-WASHINGTON SQ #2																						
412 RALEIGH HILLS-DOGWOOD	5	53	1	38							1	7	2	2	1	6						
413 RALEIGH HILLS-MONTCLAIR	8	628	2	57					1	43	1	291	3	236	1	1						
414 RALEIGH HILLS-OLESON	12	2,789	6	798			1	600	1	39	1	1,172			2	173	1	6				
415 RAMAPO-EMERALD	3	9			1	2					2	7										
416 RAMAPO-GILBERT	9	5,061	1	13	1	4,986			3	48	2	3	1	1	1	10						
417 RAMAPO-RAMAPO 13	18	4,437	3	11					3	344	3	10	4	4,036	4	34	1	2				
418 REDLAND-HENRICI	19	423	1	21			2	105	1	10	1	3	12	279	2	5						
419 REDLAND-REDLAND 13	26	3,969	3	154			2	27	7	3,265	2	389	4	7	8	128					1	5,514
420 REEDVILLE-AUGUSTA	11	634	3	109			1	77	4	184			1	259			1	2	1	3		
421 REEDVILLE-BLANTON	11	1,194	1	189			3	115	3	621	2	9	1	250	1	11						
422 REEDVILLE-HAZELDALE	12	172	2	79			1	7	3	67	1	1	2	3	3	16						
423 REEDVILLE-INTEL #5																						
424 REEDVILLE-TV	12	2,149	8	1,328			1	267	1	94	1	61	1	399								
425 RIVERGATE SOUTH-11010																						
426 RIVERGATE SOUTH-11011	5	39											3	4	2	35						
427 RIVERGATE SOUTH-PEARCY																						
428 RIVERGATE SOUTH-SWIFT	2	35	1	33			1	2														
429 RIVERVIEW-FULTON	3	734											1	619	2	115						
430 RIVERVIEW-MACADAM	9	7,874	1	467			3	6,121			1	9	3	1,275	1	2						
431 RIVERVIEW-TERWILLIGER	5	319									1	9	1	2	3	309						
432 ROCK CREEK-185TH	3	146	1	1					2	145												
433 ROCK CREEK-Forest Park	6	186	1	4					3	174					2	7						
434 ROCK CREEK-NEWBERRY	10	1,115	5	68			2	22			2	1,024			1	1						
435 ROCKWOOD-AIRPORT																						
436 ROCKWOOD-BOEING																						
437 ROCKWOOD-INDUSTRIAL	1	2															1	2				
438 ROCKWOOD-REYNOLDS	6	213	2	46							2	23	2	144								
439 ROCKWOOD-ROCKWOOD 13	12	1,026	8	1,018							2	3	1	1	1	4						
440 ROCKWOOD-WILKES	1	8	1	8																		

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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
441	ROSEMONT-HIDDEN SPRINGS	10	1,488	4	495					1	252	2	8	1	11	2	724					
442	ROSEMONT-MOSSY BRAE	5	630	5	630																	
443	ROSEMONT-OVERLOOK	14	1,128	7	387			3	166			1	64	2	482	1	29					
444	ROSEWAY-ALEXANDER	3	256					1	4	1	12					1	240					
445	ROSEWAY-ESPLANADE	10	594	5	431			2	91	1	32					2	40					
446	ROSEWAY-ROSEWAY 13	1	35							1	35											
447	ROSEWAY-SOHI	3	64					1	46	1	13	1	5									
448	RUBY-CAR LINE	6	492	2	96			1	130			1	250			2	15					
449	RUBY-JUNCTION	12	1,258	5	544					3	56			2	503	2	155					
450	SALEM-13260																					
451	SALEM-13261																					
452	SALEM-13262																					
453	SALEM-13263																					
454	SALEM-13264																					
455	SALEM-UNION																					
456	SANDY-362ND	17	1,556	6	1,485			1	9	6	52	1	4	1	2	2	4					
457	SANDY-BLUFF	6	405	3	89											3	316					
458	SANDY-SANDY 13	18	2,010	5	63			1	29	4	59	1	4	5	1,815	2	40					
459	SANDY-WILDCAT	12	447	4	212			1	49	2	25	1	89	2	15	2	57					
460	SCAPPOOSE-SAUVIE ISLAND	1	4									1	4									
461	SCHOLLS FERRY-KEMMER	5	232	2	183			1	10	1	37	1	1									
462	SCHOLLS FERRY-RAINBOW	11	437	1	8			1	9	4	35	1	144	1	213	2	24			1	4	
463	SCHOLLS FERRY-ROY ROGERS	11	733	3	483			1	2	4	239			3	9							
464	SCOGGINS-CHERRY GROVE	9	235							2	127	1	8	3	91	3	7					
465	SCOGGINS-LAURELWOOD	13	2,477	1	13							1	21	7	2,434	4	10					
466	SCOTTS MILLS-SCOTTS MILLS 13	31	5,310	8	52	2	3,415			5	20	3	655	3	1,004	10	164					
467	SELLWOOD-KELLOGG PARK	15	846							1	56	1	3	7	20	5	754	1	13			
468	SELLWOOD-SELLWOOD 13	6	1,014							1	45	3	210	1	14					1	745	
469	SELLWOOD-WAVERLY	2	101													2	101					
470	SHERIDAN-EAST	9	74							2	6	2	11	1	2	3	53	1	3			
471	SHERIDAN-KADELL	9	119	1	6					4	79	1	17	1	1	1	4	1	11			
472	SHUTE-BIRCH																					
473	SHUTE-LINDE 1																					
474	SHUTE-MAPLE																					
475	SHUTE-PINE																					
476	SHUTE-RONLER 1																					
477	SHUTE-RONLER 2																					
478	SILVERTON-NORTH	15	152							1	18	2	11	5	44	5	73	2	6			
479	SILVERTON-SOUTH	15	2,081							1	48	6	844	1	11	7	1,178					
480	SILVERTON-WEST	31	499	4	48					4	27	5	44	2	8	13	49	2	7	1	317	

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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	
481	SIX CORNERS-13359	13	759	4	44					4	131			2	6	1	3			2	575		
482	SIX CORNERS-13360	2	34					1	32							1	3						
483	SIX CORNERS-BORCHERS	6	205	2	59					1	2			3	144								
484	SIX CORNERS-CHAPMAN	5	117	3	104			1	9					1	4								
485	SIX CORNERS-SIX CORNERS 13	6	460	3	426			2	30			1	4										
486	SP NEWSPRINT-NEWBERG																						
487	SPRING HILL-SPRING HILL																						
488	SPRINGBROOK-FERNWOOD	10	2,819	5	500							1	2,298	2	9	2	12						
489	SPRINGBROOK-ST PAUL	12	707	1	70					1	12	2	21	3	579	5	26						
490	SPRINGBROOK-VILLA	8	1,171	1	3					1	15	4	879	1	178	1	97						
491	SPRINGBROOK-ZIMRI	13	835	2	228			1	3	2	77	1	70	1	244	5	211	1	1				
492	ST HELENS-HOULTON																						
493	ST LOUIS-EAST	8	3,323	4	1,698					2	1,618			1	6			1	2				
494	ST LOUIS-NORTH	20	7,929	3	32					5	84			3	20	9	7,792						
495	ST LOUIS-WEST	25	440	8	279					1	30	4	49	4	52	8	31						
496	ST MARYS EAST-BETHANY																						
497	ST MARYS EAST-ELMONICA	12	4,080	9	3,927	2	1			1	152												
498	ST MARYS EAST-JENKINS																						
499	ST MARYS EAST-MILLIKAN	5	330	1	30					1	1	2	3			1	296						
500	ST MARYS EAST-ST MARYS 13																						
501	STIMSON LUMBER-FORESTEX																						
502	SULLIVAN-ROBINWOOD	11	228	1	24							2	8	4	164	4	31						
503	SULLIVAN-SALAMO	1	450									1	450										
504	SULLIVAN-SUSSEX	5	573	2	503					1	66	1	3	1	1								
505	SULLIVAN-TANNER	1	3,217									1	3,217										
506	SULLIVAN-WILLAMETTE	5	260	2	245			1	5	1	10			1	1								
507	SULZER PUMPS-115B																						
508	SUMMIT-GOVERNMENT CAMP	3	321	1	318							1	1					1	2				
509	SUMMIT-MEADOWS	1	19													1	19						
510	SUMMIT-SUMMIT 13	7	848	3	263					1	8	1	525	2	51								
511	SUNSET-BLANCHET																						
512	SUNSET-COLFAX																						
513	SUNSET-CORNELL																						
514	SUNSET-DORION																						
515	SUNSET-IDTA																						
516	SUNSET-IDTB																						
517	SUNSET-IDTC																						
518	SUNSET-INTEL D1B1																						
519	SUNSET-INTEL D1X1																						
520	SUNSET-KOMATSU #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
521	SUNSET-KOMATSU #3																					
522	SUNSET-LANE	1	24						1	24												
523	SUNSET-MCCALL																					
524	SUNSET-MEEK																					
525	SUNSET-NIXON																					
526	SUNSET-OLCOTT																					
527	SUNSET-PAULING																					
528	SUNSET-SPALDING																					
529	SUNSET-WHITMAN																					
530	SUNSET-YOUNG																					
531	SWAN ISLAND-BASIN																					
532	SWAN ISLAND-DOLPHIN																					
533	SWAN ISLAND-FREIGHTLINER																					
534	SWAN ISLAND-GOING	3	15										1	4	2	11						
535	SWAN ISLAND-SHIPYARD	1	4						1	4												
536	SYLVAN-BARNES	3	86	1	25								1	12	1	49						
537	SYLVAN-PATTON	18	3,634	6	2,438				2	229	1	8	4	206	5	753						
538	TABOR-82ND	4	28								3	23	1	5								
539	TABOR-HOSPITAL																					
540	TABOR-TABOR 13	7	174								3	7	3	14	1	152						
541	TEKTRONIX-DUCKS																					
542	TEKTRONIX-HOCKEN	4	961	2	679			2	281													
543	TEKTRONIX-MEADOW	10	294	1	2			1	1	2	58	3	208	2	24	1	1					
544	TEKTRONIX-NORTH																					
545	TEKTRONIX-SHANNON	5	3,334	1	99			1	6	1	204	1	3,021	1	4							
546	TEKTRONIX-SOUTH	10	714	3	187			1	43	6	484											
547	TEKTRONIX-TEKTRONIX 13	1	3					1	3													
548	TEKTRONIX-TERMAN																					
549	TEKTRONIX-WEST																					
550	TEMP B-SOUTH																					
551	TEMP C-R3006																					
552	TEMP H-NEPTUNE	1	24												1	24						
553	TEMP H-SATURN																					
554	TIGARD-13336	1	132					1	132													
555	TIGARD-13337	6	357	2	218								1	4	3	136						
556	TIGARD-13361	7	54	2	1			1	10	1	4		2	19			1	21				
557	TIGARD-13362	10	689	2	260			2	10	4	411	1	4	1	2							
558	TIGARD-TIGARD 13	5	609	2	221							1	2	2	386							
559	TOWN CENTER-LAWNFIELD	4	11	3	10												1	1				
560	TOWN CENTER-MONTEREY	2	26										1	5	1	20						

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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	
561	TOWN CENTER-NORTH																						
562	TOWN CENTER-PRECISION CASTPARTS																						
563	TOWN CENTER-SOUTH																						
564	TOWN CENTER-SUNNYBROOK																						
565	TOWN CENTER-VALLEY VIEW	1	1	1	1																		
566	TROJAN-EAST																						
567	TUALATIN-AVERY	13	8,158	9	2,483	1	5,544		3	132													
568	TUALATIN-CIPOLE	3	784										2	782	1	2							
569	TUALATIN-HERMAN	1	1										1	1									
570	TUALATIN-IBACH	6	408	1	2			2	15	1	173				2	219							
571	TUALATIN-LEVETON	1	26							1	26												
572	TUALATIN-TUALATIN 13	3	31	1	21								1	2	1	8							
573	TURNER-CASCADE	4	11							1	3			1	1	2	6						
574	TURNER-TURNER 13	15	225	3	38					2	12	2	138	2	2	6	35						
575	TWILIGHT-BREMER	13	186	4	141					2	11	1	13	2	2	3	17	1	2				
576	UNIONVALE-UNIONVALE 13	33	349	3	48			1	27	4	121	5	39	2	6	18	108						
577	UNIVERSITY-MILL	2	6											2	6								
578	UNIVERSITY-TRADE	5	868									2	203	3	665								
579	URBAN-BARBUR	1	105													1	105						
580	URBAN-CAMPUS																						
581	URBAN-CORBETT	6	615					2	312	3	302			1	1								
582	URBAN-GAINES	2	17	1	6											1	11						
583	URBAN-GIBBS																						
584	URBAN-KELLY																						
585	URBAN-LANDING																						
586	URBAN-MEDICAL																						
587	URBAN-OHSU																						
588	WACKER-WACKER 1																						
589	WACONDA-NORPAC																						
590	WACONDA-RIVER	10	117	2	46			1	56					1	1	6	14						
591	WACONDA-WACONDA 13	40	473	7	71			2	102	2	14	7	134	3	16	17	117			2	21		
592	WALLACE-WALLACE 13	20	1,527	4	33					3	25	6	582	4	580	3	307						
593	WALLACE-WILLOW LAKE	4	177	1	3									1	4	1	143			1	28		
594	WELCHES-WELCHES 13	16	858							3	80	3	31	6	46	4	701						
595	WELCHES-ZIG ZAG	20	493	1	75					1	64	9	132	3	20	2	59	1	2	3	142	1	2,564
596	WEST PORTLAND-72ND	5	134	2	15			1	76					1	4	1	39						
597	WEST PORTLAND-NORTH	7	275	1	66					1	7			2	13	3	190						
598	WEST PORTLAND-PACIFIC	13	1,868	5	201	2	460	3	889	1	294			1	6	1	19						
599	WEST PORTLAND-WEST PORTLAND 13	6	8,688	2	22	1	8,161							1	281	2	224						
600	WEST UNION-ALOCLEK																						

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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
601 WEST UNION-CORNELIUS PASS	4	1,426	2	81							1	5	1	1,339								
602 WEST UNION-JACOBSON																						
603 WEST UNION-WEST UNION 13	9	1,146	6	1,101			1	6			1	1	1	37								
604 WILLAMINA-BRIDGE	10	222	1	60							4	50	2	6	3	106						
605 WILLAMINA-BUELL	15	337	2	13			2	142	5	89	2	8	1	55	3	31						
606 WILLAMINA-LUMBER																						
607 WILLBRIDGE-SALMONBERRY	1	5									1	5										
608 WILLBRIDGE-WILDWOOD																						
609 WILSONVILLE-BOECKMAN	13	234	3	21			1	3			2	184	5	22	2	4						
610 WILSONVILLE-CHARBONNEAU	14	3,459	4	261			1	789	4	2,306			1	83	2	15	2	7				
611 WILSONVILLE-CITY	9	2,570	5	1,603	1	118	1	723	2	126												
612 WILSONVILLE-MENTORTEK																						
613 WILSONVILLE-PARKWAY	4	54					1	2	2	11							1	41				
614 WILSONVILLE-VILLEBOIS	1	6													1	6						
615 WILSONVILLE-WEST	10	931	5	259			2	563	3	109												
616 WOODBURN-CANNERY	7	4,814	3	200					1	241			1	189	2	4,184						
617 WOODBURN-EAST	13	457	1	7					1	6	2	325	3	74	5	17				1	28	
618 WOODBURN-TOMLIN	14	523	7	270			1	179			3	7	1	42	2	25						
619 WOODBURN-WEST	13	1,520	5	471			3	767	1	5	2	126			2	150						
620 YAMHILL-CARLTON	19	378	3	269					1	6	3	44			12	60						
621 YAMHILL-YAMHILL 13	9	581							2	21	2	501	1	1	4	59						
Grand Totals:	3,749	445,055	980	128,166	30	37,965	196	28,194	552	38,644	470	82,660	644	61,490	798	64,389	54	277	25	3,269	4	37,780

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

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

2021 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	1	13,564			1	13,564			1	13,564		
2	ABERNETHY-OREGON CITY	6	656			6	656			6	656		
3	ABERNETHY-TRANSIT	6	13			6	13	2	5	4	8		
4	ABERNETHY-WASHINGTON	2	10			2	10			2	10		
5	ALDER-ANKENY	1	4	1	4								
6	ALDER-IRVING	1	6			1	6	1	6				
7	ALDER-LINCOLN	1	0			1	0			1	0		
8	ALDER-STARK	1	133	1	133								
9	ALDER-TAYLOR	1	8			1	8			1	8		
10	ALDER-YAMHILL												
11	AMITY-AMITY 13	6	1,080	1	6	5	1,074	1	124	4	950		
12	AMITY-BELLEVUE	6	1,516			6	1,516	3	1,475	3	41		
13	ARLETA-52ND	7	6,518	3	6,471	4	46			4	46		
14	ARLETA-FOSTER	1	37			1	37			1	37		
15	ARLETA-HAROLD	3	53			3	53	2	43	1	11		
16	ARLETA-POWELL	2	3	1	1	1	2			1	2		
17	ARLETA-STEELE	21	556	2	4	19	552			19	552		
18	BANKS-BANKS 13	28	4,856	2	11	26	4,845	14	4,515	12	330		
19	BANKS-CEDAR CANYON	39	6,193	3	221	36	5,972	20	5,148	16	824		
20	BARNES-BATTLE CREEK	4	1,227			4	1,227	2	215	2	1,012		
21	BARNES-BOONE	1	953			1	953	1	953				
22	BARNES-COMMERCIAL	1	67			1	67			1	67		
23	BARNES-SUNNYSIDE	2	496	1	395	1	101			1	101		
24	BEAVER-KB PIPELINE												
25	BEAVERTON-ALLEN	1	11			1	11			1	11		
26	BEAVERTON-JAMIESON	1	194			1	194			1	194		
27	BEAVERTON-NORTHWEST	2	8,036	2	8,036								
28	BEAVERTON-WEST SLOPE												
29	BELL-BATTIN												
30	BELL-BRENTWOOD	2	772			2	772	2	772				
31	BELL-FLAVEL												
32	BELL-JOHNSON CREEK												
33	BELL-KENDALL	2	8	1	2	1	6			1	6		
34	BELL-KING	6	783			6	783	2	46	4	737		
35	BELL-SOUTHGATE	3	135			3	135			3	135		
36	BELL-WICHITA	6	490	2	58	4	432	2	429	2	3		
37	BETHANY-BURTON												
38	BETHANY-GERMANTOWN												
39	BETHANY-KAISER												
40	BETHANY-LAIDLAW	2	3			2	3			2	3		

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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	3	78			3	78	2	75	1	2		
42 BETHANY-THOMPSON	1	2			1	2	1	2				
43 BETHEL-FRUITLAND	1	41			1	41			1	41		
44 BETHEL-GEER	5	3,521	1	7	4	3,515	2	346	2	3,169		
45 BETHEL-MACLEAY	2	69			2	69			2	69		
46 BLUE LAKE-BLUE LAKE 13	1	3			1	3	1	3				
47 BLUE LAKE-SUNDIAL												
48 BLUE LAKE-TOYO TANSO												
49 BOISE CASCADE-BOISE #1												
50 BOONES FERRY-GOODALL	4	3,243			4	3,243	2	2,843	2	400		
51 BOONES FERRY-KRUSE	1	1			1	1			1	1		
52 BOONES FERRY-LAKE GROVE	7	682	1	207	6	475	1	4	5	472	1	3
53 BOONES FERRY-MOUNTAIN PARK												
54 BOONES FERRY-WEMBLEY PARK	16	6,500	2	550	14	5,949	4	1,139	10	4,810		
55 BORING-282ND	3	170			3	170	1	51	2	119		
56 BORING-CITY	20	940	1	2	19	939	6	124	13	815		
57 BRIGHTWOOD-BRIGHTWOOD 13	19	3,026	1	610	18	2,416	5	688	13	1,727		
58 BRIGHTWOOD-NORTH BANK	9	1,027			9	1,027	7	961	2	65		
59 BROOKWOOD-BORWICK												
60 BROOKWOOD-BROOKWOOD 13												
61 BROOKWOOD-SUNRISE												
62 CANBY-13644	6	166	1	134	5	32	1	3	4	29		
63 CANBY-BUTTEVILLE	5	41			5	41	1	1	4	40		
64 CANBY-FILBERT												
65 CANBY-ZIMMERMAN	8	450	2	279	6	170	1	2	5	168		
66 CANYON-13115 NETWORK #1												
67 CANYON-13117 NETWORK #1												
68 CANYON-13118 PSU												
69 CANYON-13120												
70 CANYON-13121												
71 CANYON-13122 NETWORK #2												
72 CANYON-13123 NETWORK #2												
73 CANYON-13124 NETWORK #2												
74 CANYON-13125 NETWORK #2												
75 CANYON-13133 NETWORK #3												
76 CANYON-13134 NETWORK #3												
77 CANYON-13135 NETWORK #3												
78 CANYON-13136 NETWORK #3												
79 CANYON-21ST	2	671			2	671	1	70	1	601		
80 CANYON-23RD	11	3,547	1	902	10	2,645	4	1,625	6	1,020		

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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
81	CANYON-BURNSIDE	3	8,032			3	8,032	2	8,013	1	19		
82	CANYON-CANYON 13	3	1,721	1	18	2	1,702	1	1,615	1	87		
83	CARVER-ALMOND												
84	CARVER-CARVER 13	7	535	2	422	5	113	3	14	2	100		
85	CARVER-NORTH	1	11			1	11			1	11		
86	CARVER-RIVERBEND												
87	CARVER-SOUTH												
88	CARVER-WOODS	5	96			5	96	1	3	4	94		
89	CEDAR HILLS-CEDAR HILLS 13												
90	CEDAR HILLS-LEAHY	7	16,931			7	16,931	2	16,892	5	39		
91	CEDAR HILLS-SHOPPING CENTER	3	405			3	405	1	50	2	355		
92	CEDAR HILLS-SKYLINE												
93	CEDAR HILLS-ST VINCENT	1	59			1	59			1	59		
94	CEDAR HILLS-SYLVAN	7	3,213			7	3,213	4	3,207	3	6		
95	CENTENNIAL-BARKER												
96	CENTENNIAL-BRAECROFT												
97	CENTENNIAL-CENTENNIAL 13	5	3,782			5	3,782			5	3,782		
98	CENTENNIAL-TREELAND	1	2			1	2	1	2				
99	CLACKAMAS-EVELYN												
100	CLACKAMAS-GLADSTONE	9	298	1	3	8	295			8	295		
101	CLACKAMAS-JENNIFER	1	3			1	3			1	3		
102	CLACKAMAS-TOLBERT	1	3			1	3			1	3		
103	CLAXTAR-CLAXTAR 13	1	3			1	3			1	3		
104	CLAXTAR-HAYESVILLE												
105	CLAXTAR-RIDGE	3	59			3	59	1	2	2	57		
106	COFFEE CREEK-FREEMAN												
107	COFFEE CREEK-HOLIDAY												
108	COLTON-DHOOGHE	16	780	1	225	15	555	8	403	7	153		
109	COLTON-GRAYS HILL	15	759	1	23	14	736	7	417	7	319		
110	CORNELIUS-ADAIR	2	17			2	17			2	17		
111	CORNELIUS-CORNELIUS 13	2	58			2	58			2	58		
112	CORNELIUS-VERBOORT	2	8	1	6	1	2			1	2		
113	CORNELL-BLUFFS	6	13,912	2	9,969	4	3,943	4	3,943				
114	CORNELL-SALTZMAN												
115	CORNELL-WESTLAWN	2	44			2	44	1	5	1	40		
116	CULVER-CULVER 13												
117	CULVER-GAFFIN												
118	CULVER-SANYO #1												
119	CURTIS-11077	1	4			1	4	1	4				
120	CURTIS-CURTIS 13	1	242			1	242			1	242		

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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
121 DAYTON-EAST	6	453	1	415	5	38			5	38		
122 DAYTON-LAFAYETTE	5	2,693			5	2,693	3	76	2	2,617		
123 DAYTON-SOUTHWEST	8	1,735	1	15	7	1,720	6	1,708	1	12		
124 DELAWARE-DENVER												
125 DELAWARE-INTERSTATE	2	543			2	543			2	543		
126 DELAWARE-LOMBARD												
127 DENNY-EAST	5	96	1	2	4	94			4	94		
128 DENNY-NORTH												
129 DENNY-SOUTH	3	960			3	960	1	740	2	220		
130 DENNY-WEST	1	1	1	1								
131 DILLEY-CARPENTER												
132 DILLEY-DILLEY 13	21	3,162	1	6	20	3,156	11	1,200	9	1,955		
133 DUNNS CORNER-DUNNS CORNER 13	42	12,215	3	513	39	11,702	15	3,276	24	8,425		
134 DUNNS CORNER-KELSO	1	36			1	36	1	36				
135 DURHAM-BONITA												
136 DURHAM-BRIDGEPORT												
137 DURHAM-DURHAM 13												
138 DURHAM-POOPLANT												
139 DURHAM-SATTLER	3	247			3	247	1	2	2	244		
140 DURHAM-SOUTH												
141 E-11021												
142 E-11039												
143 E-11040												
144 E-11041												
145 E-11042												
146 E-11043												
147 E-11047												
148 E-11064												
149 E-13139												
150 E-13140	3	929			3	929			3	929		
151 E-13141												
152 E-13142												
153 E-13144	10	1,975	1	27	9	1,948	6	1,484	3	463		
154 E-13145												
155 E-13148												
156 E-13149												
157 E-13150												
158 EAGLE CREEK-BARTON	13	5,343			13	5,343	5	3,544	8	1,799		
159 EAGLE CREEK-RIVER MILL	14	7,271			14	7,271	5	6,499	9	772		
160 EASTPORT-76TH	1	1			1	1			1	1	1	0

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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
161 EASTPORT-PLAZA	1	3	1	3								
162 ELMA-ELMA 13	3	29			3	29	1	2	2	27		
163 ELMA-FOUR CORNERS												
164 ELMA-HUDSON												
165 ELMA-STATE												
166 ESTACADA-ESTACADA 13	17	4,980	2	1,292	15	3,689	6	1,213	9	2,476		
167 ESTACADA-FARADAY	12	905			12	905	5	292	7	613	1	9
168 ESTACADA-NORTH FORK	24	6,438	3	1,053	21	5,385	7	3,355	14	2,030		
169 FAIRMOUNT-CANDALARIA	3	1,498			3	1,498	1	1,396	2	102	1	140
170 FAIRMOUNT-MISSION	15	9,581	3	4,002	12	5,579	6	5,260	6	319		
171 FAIRVIEW-CLEAR CREEK												
172 FAIRVIEW-FAIRVIEW 13	2	1,072			2	1,072	1	874	1	198		
173 FAIRVIEW-KENNEL CLUB												
174 FAIRVIEW-TROUTDALE	4	644			4	644	3	634	1	10		
175 FAIRVIEW-WOOD VILLAGE												
176 FARGO-FARGO 13	6	782	1	167	5	616	1	2	4	614		
177 GALES CREEK-GALES CREEK 13	39	9,027	3	1,748	36	7,279	11	3,237	25	4,042		
178 GARDEN HOME-MCKAY	4	241			4	241	1	2	3	239		
179 GARDEN HOME-METZGER	2	14			2	14			2	14		
180 GLENCOE-GLISAN	5	345	3	332	2	13	1	11	1	2		
181 GLENCOE-PROVIDENCE												
182 GLENCOE-SUNNYSIDE	9	1,412	1	2	8	1,410	5	235	3	1,175		
183 GLENCULLEN-BRIDLEMILE	6	1,288	1	40	5	1,248	2	809	3	439		
184 GLENCULLEN-SUNSET	4	104			4	104	2	95	2	9		
185 GLENDOVEER-13596	1	24			1	24			1	24		
186 GLENDOVEER-13597	1	2			1	2			1	2		
187 GLENDOVEER-13598	4	273	1	1	3	272			3	272		
188 GLENDOVEER-13599	2	371			2	371			2	371		
189 GLENDOVEER-CLIFFGATE	3	56			3	56			3	56	1	58
190 GLENDOVEER-NORTHEAST												
191 GLISAN-FAB 2A												
192 GLISAN-UTILITY 1B												
193 GORMLEY-MCMINNVILLE WL												
194 GRAND RONDE-AGENCY	5	1,687			5	1,687	3	436	2	1,251		
195 GRAND RONDE-FORTHILL	10	1,953			10	1,953	3	21	7	1,932		
196 HARBORTON-BURLINGTON	27	3,078	4	37	23	3,042	8	1,613	15	1,429		
197 HARBORTON-HARBORTON 13												
198 HARBORTON-LINNTON	12	4,777			12	4,777	9	2,586	3	2,191		
199 HARMONY-HARMONY 13												
200 HARMONY-INTERNATIONAL	1	9	1	9								

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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
201	HARMONY-LAKE											
202	HARMONY-LINWOOD	1	4			1	4	1	4			
203	HARMONY-MILWAUKIE	6	1,335			6	1,335	1	3	5	1,332	
204	HARMONY-THIESSEN											
205	HARRISON-DAVIS											
206	HARRISON-HARRISON 13	1	4	1	4							
207	HARRISON-IVON	1	104			1	104	1	104			
208	HAYDEN ISLAND-MAINLAND	1	84	1	84							
209	HAYDEN ISLAND-NORTH SHORE	5	11,663			5	11,663	4	6,157	1	5,506	
210	HAYDEN ISLAND-SOUTH SHORE	3	988			3	988			3	988	
211	HEMLOCK-FREMONT											
212	HEMLOCK-HEMLOCK 13											
213	HEMLOCK-MASON	1	2			1	2			1	2	
214	HILLCREST-CASCADIA											
215	HILLCREST-HILLCREST 13											
216	HILLCREST-SOUTH											
217	HILLSBORO-DAIRY CREEK	1	158			1	158			1	158	
218	HILLSBORO-DENNIS	1	148	1	148							
219	HILLSBORO-JACKSON	1	2			1	2	1	2			1 1
220	HILLSBORO-LAUREL	19	5,892	1	13	18	5,879	11	5,652	7	227	
221	HILLSBORO-SCHOLLS											
222	HOGAN NORTH-BRIGADOON											
223	HOGAN NORTH-HOGAN NORTH 13	8	1,488			8	1,488	6	1,124	2	363	
224	HOGAN NORTH-LINKS	11	19,992	1	12	10	19,980	5	7,954	5	12,026	
225	HOGAN NORTH-SALQUIST											
226	HOGAN SOUTH-CLEVELAND	4	3,681			4	3,681	3	671	1	3,011	
227	HOGAN SOUTH-LAWRENCE											
228	HOGAN SOUTH-MAIN											
229	HOGAN SOUTH-PAROPA											
230	HOGAN SOUTH-WALLULA											
231	HOLGATE-BYBEE	6	503			6	503	5	499	1	4	
232	HOLGATE-GIDEON											
233	HOLGATE-HOLGATE 13											
234	HOLGATE-KENILWORTH	1	27			1	27			1	27	
235	HOLGATE-RHONE											
236	HUBER-BANY	2	57			2	57	2	57			
237	HUBER-FARMINGTON	2	3			2	3			2	3	
238	HUBER-HUBER 13											
239	HUBER-KINNAMAN	1	11			1	11			1	11	
240	HUBER-MARYVILLE	2	32			2	32			2	32	

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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
241 INDIAN-KEIZER												
242 INDIAN-LABISH	3	504	1	31	2	473			2	473		
243 INDIAN-NORTH	4	2,112	1	13	3	2,099			3	2,099		
244 INDIAN-STATION												
245 INDIAN-WEST	4	500			4	500			4	500		
246 ISLAND-13180	3	181			3	181			3	181		
247 ISLAND-13187	11	6,707	5	1	6	6,706	1	1	5	6,705		
248 ISLAND-13188	16	1,081	3	417	13	664	3	61	10	603		
249 ISLAND-ISLAND 13												
250 JENNINGS LODGE-ADDIE	3	77			3	77	2	52	1	26		
251 JENNINGS LODGE-JENNINGS 13	3	409			3	409			3	409		
252 JENNINGS LODGE-MELDRUM	3	209			3	209			3	209		
253 JENNINGS LODGE-OAK GROVE	1	21			1	21			1	21		
254 JENNINGS LODGE-WEBSTER	1	3			1	3			1	3	1	22
255 KELLEY POINT-KELLEY POINT 13												
256 KELLEY POINT-LEDBETTER												
257 KELLEY POINT-MARINE												
258 KELLEY POINT-SIMMONS												
259 KELLY BUTTE-BINNSMEAD	4	630	1	235	3	395			3	395		
260 KELLY BUTTE-FAIRLAWN	2	14			2	14			2	14		
261 KELLY BUTTE-MALL 205	1	6			1	6			1	6		
262 KELLY BUTTE-MCGREW	3	84	1	2	2	82	1	69	1	13		
263 KING CITY-BULL MOUNTAIN												
264 KING CITY-FISCHER	2	3,346			2	3,346			2	3,346		
265 KING CITY-HAZELBROOK	1	12			1	12			1	12		
266 KING CITY-NORTH												
267 KING CITY-SUMMERFIELD												
268 LAKE LABISH-LAKE LABISH												
269 LELAND-BEAVERCREEK	12	2,630			12	2,630	3	211	9	2,419		
270 LELAND-CARUS	24	9,687	1	3	23	9,684	11	3,918	12	5,766	1	388
271 LELAND-KELM												
272 LENTS-13101	2	6	2	6								
273 LENTS-HAPPY VALLEY	6	4,764	1	4,695	5	69	2	30	3	39	1	73
274 LENTS-MT SCOTT	3	1,169	2	1,010	1	158			1	158		
275 LENTS-NORTH												
276 LIBERAL-LIBERAL 13	5	82	2	15	3	66	1	5	2	62		
277 LIBERAL-SAWMILL												
278 LIBERTY-BROWNING	1	210			1	210	1	210				
279 LIBERTY-LONE OAK	1	5,675			1	5,675			1	5,675		
280 LIBERTY-MORNINGSIDE	2	5,207			2	5,207	1	5,204	1	2		

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2021 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
281 LIBERTY-ROSEDALE	20	852	7	423	13	429	6	257	7	171		
282 LIBERTY-SKYLINE	4	233	1	146	3	87			3	87		
283 LIBERTY-VISTA	4	348	1	109	3	239	1	3	2	237		
284 MAIN-AIRPORT	1	1			1	1			1	1		
285 MAIN-BENTLEY												
286 MAIN-EXPRESS												
287 MAIN-GRIFFIN OAKS												
288 MAIN-JONES FARM												
289 MAIN-RIVER												
290 MARKET-ENGLEWOOD	3	10	1	3	2	7	1	5	1	2		
291 MARKET-FAIRGROUNDS	3	266	1	81	2	186	1	181	1	4		
292 MARKET-HAWTHORNE												
293 MARKET-PARK	2	44			2	44			2	44		
294 MARQUAM-MCCALL #10 NETWORK												
295 MARQUAM-MCCALL #11 NETWORK												
296 MARQUAM-MCCALL #12 NETWORK												
297 MARQUAM-MCCALL #9 NETWORK												
298 MARQUAM-MEADE	2	2,556			2	2,556	1	1,929	1	627		
299 MARQUAM-ORANGE												
300 MARQUAM-PORTER	1	44			1	44	1	44				
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												
308 MCCLAIN-FRONT	2	6	1	3	1	3			1	3		
309 MCCLAIN-HOLLYWOOD	1	7	1	7								
310 MCGILL-HORSETAIL	4	198			4	198			4	198		
311 MCGILL-LATOURELL												
312 MCGILL-LSI AIR 1A												
313 MCGILL-TOKETEE												
314 MERIDIAN-65TH												
315 MERIDIAN-BORLAND												
316 MERIDIAN-CHILDS												
317 MERIDIAN-LAKEVIEW	1	2			1	2			1	2		
318 MERIDIAN-MERIDIAN 13	8	2,691			8	2,691	2	1,596	6	1,095		
319 MERIDIAN-NYBERG												
320 MERIDIAN-PILKINGTON	2	270			2	270	1	58	1	212		

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2021 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
321	MERIDIAN-SAGERT	1	1			1	1			1	1	
322	MIDDLE GROVE-BROWN											
323	MIDDLE GROVE-CHEMEKETA											
324	MIDDLE GROVE-CORDON	3	105			3	105	1	95	2	9	
325	MIDDLE GROVE-SWEGLE											
326	MIDDLE GROVE-WEST	1	5			1	5			1	5	
327	MIDWAY-DIVISION	3	1,323	2	649	1	674			1	674	
328	MIDWAY-DOUGLAS	1	3			1	3			1	3	
329	MIDWAY-LYNCH	5	488	1	305	4	183			4	183	
330	MIDWAY-POWELLHURST	6	147	1	8	5	139	2	103	3	36	
331	MILL CREEK-EASTLAND	8	688	1	293	7	395	2	114	5	282	
332	MILL CREEK-KUEBLER											
333	MILL CREEK-MILL CREEK 13											
334	MOLALLA-BUCKAROO											
335	MOLALLA-FOREST	15	2,371	1	1	14	2,370	6	2,315	8	55	
336	MOLALLA-MARQUAM	32	4,008	1	2	31	4,006	14	1,437	17	2,569	
337	MOLALLA-YODER	8	662	1	24	7	638	2	329	5	309	
338	MT ANGEL-EAST	2	52	1	50	1	1	1	1			
339	MT ANGEL-WEST	3	4			3	4			3	4	
340	MT PLEASANT-CLAIRMONT	2	472			2	472			2	472	
341	MT PLEASANT-MT VIEW											
342	MT PLEASANT-RIVERCREST	1	19			1	19			1	19	
343	MT PLEASANT-SOUTH END	10	831	1	4	9	827			9	827	
344	MULINO-NORTH	5	144			5	144	2	3	3	141	
345	MULINO-SOUTH	9	734			9	734	4	527	5	207	
346	MULTNOMAH-13176	3	109	1	106	2	3	2	3			
347	MULTNOMAH-13177	4	770	2	13	2	757	1	2	1	755	
348	MULTNOMAH-13181	4	834	3	776	1	58	1	58			
349	MULTNOMAH-MULTNOMAH 13	4	1,004			4	1,004	1	965	3	38	
350	MURRAYHILL-KINTON											
351	MURRAYHILL-MURRAYHILL 13											
352	MURRAYHILL-REUSSER											
353	MURRAYHILL-TEAL	4	56			4	56	2	38	2	18	
354	NEWBERG-CHEHALEM	15	14,226	2	563	13	13,664	9	13,351	4	312	
355	NEWBERG-DUNDEE	14	1,143	1	22	13	1,121	8	594	5	527	
356	NEWBERG-HOOVER PARK	1	4			1	4	1	4			
357	NEWBERG-NORTH COLLEGE	2	72			2	72	2	72			
358	NORTH MARION-CROSBY	1	22			1	22			1	22	
359	NORTH MARION-FRONT	1	24			1	24			1	24	
360	NORTH MARION-HUBBARD	2	308			2	308			2	308	

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2021 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 MARION-MCLAREN	5	514	1	497	4	17			4	17		
362 NORTH PLAINS-MASON HILL	51	8,881	3	88	48	8,793	19	2,095	29	6,698	4	48
363 NORTH PLAINS-NORTH PLAINS 13	16	3,842			16	3,842	10	3,385	6	457		
364 NORTHERN-11009												
365 NORTHERN-11016												
366 NORTHERN-11071	2	13			2	13	1	1	1	12		
367 OAK GROVE-LAKE HARRIET	3	490			3	490	1	1	2	489		
368 OAK GROVE-WHITE WATER												
369 OAK HILLS-FIVE OAKS												
370 OAK HILLS-GREENBRIER												
371 OAK HILLS-OAK HILLS 13												
372 OAK HILLS-SOMERSET												
373 OAK HILLS-WALKER												
374 OREGON STEEL-OREGON STEEL 13												
375 ORENCO-231ST												
376 ORENCO-AMBERGLEN												
377 ORENCO-BASELINE												
378 ORENCO-ORENCO 13												
379 ORENCO-PRIMATE												
380 ORENCO-WILKINS												
381 ORIENT-BARLOW	4	51			4	51	1	7	3	45		
382 ORIENT-ORIENT 13	3	526			3	526	3	526				
383 ORIENT-OXBOW	22	1,766			22	1,766	14	1,134	8	631		
384 OSWEGO-IRON MOUNTAIN	3	1,293			3	1,293			3	1,293		
385 OSWEGO-MARYLHURST	5	611			5	611	1	7	4	604		
386 OSWEGO-PALATINE	5	632			5	632			5	632		
387 OSWEGO-STAFFORD	1	1			1	1			1	1		
388 OXFORD-FAIRVIEW	2	20	1	19	1	2			1	2		
389 OXFORD-LEE	1	341	1	341								
390 OXFORD-MADRONA												
391 OXFORD-OXFORD 13	2	278	1	263	1	15			1	15		
392 OXFORD-RURAL												
393 OXFORD-SHELTON												
394 PELTON-ROUND BUTTE												
395 PENINSULA PARK-OCKLEY GREEN												
396 PENINSULA PARK-PENINSULA PARK	5	33			5	33	3	28	2	5		
397 PLEASANT VALLEY-BAXTER	6	8,844			6	8,844	3	133	3	8,710		
398 PLEASANT VALLEY-CLATSOP	1	169			1	169	1	169				
399 PLEASANT VALLEY-MOON	3	6			3	6			3	6		
400 PLEASANT VALLEY-PLEASANT 13	6	5,005			6	5,005	2	4,993	4	12	2	102

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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
401 PLEASANT VALLEY-SUN	3	90			3	90	2	66	1	24		
402 PORTLAND WATER-PUMPING												
403 PORTSMOUTH-CARBIDE	3	18			3	18			3	18		
404 PORTSMOUTH-DISPOSAL												
405 PORTSMOUTH-WILLIS	1	3			1	3	1	3				
406 PROGRESS-GREENBURG	1	21			1	21			1	21		
407 PROGRESS-HALL												
408 PROGRESS-ROBINSON												
409 PROGRESS-SAWYER												
410 PROGRESS-WASHINGTON SQ #1												
411 PROGRESS-WASHINGTON SQ #2												
412 RALEIGH HILLS-DOGWOOD	2	9			2	9	1	2	1	8		
413 RALEIGH HILLS-MONTCLAIR	5	1,024	1	446	4	578	2	133	2	445		
414 RALEIGH HILLS-OLESON	6	1,332	2	324	4	1,008	1	3	3	1,005		
415 RAMAPO-EMERALD	2	3,240			2	3,240			2	3,240		
416 RAMAPO-GILBERT	1	11			1	11			1	11		
417 RAMAPO-RAMAPO 13	7	19	1	2	6	16			6	16		
418 REDLAND-HENRICI	12	549			12	549	3	250	9	299		
419 REDLAND-REDLAND 13	20	10,904	1	90	19	10,814	5	5,147	14	5,667	1	5
420 REEDVILLE-AUGUSTA												
421 REEDVILLE-BLANTON	6	284			6	284	2	27	4	256		
422 REEDVILLE-HAZELDALE	13	9,761	2	57	11	9,703	4	556	7	9,147		
423 REEDVILLE-INTEL #5												
424 REEDVILLE-TV												
425 RIVERGATE SOUTH-11010												
426 RIVERGATE SOUTH-11011												
427 RIVERGATE SOUTH-PEARCY												
428 RIVERGATE SOUTH-SWIFT												
429 RIVERVIEW-FULTON	4	1,789	1	4	3	1,785	1	24	2	1,761		
430 RIVERVIEW-MACADAM												
431 RIVERVIEW-TERWILLIGER	7	487	1	2	6	485	2	283	4	202		
432 ROCK CREEK-185TH												
433 ROCK CREEK-FOREST PARK	6	355	1	1	5	354			5	354		
434 ROCK CREEK-NEWBERRY	19	8,133	1	412	18	7,721	8	4,100	10	3,621		
435 ROCKWOOD-AIRPORT												
436 ROCKWOOD-BOEING												
437 ROCKWOOD-INDUSTRIAL												
438 ROCKWOOD-REYNOLDS	4	282			4	282			4	282		
439 ROCKWOOD-ROCKWOOD 13	7	123			7	123	4	92	3	31		
440 ROCKWOOD-WILKES												

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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
441 ROSEMONT-HIDDEN SPRINGS	3	213			3	213	3	213			1	1
442 ROSEMONT-MOSSY BRAE	4	1,514			4	1,514	1	123	3	1,391		
443 ROSEMONT-OVERLOOK	4	264			4	264	2	89	2	175		
444 ROSEWAY-ALEXANDER												
445 ROSEWAY-ESPLANADE												
446 ROSEWAY-ROSEWAY 13	1	7			1	7			1	7		
447 ROSEWAY-SOHI												
448 RUBY-CAR LINE	2	10			2	10			2	10		
449 RUBY-JUNCTION												
450 SALEM-13260												
451 SALEM-13261												
452 SALEM-13262												
453 SALEM-13263												
454 SALEM-13264												
455 SALEM-UNION												
456 SANDY-362ND	8	3,312			8	3,312	3	2,537	5	775		
457 SANDY-BLUFF	1	1,162	1	1,162								
458 SANDY-SANDY 13	31	2,008	3	914	28	1,094	11	557	17	537		
459 SANDY-WILDCAT	9	2,099	3	1,149	6	950	2	867	4	84		
460 SCAPPOOSE-SAUVIE ISLAND	2	440			2	440			2	440		
461 SCHOLLS FERRY-KEMMER	6	123			6	123	1	20	5	103		
462 SCHOLLS FERRY-RAINBOW	13	3,656	2	1,033	11	2,623	3	210	8	2,414		
463 SCHOLLS FERRY-ROY ROGERS	6	539			6	539	1	103	5	436		
464 SCOGGINS-CHERRY GROVE	34	5,562	2	25	32	5,537	8	3,076	24	2,462		
465 SCOGGINS-LAURELWOOD	11	500	2	229	9	270	3	102	6	168		
466 SCOTTS MILLS-SCOTTS MILLS 13	31	6,635	4	521	27	6,115	12	3,550	15	2,564		
467 SELLWOOD-KELLOGG PARK	2	101			2	101			2	101		
468 SELLWOOD-SELLWOOD 13	3	15	1	12	2	3			2	3		
469 SELLWOOD-WAVERLY	2	952	1	52	1	900			1	900		
470 SHERIDAN-EAST	16	1,464			16	1,464	11	1,432	5	32		
471 SHERIDAN-KADELL	7	954	1	4	6	950	2	322	4	628		
472 SHUTE-BIRCH												
473 SHUTE-LINDE 1												
474 SHUTE-MAPLE												
475 SHUTE-PINE												
476 SHUTE-RONLER 1												
477 SHUTE-RONLER 2												
478 SILVERTON-NORTH	1	2			1	2			1	2	1	3
479 SILVERTON-SOUTH	19	17,656	2	10	17	17,645	7	14,893	10	2,753		
480 SILVERTON-WEST	8	169	1	8	7	160	2	44	5	117		

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
481 SIX CORNERS-13359	15	4,186	2	1,355	13	2,832	10	2,503	3	329		
482 SIX CORNERS-13360												
483 SIX CORNERS-BORCHERS	9	3,292	2	683	7	2,609	2	1,317	5	1,292		
484 SIX CORNERS-CHAPMAN	6	6,887			6	6,887	4	6,867	2	21		
485 SIX CORNERS-SIX CORNERS 13	1	29			1	29			1	29		
486 SP NEWSPRINT-NEWBERG												
487 SPRING HILL-SPRING HILL												
488 SPRINGBROOK-FERNWOOD	8	1,022			8	1,022	2	570	6	452		
489 SPRINGBROOK-ST PAUL	7	470	2	6	5	464	3	23	2	441		
490 SPRINGBROOK-VILLA												
491 SPRINGBROOK-ZIMRI	4	2,740			4	2,740	2	952	2	1,788		
492 ST HELENS-HOULTON												
493 ST LOUIS-EAST												
494 ST LOUIS-NORTH	3	20			3	20	2	13	1	7		
495 ST LOUIS-WEST	7	164	2	23	5	140	2	61	3	79	1	54
496 ST MARYS EAST-BETHANY												
497 ST MARYS EAST-ELMONICA	5	434	1	151	4	284	4	284				
498 ST MARYS EAST-JENKINS												
499 ST MARYS EAST-MILLIKAN	1	208			1	208			1	208		
500 ST MARYS EAST-ST MARYS 13												
501 STIMSON LUMBER-FORESTEX												
502 SULLIVAN-ROBINWOOD	4	54			4	54			4	54		
503 SULLIVAN-SALAMO	3	228	1	74	2	154	2	154				
504 SULLIVAN-SUSSEX												
505 SULLIVAN-TANNER	1	2			1	2			1	2		
506 SULLIVAN-WILLAMETTE	3	2,264			3	2,264	1	487	2	1,777		
507 SULZER PUMPS-115B												
508 SUMMIT-GOVERNMENT CAMP	1	1			1	1	1	1				
509 SUMMIT-MEADOWS												
510 SUMMIT-SUMMIT 13												
511 SUNSET-BLANCHET												
512 SUNSET-COLFAX												
513 SUNSET-CORNELL												
514 SUNSET-DORION												
515 SUNSET-IDTA												
516 SUNSET-IDTB												
517 SUNSET-IDTC												
518 SUNSET-INTEL D1B1												
519 SUNSET-INTEL D1X1												
520 SUNSET-KOMATSU #2												

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
521	SUNSET-KOMATSU #3											
522	SUNSET-LANE											
523	SUNSET-MCCALL											
524	SUNSET-MEEK											
525	SUNSET-NIXON											
526	SUNSET-OLCOTT											
527	SUNSET-PAULING											
528	SUNSET-SPALDING											
529	SUNSET-WHITMAN											
530	SUNSET-YOUNG											
531	SWAN ISLAND-BASIN											
532	SWAN ISLAND-DOLPHIN											
533	SWAN ISLAND-FREIGHTLINER											
534	SWAN ISLAND-GOING											
535	SWAN ISLAND-SHIPYARD											
536	SYLVAN-BARNES	15	3,061	1	566	14	2,495	4	1,778	10	717	
537	SYLVAN-PATTON	12	8,382			12	8,382	5	7,721	7	661	
538	TABOR-82ND	5	367			5	367	3	330	2	37	
539	TABOR-HOSPITAL											
540	TABOR-TABOR 13											
541	TEKTRONIX-DUCKS											
542	TEKTRONIX-HOCKEN											
543	TEKTRONIX-MEADOW	2	230			2	230			2	230	
544	TEKTRONIX-NORTH											
545	TEKTRONIX-SHANNON	5	1,502			5	1,502	2	1,096	3	405	
546	TEKTRONIX-SOUTH	1	403	1	403							
547	TEKTRONIX-TEKTRONIX 13											
548	TEKTRONIX-TERMAN											
549	TEKTRONIX-WEST											
550	TEMP B-SOUTH											
551	TEMP C-R3006											
552	TEMP H-NEPTUNE											
553	TEMP H-SATURN											
554	TIGARD-13336											
555	TIGARD-13337											
556	TIGARD-13361	1	2			1	2			1	2	
557	TIGARD-13362	1	4			1	4	1	4			
558	TIGARD-TIGARD 13	2	3			2	3			2	3	
559	TOWN CENTER-LAWNFIELD											
560	TOWN CENTER-MONTEREY											

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	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs	Outs	Hrs
561 TOWN CENTER-NORTH												
562 TOWN CENTER-PRECISION CASTPARTS												
563 TOWN CENTER-SOUTH												
564 TOWN CENTER-SUNNYBROOK												
565 TOWN CENTER-VALLEY VIEW												
566 TROJAN-EAST												
567 TUALATIN-AVERY												
568 TUALATIN-CIPOLE												
569 TUALATIN-HERMAN												
570 TUALATIN-IBACH												
571 TUALATIN-LEVETON												
572 TUALATIN-TUALATIN 13												
573 TURNER-CASCADE	6	326			6	326	3	232	3	94		
574 TURNER-TURNER 13	4	394	1	37	3	357			3	357		
575 TWILIGHT-BREMER	6	81			6	81	2	33	4	48		
576 UNIONVALE-UNIONVALE 13	7	87			7	87	2	51	5	36		
577 UNIVERSITY-MILL												
578 UNIVERSITY-TRADE	8	3,700	2	3,331	6	370	1	6	5	364		
579 URBAN-BARBUR	2	612			2	612	2	612				
580 URBAN-CAMPUS												
581 URBAN-CORBETT	2	9	1	6	1	3			1	3		
582 URBAN-GAINES	3	1,722			3	1,722	2	96	1	1,625		
583 URBAN-GIBBS												
584 URBAN-KELLY												
585 URBAN-LANDING												
586 URBAN-MEDICAL												
587 URBAN-OHSU												
588 WACKER-WACKER 1												
589 WACONDA-NORPAC												
590 WACONDA-RIVER	2	103	1	78	1	26			1	26	1	8
591 WACONDA-WACONDA 13	9	2,053	1	1	8	2,052	2	339	6	1,713		
592 WALLACE-WALLACE 13	17	1,483	1	69	16	1,414	6	106	10	1,309		
593 WALLACE-WILLOW LAKE	1	47			1	47	1	47				
594 WELCHES-WELCHES 13	9	8,782	1	64	8	8,718	4	8,669	4	49		
595 WELCHES-ZIG ZAG	67	17,942	2	2,010	65	15,932	45	14,022	20	1,910		
596 WEST PORTLAND-72ND												
597 WEST PORTLAND-NORTH	1	4,816			1	4,816			1	4,816		
598 WEST PORTLAND-PACIFIC	5	406	1	333	4	74	2	11	2	63		
599 WEST PORTLAND-WEST PORTLAND 13	3	199			3	199	1	4	2	195		
600 WEST UNION-ALOCLEK												

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

Outs = Outages

Hrs = # of customers * duration hrs

2021 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 WEST UNION-CORNELIUS PASS												
602 WEST UNION-JACOBSON												
603 WEST UNION-WEST UNION 13												
604 WILLAMINA-BRIDGE	12	5,919	1	269	11	5,650	5	139	6	5,511		
605 WILLAMINA-BUELL	12	778			12	778	6	737	6	41		
606 WILLAMINA-LUMBER												
607 WILLBRIDGE-SALMONBERRY												
608 WILLBRIDGE-WILDWOOD	2	545			2	545	1	4	1	541		
609 WILSONVILLE-BOECKMAN	3	24			3	24	2	3	1	21		
610 WILSONVILLE-CHARBONNEAU	2	6			2	6			2	6		
611 WILSONVILLE-CITY	1	4			1	4			1	4		
612 WILSONVILLE-MENTORTEK												
613 WILSONVILLE-PARKWAY												
614 WILSONVILLE-VILLEBOIS												
615 WILSONVILLE-WEST	5	596	1	57	4	539	2	374	2	165		
616 WOODBURN-CANNERY											1	590
617 WOODBURN-EAST	4	34	1	2	3	32	2	26	1	6		
618 WOODBURN-TOMLIN	3	504			3	504	1	10	2	493		
619 WOODBURN-WEST	1	1	1	1								
620 YAMHILL-CARLTON	9	5,913			9	5,913	2	1,352	7	4,561		
621 YAMHILL-YAMHILL 13	17	3,458	1	179	16	3,280	10	2,174	6	1,106		
Grand Totals:	2,026	559,047	198	66,000	1,828	493,047	721	257,457	1,107	235,590	21	1,504

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

Outs = Outages

Hrs = # of customers * duration hrs

Section VIII

2021 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 2021 Annual Reliability Report

Confidential - Password Protected
Section III, Feeder Performance Summary
Section VIII, 2021 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		


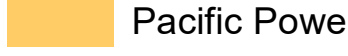





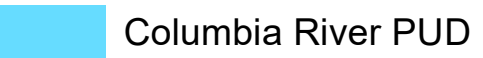

NOTE: Outages where the System is Substation are grouped into Loss of Supply - Substation and outages where the System is Transmission are grouped into Loss of Supply - Transmission

Cause Code Categories and Mapping

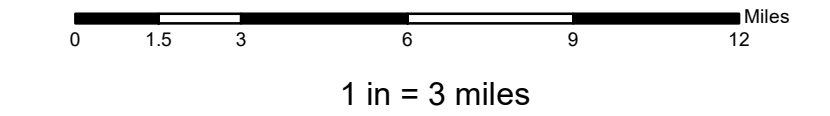
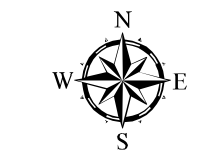
Cause Code Category Mapping - Equipment			
Category	Cause	Category	Cause
Cutout, Fuse, Arrestor	Arrestor	Pole	Pole / Structure
Cutout, Fuse, Arrestor	Fuse / Cutout	Substation	Other - Substation Equipment Failure
Meter	Meter	Substation	Protection System
OH Conductor	Primary Conductor	Substation	Terminal 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 |  Pacific Power |
|  City of Forest Grove |  Portland General Electric |
|  City of McMinnville |  Salem Electric |
|  Clatskani PUD Distribution |  Tillamook PUD |
|  Columbia River PUD |  West Oregon Electric |
|  Columbia Steel Casting | |

REVISED DATE - 3/5/2021



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