

PREFACE TO 2018 BELLEVUE ELECTRIC RELIABILITY REPORT

This preface summarizes Bellevue performance reporting for the 2018 calendar year, consistent with reporting to the Washington Utilities and Transportation Commission (WUTC) using *System Average Interruption Duration Index (SAIDI)* and *System Average Interruption Frequency Index (SAIFI)*. All SAIDI values in the 2018 report, including restated values for performance years prior to 2016, were calculated using the IEEE Standard 1366-2003 methodology as summarized below. SAIFI values calculation has not changed from past reports.

System Average Interruption Duration Index (SAIDI)

Prior to 2010, PSE calculated and reported single year SAIDI values excluding *Major Storm* event (affecting 5% or more of total PSE electric customers) outages. During the period 2010 – 2015 PSE calculated and reported rolling five-year average SAIDI values (the current year and four preceding years) including *Major Storm* event outages. Eligible outages having durations longer than 1 minute were included in SAIDI calculations.

In consultation with the WUTC, in 2016 PSE began using the Institute of Electrical and Electronics Engineers (IEEE) Standard 1366-2003 methodology for calculating SAIDI values reported to the WUTC. The IEEE Standard 1366-2003 defines electric power reliability indices and factors that affect their calculations. The switch to the IEEE 1366 methodology returned to calculation of single year SAIDI values excluding outage events occurring on *Major Event Days*. Eligible outages having durations longer than 5 minutes duration are included in SAIDI calculations. Detailed discussion of this methodology is contained in PSE's 2016 Service Quality and Electric Service Reliability Report filed with the WUTC. In summary, the IEEE methodology takes this approach:

Major Event – An event, such as a storm, that causes serious reliability performance problems.

Major Event Days—Days when outage events can be excluded from the reliability performance calculation. Types of Major Event Days include:

SAIDI Exclusion Major Event Days—Any day in which the daily system SAIDI exceeds the threshold value for the current year.

5% Exclusion Major Event Days—Days that five percent or more of electric customers are experiencing an electric outage during a 24-hour period and subsequent days when the service to those customers is being restored.

SAIDI—System Average Interruption Duration Index—This index is calculated based on the formula:

$$\text{SAIDI} = \frac{\Sigma \text{Customer Minute Interruptions}}{\text{Average Annual Electric Customer Count}}$$

SAIDI_{SQI}*: The SAIDI values used in this report are calculated with the numerator including customer interruption minutes for outage events longer than five minutes occurring during non-Major Event Days events. *SQI – Service Quality Index

All SAIDI values in the 2018 report, including restated values for performance years prior to 2016, were calculated using the IEEE Standard 1366-2003 methodology.

System Average Interruption Frequency Index (SAIFI)

Calculation of SAIFI values reported to the WUTC has not changed from past years. SAIFI values are calculated for single years excluding 5% Exclusion Major Event Days outage events (see above). SAIFI is calculated based on the formula:

$$\text{SAIFI} = \frac{\Sigma \text{Number of Customer Interruptions}}{\text{Average Annual Electric Customer Count}}$$

SAIFI_{SQI}*: The SAIFI values used in this report are calculated with the numerator including customer interruptions for outage events longer than one minute occurring outside of 5% Exclusion Major Event Days. *SQI – Service Quality Index

SAIFI values calculation has not changed from past reports.

Momentary & Sustained Interruptions

Interruptions to customer service fall into two designations:

Momentary Interruption— brief loss of power delivery to one or more customers caused by the opening and closing of an interrupting device:

SAIDI_{SQI}— any interruption five minutes or shorter

SAIFI_{SQI}— any interruption one minute or shorter

Sustained Interruption—any interruption not classified as Momentary (above):

SAIDI_{SQI}— Any interruption longer than five minutes

SAIFI_{SQI}— Any interruption longer than one minute

Outage Event Codes

Before 2016, PSE used *Storm Codes* to indicate whether an outage occurred during normal conditions (NON), weather event conditions (WTH) or major storm conditions (MAJ). In 2016, Storm Codes were discontinued and replaced with *Event Codes* to incorporate the IEEE designation of Major Event Days:

MEJ – IEEE Major Event Day & Major Storm (5% of customers effected)

MEN – IEEE Major Event Day – non Major Storm

NMJ – Non IEEE Major Event Day, but Major Storm (5% of customers effected)

NON – Non IEEE Major Event Day & non Major Storm

BELLEVUE ELECTRIC RELIABILITY REPORT FOR 2018

This report summarizes electric service reliability for customers within the City of Bellevue for calendar year 2018. For the 14th consecutive year, service reliability as measured by SAIDI & SAIFI for Bellevue customers well exceeded that experienced by all PSE customers in the aggregate. Of the 96 distribution circuits serving Bellevue customers in 2018, 70 circuits had reliability numbers better than the system wide performance (25 circuits experienced no unplanned outages). 26 circuits had SAIDI and/or SAIFI figures that exceeded 2018 system wide performance values.

SYSTEM AVERAGE INTERRUPTION DURATION INDEX (SAIDI) SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX (SAIFI) FIVE YEAR HISTORY

PSE analyzes and reports on the performance of its distribution circuits using two standard benchmarks of the electric utility industry, **SAIDI** and **SAIFI**.

	SAIDI		SAIFI	
	BELLEVUE	PSE	BELLEVUE	PSE
2014	77	152	0.60	1.04
2015	90	150	0.71	1.11
2016	107	148	0.74	1.06
2017	116	175	0.91	1.20
2018	111	145	0.71	1.02

SAIDI figures in minutes per customer, calculated using the IEEE 1366 method
(2014 & 2015 SAIDI figures recalculated to IEEE 1366 figures)
SAIFI figures in outage events per customer

SAIDI_{IEEE}: The System Average Interruption Duration Index is a measure of how long the average customer is out of service during the year, and is determined as:

$$\frac{\text{Sum of the customer outage minutes}}{\text{Total number of customers served}}$$

SAIDI figures are single year figures excluding outages that exceed the annual adjusted Major Event Day Threshold

Some customers will experience more outages minutes than the average and some fewer.

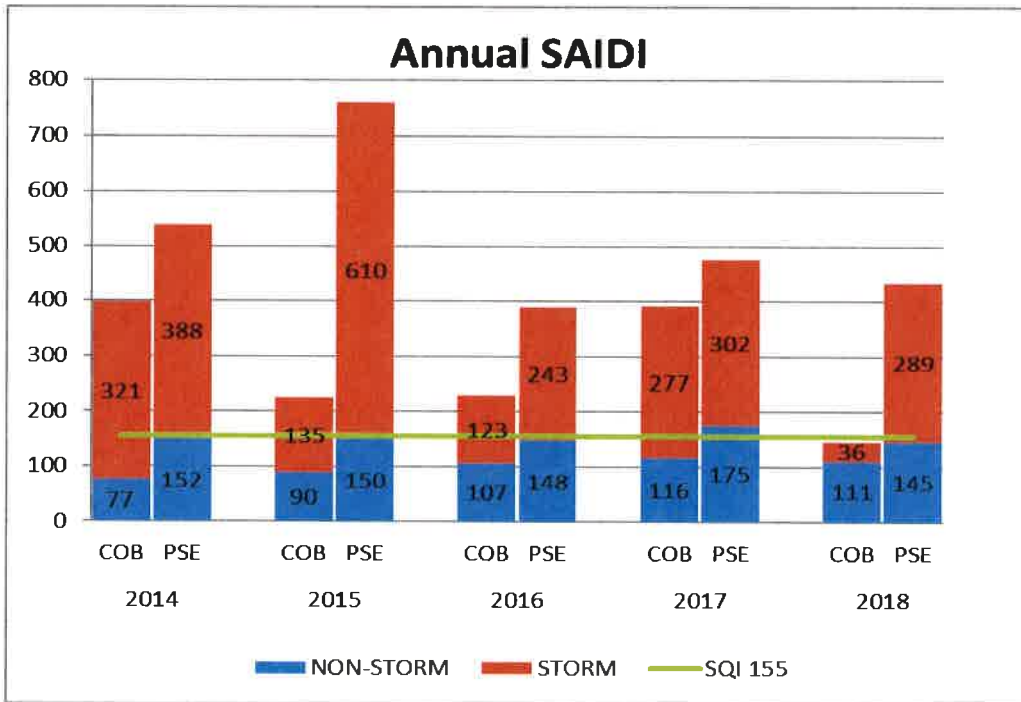
SAIFI: The System Average Interruption Frequency Index is a measure of how often the average customer in an area is out of service during a year, and is determined as:

$$\frac{\text{Sum of the number of customers affected by each outage}}{\text{Total number of customers served}}$$

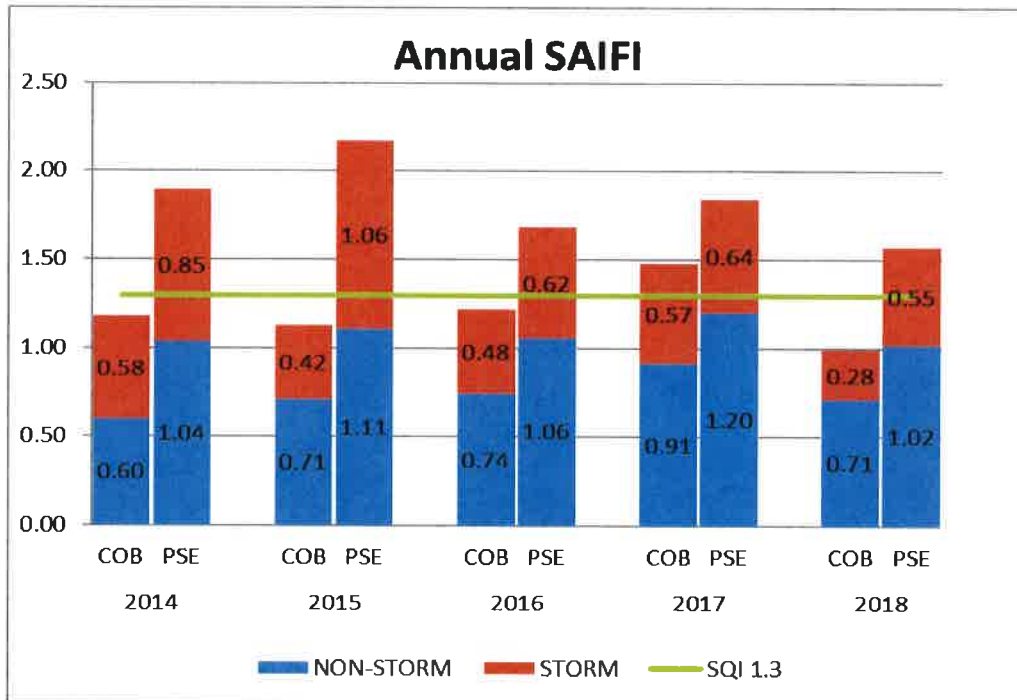
SAIFI figures are single year figures excluding 5% Exclusion Major Event Day outage events

Some customers will experience more outages than the average and some fewer.

**SYSTEM AVERAGE INTERRUPTION DURATION INDEX (SAIDI)
SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX (SAIFI)
FIVE YEAR HISTORY**



Values in minutes for all years calculated using IEEE 1366 method



Values in outage events for all years

**CIRCUITS THAT EXCEEDED PSE SYSTEM SAIDI OR SAIFI
BY YEAR 2014 - 2018**

During the five year period 2014-2018 67 circuits serving customers in Bellevue performed below PSE's average system wide performance in one or more years. Of these 67 circuits...

- 28 (42%) circuits performed below system wide performance once in five years
- 21 (31%) circuits performed below system wide performance twice in five years
- 13 (19%) circuits performed below system wide performance in three of the five years
- 4 (6%) circuits performed below system wide performance in four of the five years
- 1 (1%) circuit performed below system wide performance in five of the five years

CIRCUIT	Repeat Counts					1	2	3	4	5
	2014	2015	2016	2017	2018					
ARD-11							2			
ARD-13						1				
ARD-15								3		
BTR-21						1				
BTR-22							2			
CEN-11								3		
CEN-14						1				
CEN-22						1				
CLY-23							2			
CLY-27							2			
COL-22							2			
COL-23						1				
COL-24						1				
COL-25						1				
COL-26							2			
EGT-11							2			
EGT-12								3		
EGT-13							2			
EGT-15						1				
EGT-16							2			
EGT-25						1				
EGT-26						1				
EGT-28							2			
EVE-23								3		
FAC-12						1				
FAC-14						1				
FAC-24						1				
HAZ-12						1				
HOU-23							2			
HOU-25									4	
KWH-22						1				
KWH-23						1				
KWH-25									4	
KWH-26							2			
LHL-22							2			
LHL-23							2			
LHL-25								3		
LHL-26						1				
LOC-22							2			
LOC-25						1				
LOC-32						1				
LOC-33						1				

MED-35											3
MED-36						1					
MLK-13						1					
MLK-15											2
NOB-11						1					
NOB-12						1					
NOB-24											3
NRU-23											3
NRU-25						1					
NRU-26						1					
NRU-27											5
OVE-12						1					
OVE-15											4
PHA-13											3
PHA-15											2
PHA-16											3
PHA-17											3
ROS-17											2
SBE-22											3
SBE-23											2
SBE-26						1					
SOM-13											2
SOM-15											2
SOM-16											4
SOM-17											3
Totals	25	23	23	33	26	28	21	13	4	1	
	2014	2015	2016	2017	2018	42%	31%	19%	6%	1%	

CIRCUITS THAT EXCEED 2018 PSE SYSTEM SAIDI AND/OR SAIFI		2018 Events Comments		Actions & Projects Completed in 2018		Planned Actions & Projects	
CIRCUIT	SAIDI	SAIFI					
<p>Notes: SAIDI figures reflect all non-MED outages, scheduled & unscheduled. SAIFI figures reflect all non-storm outages, scheduled & unscheduled</p> <p>Bellevue Average: SAIDI = 146 SAIFI = 1.02</p> <p>Bellevue Average: SAIDI = 111 SAIFI = 0.71</p>							
Circuits with planned actions or investigations							
EOT-12	322.8	2.86	The limits in overhead feeder conductors caused two circuit outages.	Overhead conductors were replaced with new wire in the effected feeder segment.	A Distribution Automation scheme (including Essegate 12, Hazelwood 12, and Somerset 13) has been developed to allow more rapid restoration of service to customers in the effected area. Implementation (including construction) is expected to be complete by the end of 2020.		
PHA-13	295.7	1.21	A cat-5 cable accident damaged transmission line supports and interrupted transmission supply to Phantom Lake Substation resulting in an extended outage on this circuit.	The transmission supports were repaired/replaced and the transmission line returned to service.	Construction of Lake Hills/Phantom Lake Transmission Line project (in permitting) will allow automated isolation of the damaged transmission line segment and restoration of transmission service to Phantom Lake Substation within one minute.		
PHA-17	282.6	0.34	A cat-5 cable accident damaged transmission line supports and interrupted transmission supply to Phantom Lake Substation resulting in an extended outage on this circuit.	The transmission supports were repaired/replaced and the transmission line returned to service.	Completion of the long planned Lake Hills/Phantom Lake Transmission Line project (in permitting) will allow automated isolation of the damaged transmission line segment and restoration of transmission service to Phantom Lake Substation within one minute.		
PHA-16	234.4	0.23	A cat-5 cable accident damaged transmission line supports and interrupted transmission supply to Phantom Lake Substation resulting in an extended outage on this circuit.	The transmission supports were repaired/replaced and the transmission line returned to service.	Completion of the long planned Lake Hills/Phantom Lake Transmission Line project (in permitting) will allow automated isolation of the damaged transmission line segment and restoration of transmission service to Phantom Lake Substation within one minute.		
PHA-15	216.6	0.26	A cat-5 cable accident damaged transmission line supports and interrupted transmission supply to Phantom Lake Substation resulting in an extended outage on this circuit.	The transmission supports were repaired/replaced and the transmission line returned to service.	Completion of the long planned Lake Hills/Phantom Lake Transmission Line project (in permitting) will allow automated isolation of the damaged transmission line segment and restoration of transmission service to Phantom Lake Substation within one minute.		
SOM-13	199.0	1.00	An equipment failure at Somerset Substation deenergized the substation transformer resulting in an extended outage on this circuit.	The failed equipment was repaired.	Distribution switching restored service to all customers. The failed equipment was repaired.		
Circuits with completed 2018 actions - no additional corrective action needed							
LHL-23	408.5	2.22	14 scheduled outages on this circuit contributed 173 minutes to SAIDI and 36 to SAIFI for this circuit.	Service/trim removed vegetation from inside and surrounding the switch and returned the switch to service.	The failed cable was replaced.		
ROS-17	295.2	1.20	A distribution switch failure caused an extended circuit outage.	Distribution switching restored service to most customers and the failed switch was replaced.	Distribution switching restored service to all customers. The failed equipment was replaced.		
SOM-16	293.4	1.30	An equipment failure at Somerset Substation deenergized the substation transformer resulting in an extended outage on this circuit.	Distribution switching restored service to most customers and the failed switch was replaced.	Distribution switching restored service to all customers. The failed equipment was replaced.		
MLK-13	273.0	1.46	An unattended delivery truck struck and damaged a padmount distribution switch causing a circuit outage.	Distribution switching restored service to most customers and the damaged switch was replaced.	Distribution switching restored service to all customers. The failed equipment was replaced.		
SOM-15	242.8	1.24	An equipment failure at Somerset Substation deenergized the substation transformer resulting in an extended outage on this circuit.	Distribution switching restored service to all customers.	Distribution switching restored service to all customers. The failed equipment was replaced.		
NOB-24	222.7	0.70	14 scheduled outages on this circuit contributed 173 minutes to SAIDI and 36 to SAIFI for this circuit.	Service/trim removed vegetation from inside and surrounding the switch and returned the switch to service.	The failed cable was replaced.		
LOC-22	215.4	1.73	An animal contact and a cable failure caused two circuit outages (see KWH-22). Scheduled outages for four cable replacement projects impacted both SAIDI and SAIFI for this circuit. Note: Lake Hills Substation was out of service for 14 minutes on 1/24/19 due to a cat-5 cable accident. This was not included in the SAIDI or SAIFI figures for this circuit.	Distribution switching restored service to most customers and the failed cable was replaced.	Distribution switching restored service to all customers. The failed equipment was replaced.		
LHL-25	192.8	2.72	A broken feeder cable caused a circuit outage. A cable fault in the Midway Island circuit resulted in a circuit outage for both circuits.	The failed cable was replaced.	The failed cable was replaced.		
SBE-22	191.6	1.20	An underground feeder cable failure caused an extended circuit outage.	Distribution switching restored service to most customers and the failed cable was replaced.	Distribution switching restored service to all customers. The failed equipment was replaced.		
OVE-12	181.0	1.03	In separate events, a failed cable and a loose operation at a padmount switch caused two outages affecting several larger commercial customers.	The failed cable was replaced. The fuse was replaced.	Distribution switching restored service to all customers. The failed equipment was replaced.		
NOB-11	188.6	0.71	An equipment failure at Somerset Substation deenergized the substation transformer resulting in an extended outage on this circuit.	Distribution switching restored service to all customers.	Distribution switching restored service to all customers. The failed equipment was replaced.		
SOM-17	182.5	1.18	A group of customers experienced three recurring outages. Investigation of the first two outages revealed no apparent cause and service was restored. A subsequent cable above was identified during the third outage (see LHL-25).	The suspect cable above was replaced.	The suspect cable above was replaced.		
ARD-13	181.0	1.90	An animal contact and a feeder cable fault (during Lake Hills Substation return to service) caused two circuit outages (see LHL-25).	The failed cable was replaced.	The failed cable was replaced.		
KWH-22	167.8	2.52	A failed feeder cable caused a circuit outage. Note: Lake Hills Substation was out of service for construction 6/1 - 11/17 with Lake Hills distribution circuits tied from other substations.	Distribution switching restored service to customers and the failed feeder cable was repaired.	Distribution switching restored service to customers and the failed feeder cable was repaired.		
ARD-15	155.8	1.92	A failed feeder cable caused a circuit outage. Note: Lake Hills Substation was out of service for construction 6/1 - 11/17 with Lake Hills distribution circuits tied from other substations.	Distribution switching restored service to customers and the failed feeder cable was repaired.	Distribution switching restored service to customers and the failed feeder cable was repaired.		
NRU-27	155.3	0.50	A broken feeder cable caused a circuit outage. Investigation of the first two outages revealed no apparent cause and service was restored. A subsequent cable above was identified during the third outage (see LHL-25).	The failed cable was replaced.	The failed cable was replaced.		
SBE-23	130.4	1.56	Multiple scheduled outages for Sound Tronak construction along 12th Ave SE contributed the majority of SAIDI outage minutes and the majority of SAIFI events on this circuit.	The lines were removed and service restored. Scheduled programmatic vegetation management was completed on this circuit in early 2019.	The lines were removed and service restored. Scheduled programmatic vegetation management was completed on this circuit in early 2019.		
HOU-25	128.1	1.30	A close row of right-of-way fence into overhead feeder conductors causing a circuit outage.	The fence was removed and service restored. Scheduled programmatic vegetation management was completed on this circuit in early 2019.	The fence was removed and service restored. Scheduled programmatic vegetation management was completed on this circuit in early 2019.		
KWH-26	116.2	1.84	While KWH-26 shared a group of KWH-22 customers an overhead fuse opened causing a limited area outage. An animal contact caused a second outage on the same portion of the circuit.	The fuse was replaced and animal guards were installed at the faulted site.	The fuse was replaced and animal guards were installed at the faulted site.		
Circuits for which no corrective action is needed							
MLK-15	29.4	1.16	During distribution switching for scheduled system work and with a Hot Line Work Switch set on at the substation for worker safety, one circuit tripped out causing a brief circuit outage.				
<p>Figure exceeded PSE system wide average figure</p> <p>Figure exceeding system wide average and Service Quality Index</p> <p>SAIFI figure results in part from circuit outages due to transmission line or substation outages</p>							

2018 PERFORMANCE FOR CIRCUITS SERVING BELLEVUE
EXCLUDING STORM OUTAGES

CIRCUIT	CUSTOMERS	OUTAGE		SAIDI ²	SAIFI ²
	(METERS)	OUTAGES ¹	MINUTES ¹		
	<i>2018 PSE companywide performance figures</i>			145	1.02
ARD-11	220	0	0		0.00
ARD-13	630	8	111,556	181.04	1.90
ARD-15	1,376	7	169,466	155.84	1.92
ARD-43	118	1	1,041	8.82	0.08
BTR-14	1,132	1	17,690	15.63	0.15
BTR-21	1,136	6	50,349	58.38	0.46
BTR-22	661	13	92,859	142.39	0.60
BTR-23	643	0	0		0.00
CEN-11	25	0	0	36.36	0.24
CEN-12	152	0	0		0.00
CEN-13	471	0	0	14.58	0.01
CEN-14	188	0	0		0.00
CEN-22	447	1	4,184	10.32	0.47
CEN-25	918	0	0	2.60	0.01
CLY-22	345	1	664	1.92	0.00
CLY-23	534	2	818	1.91	0.02
CLY-25	1,527	3	66,604	44.23	0.35
CLY-26	1,240	2	175	7.30	0.03
CLY-27	720	2	2,004	4.58	0.04
COL-22	1	0	0	22.00	0.00
COL-23	198	1	230	22.81	0.01
COL-24	33	0	0	50.13	0.12
COL-25	238	0	0	21.65	0.00
COL-26	1,836	8	6,054	24.92	0.06
EGT-11	1,167	9	86,093	90.75	0.48
EGT-12	2,743	11	884,096	322.84	2.86
EGT-13	7	0	0	35.71	0.14
EGT-15	342	3	870	4.77	0.03
EGT-16	440	6	9,505	27.58	0.14
EGT-25	690	0	0	0.44	0.00
EGT-26	70	1	776	11.09	0.07
EGT-27	598	2	733	2.42	0.03
EGT-28	1,762	18	124,558	86.88	0.39
EVE-23	2,946	18	100,010	34.71	0.15
FAC-12	1,265	16	85,480	75.09	0.41
FAC-13	509	0	0		0.00
FAC-14	454	1	332	65.82	0.04
FAC-21	96	0	0	0.76	0.01
FAC-23	226	0	0	5.18	0.01
FAC-24	83	1	417	5.02	0.04
FAC-25	1,493	8	14,800	9.91	0.05
GOO-13	1,978	2	30,877	51.41	0.19
GOO-21	221	6	17,632	79.78	0.37
HAZ-12	2,678	6	131,835	54.13	0.41
HAZ-13	1,218	6	13,814	16.14	0.14
HOU-23	1,314	6	34,655	26.37	0.34
HOU-25	497	7	45,155	126.09	1.30
KWH-22	1,104	15	185,313	167.93	2.52
KWH-23	945	5	35,726	111.20	0.31
KWH-25	1,621	22	85,894	53.27	0.24
KWH-26	269	4	28,484	116.19	1.84
LHL-22	1,013	7	15,582	34.26	0.16
LHL-23	1,299	5	530,609	408.48	2.22
LHL-25	2,210	18	290,387	192.82	2.72
LHL-26	552	2	381	0.69	0.01

LOC-22	2,377	7	511,929	215.37	1.73
LOC-23	1,966	1	93	39.64	0.12
LOC-24	49	0	0		0.00
LOC-25	153	0	0		0.00
LOC-32	228	0	0		0.00
LOC-33	338	0	0		0.00
LOC-34	308	1	41,015	133.17	1.00
LOC-35	22	0	0		0.00
MED-35	191	1	202	21.29	0.17
MED-36	669	6	15,377	22.99	0.18
MLK-12	423	0	0		0.00
MLK-13	1,595	12	435,388	272.97	1.48
MLK-15	1,608	7	42,733	29.44	1.16
MLK-16	1,544	2	68,214	44.43	0.31
NOB-11	62	2	11,692	188.58	0.71
NOB-12	289	0	0	1.82	0.03
NOB-13	29	0	0		0.00
NOB-14	655	2	1,079	1.65	0.02
NOB-21	5	0	0		0.00
NOB-22	168	0	0	0.95	0.01
NOB-23	1,067	2	571	1.17	0.01
NOB-24	992	6	47,607	222.73	0.70
NRU-23	788	8	24,731	71.91	0.21
NRU-25	847	15	39,424	124.02	0.64
NRU-26	536	2	943	3.81	0.02
NRU-27	526	2	2,006	155.33	0.50
OVE-12	552	6	104,649	190.98	1.03
OVE-15	761	6	56,128	86.43	0.47
PHA-13	1,046	15	32,330	295.67	1.21
PHA-15	179	2	7,095	216.64	0.26
PHA-16	2,080	9	47,545	234.44	0.23
PHA-17	702	4	18,580	282.61	0.34
ROS-17	1,226	12	361,734	295.20	1.20
SBE-22	393	9	74,406	191.79	1.20
SBE-23	133	2	5,720	130.43	1.56
SBE-25	531	1	5,165	9.73	0.10
SBE-26	1,743	12	21,062	23.41	0.13
SOM-13	1,173	3	233,371	198.95	1.00
SOM-15	1,743	6	423,171	242.78	1.24
SOM-16	2,615	11	691,714	293.37	1.30
SOM-17	1,708	11	311,929	182.53	1.18
Scheduled Outages		166	1,054,632		
Unscheduled Outages		280	5,860,679		
Totals	80,619	446	6,915,311		

Notes

- 1 Figures exclude Major Event Day and Major Storm outages
- 2 SAIDI are 2018 single year figures calculated using the IEEE 1366 method which excludes Major Event Day outage events.
SAIFI are 2018 single year figures which exclude 5% Exclusion Major Event Day outage events.
- 3 SAIDI & SAIFI figures greater than zero reflect inclusion of storm outage events
- 4 Includes one circuit outage resulting from a substation bank outage
- 5 Includes one circuit outage resulting from a transmission line outage

2018 OUTAGES FOR CIRCUITS SERVING BELLEVUE
EXCLUDING STORM OUTAGES

BY CAUSE

CAUSE CODE	CAUSE DESCRIPTION	OUTAGES		OUTAGE MINUTES	
		COUNT	PERCENT	COUNT	PERCENT
AC	ACCIDENT	6	0.98%	300745	3.77%
BA	BIRD OR ANIMAL	76	12.44%	480518	6.03%
CE	CUSTOMER EQUIPMENT	3	0.49%	47771	0.60%
CP	CAR EQUIPMENT	3	0.49%	8540	0.11%
DU	DIG UP UNDERGROUND	12	1.96%	48286	0.61%
EF	EQUIPMENT FAILURE	225	36.82%	4117170	51.66%
FI	FAULTY INSTALLATION	6	0.98%	1675	0.02%
OD	OUTSIDE DISTURBANCE	4	0.65%	316880	3.98%
OE	OUTAGE WHILE WORKING	1	0.16%	4184	0.05%
SO	SCHEDULED OUTAGE	166	27.17%	1054632	13.23%
TF	TREE - OFF RIGHT OF WAY	1	0.16%	39082	0.49%
TV	TREE - RIGHT OF WAY UNKNOWN	47	7.69%	646058	8.11%
UN	UNKNOWN CAUSE	61	9.98%	904402	11.35%
Totals		611	100%	7,969,943	100%

BY EQUIPMENT

EQUIP CODE	EQUIPMENT DESCRIPTION	OUTAGES		OUTAGE MINUTES	
		COUNT	PERCENT	COUNT	PERCENT
ACE	ALL CUSTOMER EQUIPMENT	23	3.76%	182162	2.29%
CFD	CAPACITOR BANK FUSED DISCONNECT	4	0.65%	1477708	18.54%
CTX	TRANSFORMER INSTRUMENT (CURRENT)	1	0.16%	8182	0.10%
OAR	OVERHEAD ARRESTER	1	0.16%	252	0.00%
OCN	OVERHEAD SECONDARY CONNECTOR	13	2.13%	37868	0.48%
OCO	OVERHEAD CONDUCTOR	42	6.87%	1077944	13.53%
OCR	OVERHEAD CROSSARM	8	1.31%	621046	7.79%
OFU	OVERHEAD LINE FUSE / FUSE LINK	20	3.27%	76060	0.95%
OGD	OVERHEAD DOWN GUY	1	0.16%	556	0.01%
OHR	OVERHEAD RECLOSER (EDOR100)	2	0.33%	517	0.01%
OJU	OVERHEAD JUMPER WIRE	3	0.49%	26270	0.33%
OMP	OVERHEAD METER POINT (EDOM100)	7	1.15%	1497	0.02%
OPO	OVERHEAD POLE (EDOP100)	32	5.24%	184193	2.31%
OSV	OVERHEAD SERVICE	25	4.09%	7667	0.10%
OSW	OVERHEAD SWITCH (EDOS100)	1	0.16%	76708	0.96%
OTF	OVERHEAD TRANSFORMER FUSE	63	10.31%	47536	0.60%
OTH	OVERHEAD OTHER	4	0.65%	15996	0.20%
OTR	OVERHEAD TRANSFORMER	18	2.95%	31359	0.39%
PMF	PADMOUNT SWITCH FUSE	3	0.49%	22010	0.28%
PMJ	PADMOUNT J-BOX	6	0.98%	120347	1.51%
PTF	PADMOUNT TRANSFORMER FUSE	2	0.33%	31947	0.40%
SCB	POWER CIRCUIT BREAKER	2	0.33%	157192	1.97%
UEL	UNDERGROUND ELBOW	30	4.91%	395554	4.96%
UFI	UNDERGROUND FAULT INDICATOR	1	0.16%	1041	0.01%
UFJ	UNDERGROUND J-BOX	5	0.82%	59209	0.74%
UGF	UNDERGROUND SUBMERSIBLE FUSE	4	0.65%	45752	0.57%
UHH	UNDERGROUND HANDHOLE - SECONDARY	3	0.49%	1767	0.02%
UMP	UNDERGROUND SUBMERSIBLE METER POINT	1	0.16%	171	0.00%
UOT	UNDERGROUND OUTDOOR TERMINATION	11	1.80%	51189	0.64%
UPC	UNDERGROUND PRIMARY CABLE	102	16.69%	1671616	20.97%
UPS	UNDERGROUND PADMOUNT SWITCH (EDUS100)	8	1.31%	854398	10.72%
UPT	UNDERGROUND PADMOUNT TRANSFO	18	2.95%	87398	1.10%
USC	UNDERGROUND SECONDARY CABLE	11	1.80%	4833	0.06%
USE	UNDERGROUND SECONDARY CONNECT	8	1.31%	27158	0.34%
USP	UNDERGROUND PRIMARY SPLICE	1	0.16%	60903	0.76%
USV	UNDERGROUND SERVICE	75	12.27%	51931	0.65%
UTC	UNDERGROUND TERMINAL FUSE	17	2.78%	150992	1.89%
UTF	UNDERGROUND SUBMERSIBLE TRANS FUSE	1	0.16%	1040	0.01%
UTR	UNDERGROUND SUBMERSIBLE TRANSFORMER	34	5.56%	299974	3.76%
Totals		611	100%	7,969,943	100%

2018 OUTAGES FOR CIRCUITS SERVING BELLEVUE

DATE	CIRCUIT	CAUSE	EQUIPMENT	CUSTOMERS OUT	CUSTOMER MINUTES
1/1/2018	SBE-26	TV	OCO	21	5818
1/2/2018	EGT-11	EF	OTR	4	1167
1/2/2018	EGT-11	FI	OSV	1	138
1/2/2018	NRU-25	EF	USV	1	554
1/3/2018	NRU-25	EF	USV	1	508
1/3/2018	NRU-27	EF	UTR	1	611
1/3/2018	NRU-27	SO	OPO	123	48825
1/4/2018	EGT-12	SO	UPC	5	300
1/4/2018	NRU-25	EF	USV	1	319
1/5/2018	ARD-13	SO	UPT	12	474
1/5/2018	EGT-12	EF	OCR	2212	202904
1/5/2018	HOU-25	SO	OTR	19	7381
1/5/2018	NOB-24	SO	USC	2	38
1/8/2018	MLK-15	SO	UEL	30	3943
1/9/2018	ARD-15	SO	UEL	77	16103
1/9/2018	EGT-15	EF	OSV	4	388
1/9/2018	KWH-23	EF	UEL	82	32304
1/10/2018	LHL-23	BA	OFU	76	5030
1/11/2018	LOC-34	EF	UPC	308	41015
1/12/2018	CLY-26	SO	UPT	7	1015
1/12/2018	EGT-28	EF	UTR	10	3506
1/12/2018	HAZ-12	SO	UPC	8	1735
1/14/2018	GOO-21	EF	UPC	19	6828
1/16/2018	NRU-25	EF	USV	1	468
1/17/2018	EGT-12	EF	UFJ	117	36228
1/17/2018	EGT-28	EF	UTR	9	6736
1/17/2018	SBE-26	SO	OPO	11	688
1/18/2018	BTR-22	TV	OCO	11	6548
1/18/2018	EGT-28	FI	OSV	1	89
1/18/2018	PHA-16	UN	OTF	3	644
1/18/2018	SBE-22	TV	OSV	1	149
1/19/2018	NOB-24	SO	UPT	82	9701
1/19/2018	OVE-15	EF	OSV	1	180
1/20/2018	NRU-27	SO	OPO	16	3867
1/21/2018	SBE-26	TV	OCO	4	176
1/22/2018	GOO-21	FI	USV	1	694
1/23/2018	EGT-28	DU	UPC	4	428
1/23/2018	HAZ-12	SO	UPC	87	9144
1/23/2018	LHL-22	BA	OFU	9	403
1/23/2018	LHL-25	SO	UEL	2	77
1/24/2018	CLY-22	EF	UTR	1	664
1/24/2018	MED-35	EF	UHH	1	202
1/25/2018	LHL-25	SO	UPT	1	177

1/25/2018	SOM-17	EF	UEL	1	171
1/26/2018	MLK-15	EF	UTR	2	844
1/27/2018	BTR-22	EF	OTF	4	285
1/27/2018	COL-26	TV	OCO	40	5985
1/27/2018	KWH-26	TF	OFU	147	30086
1/27/2018	KWH-26	TO	UTC	147	15413
1/27/2018	LOC-22	TV	OCO	80	10942
1/27/2018	MLK-13	TF	OCO	143	12880
1/27/2018	OVE-15	EF	OCO	53	15470
1/27/2018	SBE-26	TV	OFU	24	1548
1/29/2018	SBE-23	SO	UTC	13	88
1/29/2018	SBE-23	SO	UTC	49	402
1/29/2018	SBE-23	UN	USV	1	363
1/30/2018	KWH-25	UN	UTC	14	1674
1/30/2018	LHL-25	EF	USV	9	2166
2/1/2018	HOU-23	UN	USV	1	166
2/1/2018	LOC-23	SO	UEL	1	54
2/1/2018	MED-36	EF	PTF	4	493
2/1/2018	MED-36	EF	USV	1	474
2/1/2018	OVE-15	EF	USE	1	176
2/1/2018	PHA-16	EF	OTF	9	502
2/1/2018	SBE-26	TV	OCO	17	1796
2/1/2018	SOM-13	EF	USV	1	197
2/2/2018	ROS-17	EF	USV	1	3
2/3/2018	SOM-17	EF	USE	4	226
2/6/2018	ARD-15	EF	UTR	4	1968
2/6/2018	CLY-25	SO	UPC	4	934
2/7/2018	NRU-23	SO	UPC	4	230
2/7/2018	PHA-13	SO	UPC	6	380
2/8/2018	CEN-11	SO	OTR	2	308
2/8/2018	SBE-26	UN	USC	8	1158
2/9/2018	BTR-22	TF	OCO	226	39082
2/9/2018	SOM-16	EF	USV	1	147
2/10/2018	BTR-14	EF	UEL	172	17690
2/10/2018	SBE-22	SO	UPC	2	521
2/11/2018	ROS-17	EF	UTR	64	8586
2/13/2018	KWH-25	EF	UTR	6	2426
2/13/2018	LHL-25	DU	UPC	19	1921
2/13/2018	PHA-17	BA	OTF	6	245
2/14/2018	MED-36	AC	OGD	10	556
2/16/2018	LHL-26	EF	USV	1	5
2/16/2018	NOB-12	SO	UEL	4	153
2/17/2018	CLY-26	TV	OCO	14	3026
2/17/2018	EGT-12	TV	OTF	1	399
2/17/2018	EGT-12	TV	OCO	6	1358
2/17/2018	EGT-27	TV	OCO	57	4835
2/17/2018	EGT-27	TV	OTF	6	410

2/17/2018 EGT-27	TV	OTF	6	1341
2/17/2018 EGT-28	TV	OSV	3	657
2/17/2018 HAZ-13	EF	OPO	1264	241199
2/17/2018 KWH-22	TV	OTF	7	1050
2/17/2018 LHL-26	TV	OTF	12	2164
2/17/2018 MLK-12	TV	OCO	25	4304
2/17/2018 PHA-13	TV	OTF	4	1647
2/17/2018 PHA-13	TV	OCO	66	6365
2/17/2018 PHA-16	EF	OSV	1	264
2/17/2018 PHA-16	TV	OCO	4	1118
2/17/2018 PHA-17	TV	OCO	36	3277
2/17/2018 SBE-26	TV	UTC	1	767
2/17/2018 SOM-17	TV	OTF	15	1100
2/18/2018 LHL-22	TV	OCO	6	566
2/18/2018 LHL-22	TV	OCO	1	89
2/20/2018 CLY-26	SO	UEL	26	117
2/20/2018 MLK-16	TV	OSV	1	224
2/21/2018 HOU-23	EF	USE	31	3464
2/21/2018 HOU-23	EF	USE	92	4073
2/23/2018 EGT-11	UN	USV	1	379
2/23/2018 LHL-23	EF	UTR	1299	129,900
2/23/2018 LHL-23	EF	UTR	130	36029
2/24/2018 CLY-26	SO	UPC	9	1638
2/25/2018 BTR-22	UN	OTF	4	214
2/25/2018 HOU-25	TV	OCO	5	2862
2/26/2018 EGT-12	TV	OCO	2743	351716
2/26/2018 GOO-21	TV	OCO	10	3001
2/26/2018 HAZ-12	TV	OCO	440	56418
2/26/2018 HAZ-13	EF	USV	1	611
2/26/2018 LOC-23	SO	OCO	163	54006
2/26/2018 SBE-26	TV	OSV	1	140
2/27/2018 EGT-16	SO	OPO	11	2632
2/27/2018 HAZ-13	EF	USV	1	4
2/27/2018 KWH-25	TV	OCO	71	6564
2/27/2018 LHL-25	SO	UEL	2	71
2/27/2018 NRU-25	SO	UPC	4	524
2/27/2018 SBE-23	SO	UTC	49	3385
3/1/2018 BTR-22	EF	UPC	1	771
3/4/2018 FAC-12	EF	USV	1	274
3/4/2018 OVE-15	BA	OTF	5	669
3/6/2018 LOC-23	SO	OCO	4	1381
3/6/2018 NRU-27	SO	OPO	2	319
3/7/2018 EGT-27	EF	OTF	8	577
3/7/2018 FAC-12	EF	USV	2	182
3/7/2018 NOB-24	EF	OAR	1	252
3/9/2018 PHA-13	TV	OSV	1	254
3/10/2018 KWH-25	EF	USC	1	112

3/11/2018 HAZ-12	EF	UOT	52	2280
3/12/2018 ARD-13	SO	UEL	76	1778
3/12/2018 NOB-24	EF	OTR	3	790
3/13/2018 CLY-26	BA	OTF	2	90
3/13/2018 LOC-23	SO	UEL	5	402
3/13/2018 NRU-25	EF	UPC	203	12609
3/14/2018 LHL-22	UN	OSV	1	142
3/14/2018 LHL-25	FI	OSV	1	174
3/14/2018 LOC-23	SO	OCO	42	20719
3/15/2018 PHA-13	TV	OCO	1046	3417
3/16/2018 KWH-22	DU	USV	1	418
3/16/2018 PHA-15	AC	OSV	8	1517
3/20/2018 GOO-13	DU	USC	2	919
3/20/2018 PHA-16	TV	OSV	1	188
3/22/2018 FAC-12	EF	UPC	95	13084
3/22/2018 FAC-12	EF	UTR	33	5117
3/23/2018 EGT-28	EF	USV	1	119
3/23/2018 MED-35	SO	UTR	26	2330
3/25/2018 NRU-27	SO	OPO	36	5830
3/25/2018 NRU-27	SO	OPO	15	4892
3/27/2018 OVE-15	EF	USV	1	91
3/29/2018 NOB-12	SO	UEL	4	374
3/31/2018 FAC-23	SO	OFU	3	1170
4/1/2018 FAC-25	EF	USC	1	123
4/2/2018 KWH-25	EF	USE	20	2842
4/3/2018 NOB-22	SO	UPC	1	106
4/4/2018 PHA-13	SO	UPT	2	4112
4/4/2018 ROS-17	UN	PMF	49	2264
4/5/2018 MLK-15	EF	UTR	7	829
4/5/2018 PHA-16	SO	OTR	2	159
4/5/2018 SOM-16	SO	UPC	6	852
4/8/2018 FAC-25	EF	UTR	18	4390
4/9/2018 MLK-13	UN	OSV	1	209
4/10/2018 EGT-11	SO	UTC	2	19
4/10/2018 EGT-11	SO	UTC	1	53
4/10/2018 ROS-17	SO	UPC	3	185
4/11/2018 EVE-23	EF	UFJ	23	2746
4/11/2018 EVE-23	UN	UEL	70	11204
4/11/2018 MLK-13	EF	OCO	94	25148
4/11/2018 MLK-13	EF	UPT	79	20424
4/12/2018 OVE-12	EF	UHH	1	189
4/14/2018 ROS-17	OD	UPS	1226	316385
4/14/2018 SOM-17	EF	OCR	226	46911
4/14/2018 SOM-17	EF	OCR	0	8504
4/16/2018 PHA-16	EF	OCN	10	1556
4/16/2018 PHA-16	EF	OCN	4	308
4/17/2018 SBE-22	SO	UPC	4	196

4/18/2018 MLK-16	SO	OPO	1	160
4/18/2018 NRU-25	UN	USV	1	121
4/20/2018 EGT-28	EF	UPC	285	54195
4/20/2018 NRU-26	SO	OSV	1	69
4/22/2018 COL-24	SO	UEL	2	736
4/23/2018 CLY-27	EF	UPC	6	1601
4/23/2018 CLY-27	SO	UEL	1	101
4/23/2018 EGT-11	EF	UTR	76	9902
4/24/2018 MLK-13	UN	UFJ	152	19609
4/26/2018 FAC-25	UN	UPT	30	4704
4/26/2018 NRU-27	SO	OPO	2	493
4/26/2018 PHA-13	UN	OSV	1	224
4/27/2018 CEN-22	OE	UEL	209	4184
4/27/2018 CEN-25	SO	UPC	5	2388
4/29/2018 CEN-11	SO	UEL	3	578
4/30/2018 LHL-25	SO	UEL	178	33122
4/30/2018 NRU-25	EF	UPC	37	2738
5/1/2018 EGT-28	EF	USV	1	10
5/1/2018 FAC-14	EF	UTR	1	332
5/2/2018 FAC-12	SO	UPT	5	447
5/3/2018 NRU-23	BA	OTF	3	465
5/4/2018 EGT-28	EF	USC	1	132
5/4/2018 KWH-22	BA	OTF	2	215
5/5/2018 MLK-15	EF	USC	2	1078
5/5/2018 SOM-17	EF	USV	1	118
5/8/2018 EGT-11	SO	ACE	2	106
5/8/2018 FAC-14	SO	USV	13	29210
5/8/2018 KWH-23	TV	UOT	9	1000
5/9/2018 EGT-11	SO	ACE	2	200
5/9/2018 KWH-25	UN	UTC	14	2513
5/9/2018 MLK-15	EF	UTR	1	388
5/11/2018 NRU-25	EF	OCR	6	991
5/13/2018 FAC-12	EF	USC	1	327
5/13/2018 LOC-22	EF	OTF	1	70
5/13/2018 NRU-27	BA	OTF	12	1889
5/14/2018 SOM-16	SO	UPC	52	12575
5/15/2018 COL-23	EF	UFJ	2	230
5/15/2018 HAZ-12	SO	UEL	1	29
5/15/2018 NOB-22	SO	ACE	1	54
5/15/2018 NRU-23	EF	UPC	67	18564
5/15/2018 PHA-13	UN	UPC	8	3436
5/16/2018 BTR-21	EF	OCR	441	40101
5/16/2018 LHL-25	EF	UHH	2	1376
5/16/2018 NOB-24	SO	UPC	16	2246
5/16/2018 SBE-22	CP	OSV	12	984
5/17/2018 EGT-28	EF	UPC	11	557
5/18/2018 KWH-26	BA	OJU	147	19360

5/18/2018 KWH-26	SO	UEL	4	1561
5/19/2018 LOC-22	BA	OTF	3	202
5/19/2018 SBE-26	EF	PMJ	15	10015
5/21/2018 COL-26	EF	USV	3	939
5/21/2018 LHL-25	SO	UPC	130	37180
5/22/2018 COL-24	SO	UPC	1	89
5/22/2018 FAC-21	SO	UPT	1	73
5/23/2018 HOU-25	AC	ACE	1	292
5/25/2018 NRU-25	EF	OCN	1	331
5/29/2018 EVE-23	BA	OTF	5	242
5/29/2018 OVE-12	EF	USV	1	167
5/30/2018 EVE-23	UN	OTR	5	383
5/30/2018 NRU-23	SO	UPC	67	27275
5/30/2018 OVE-12	OD	OSV	3	218
5/30/2018 ROS-17	UN	USV	1	212
5/31/2018 NOB-23	SO	UTR	6	675
5/31/2018 NRU-25	DU	USC	3	237
5/31/2018 PHA-13	EF	USV	1	121
6/1/2018 EVE-23	UN	USV	1	620
6/3/2018 ARD-15	SO	UPC	142	14233
6/3/2018 COL-26	UN	OTR	2	412
6/3/2018 MLK-15	SO	ACE	2	659
6/4/2018 HOU-25	BA	OTF	5	261
6/4/2018 NOB-24	BA	OTF	4	410
6/5/2018 BTR-21	EF	UPT	25	7396
6/5/2018 EVE-23	EF	OSW	224	76708
6/5/2018 KWH-25	EF	USV	1	371
6/7/2018 ARD-15	BA	UTC	206	43322
6/7/2018 NRU-26	SO	UPC	2	173
6/8/2018 COL-26	TV	OPO	3	96
6/8/2018 EGT-12	UN	USV	1	116
6/8/2018 KWH-22	EF	PMJ	182	53450
6/9/2018 CLY-25	EF	UTR	278	31747
6/10/2018 KWH-25	EF	USV	1	128
6/11/2018 FAC-12	EF	UEL	96	870
6/11/2018 KWH-22	UN	OMP	1	151
6/11/2018 NRU-23	EF	USV	1	411
6/11/2018 SBE-26	UN	UMP	1	171
6/13/2018 LOC-22	BA	OFU	143	18519
6/13/2018 NRU-23	BA	UOT	5	606
6/14/2018 NRU-26	SO	OCO	3	441
6/14/2018 ROS-17	BA	OTF	9	818
6/16/2018 NRU-27	SO	OCR	20	4814
6/17/2018 SBE-26	EF	UPT	2	1086
6/18/2018 ARD-13	UN	UTC	304	30925
6/18/2018 EGT-15	EF	UFJ	1	396
6/18/2018 EGT-28	DU	USV	1	795

6/19/2018 EGT-12	EF	OCR	2743	290746
6/19/2018 HAZ-12	EF	OCR	246	26075
6/19/2018 KWH-23	EF	UTR	6	2217
6/19/2018 PHA-13	EF	USV	7	462
6/20/2018 ROS-17	TV	OCN	8	1139
6/21/2018 KWH-25	UN	UOT	14	2360
6/21/2018 KWH-26	FI	USV	1	238
6/21/2018 LHL-25	EF	OTF	6	620
6/21/2018 PHA-16	TV	OSV	1	122
6/22/2018 COL-26	BA	OTF	4	111
6/22/2018 LHL-22	TV	OFU	111	12199
6/22/2018 PHA-16	SO	UPT	1	94
6/23/2018 LOC-23	SO	USV	8	633
6/23/2018 NRU-23	EF	UPT	4	1986
6/23/2018 SBE-22	EF	USP	393	60903
6/24/2018 KWH-22	BA	UTC	15	1195
6/24/2018 NRU-27	SO	OPO	4	750
6/25/2018 BTR-22	TV	OCO	118	41982
6/25/2018 CLY-23	TV	OSV	3	702
6/25/2018 EGT-28	EF	UPC	65	9338
6/25/2018 LHL-25	EF	USV	1	365
6/25/2018 NRU-26	SO	OCO	1	378
6/26/2018 HAZ-12	DU	UPC	200	32028
6/27/2018 PHA-13	EF	UPC	7	3784
6/28/2018 ARD-15	UN	UPC	180	48020
6/28/2018 LHL-23	UN	UPC	1299	346543
6/28/2018 PHA-13	BA	OTF	3	972
6/28/2018 SBE-26	SO	OPO	4	1473
6/29/2018 ARD-13	UN	PTF	304	31454
6/29/2018 SBE-26	SO	OPO	4	614
6/30/2018 LOC-23	SO	UEL	8	654
6/30/2018 PHA-13	UN	OCN	5	542
7/1/2018 NRU-27	SO	OPO	8	1608
7/2/2018 KWH-25	EF	USV	1	91
7/2/2018 SOM-17	CP	OPO	49	6987
7/3/2018 EVE-23	EF	USV	5	352
7/4/2018 KWH-25	EF	UTR	8	2925
7/5/2018 LHL-22	BA	OFU	9	863
7/5/2018 LHL-25	BA	OTF	4	365
7/6/2018 EVE-23	BA	OTF	4	454
7/6/2018 LHL-25	UN	OCN	1	103
7/6/2018 LOC-23	UN	OCN	1	93
7/6/2018 MED-35	SO	OTR	5	200
7/6/2018 NOB-24	CE	OCO	127	45665
7/7/2018 HOU-25	BA	OTF	90	6339
7/8/2018 PHA-17	BA	OTF	25	834
7/9/2018 GOO-21	UN	OSV	1	23

7/9/2018 HOU-25	EF	USE	1	298
7/10/2018 KWH-22	EF	USV	1	162
7/10/2018 KWH-22	EF	USV	1	415
7/10/2018 PHA-13	BA	OTF	7	658
7/11/2018 MED-36	BA	UOT	11	867
7/11/2018 MED-36	UN	UOT	11	2624
7/12/2018 ARD-13	EF	PMJ	256	30459
7/12/2018 ARD-13	EF	PMJ	8	1036
7/12/2018 ARD-13	EF	PMJ	12	53
7/12/2018 KWH-25	EF	USE	1	364
7/12/2018 PHA-13	UN	USV	1	793
7/13/2018 BTR-22	BA	OTF	1	216
7/13/2018 FAC-12	SO	UPS	11	2829
7/13/2018 LHL-22	BA	OTF	6	212
7/14/2018 KWH-25	EF	USV	1	165
7/14/2018 LHL-25	BA	OTF	12	460
7/16/2018 EVE-23	EF	UTR	9	3805
7/16/2018 NRU-25	EF	USV	1	254
7/17/2018 EGT-16	BA	OTF	8	1060
7/18/2018 EGT-28	EF	UPC	103	16700
7/18/2018 FAC-12	BA	OTF	2	145
7/19/2018 EGT-28	SO	ACE	1	40
7/19/2018 FAC-12	EF	UPC	95	23792
7/20/2018 BTR-21	EF	UPC	5	1959
7/21/2018 CLY-27	SO	UPC	13	898
7/23/2018 ARD-13	EF	UPC	142	10059
7/23/2018 CLY-23	EF	OTR	4	116
7/23/2018 EGT-28	EF	USV	1	161
7/23/2018 EVE-23	UN	USV	1	315
7/23/2018 MLK-13	DU	UPC	0	3797
7/23/2018 MLK-13	DU	UPC	30	5498
7/23/2018 MLK-16	BA	OTF	4	293
7/23/2018 NOB-24	SO	ACE	16	9487
7/23/2018 SBE-22	BA	OTF	5	198
7/24/2018 EGT-11	EF	UPC	89	33556
7/25/2018 COL-26	BA	OFU	18	1339
7/25/2018 NOB-24	SO	ACE	16	9699
7/25/2018 SOM-13	EF	CFD	1173	233174
7/25/2018 SOM-15	EF	CFD	1750	385000
7/25/2018 SOM-16	EF	CFD	2570	614230
7/25/2018 SOM-17	EF	CFD	1706	245304
7/26/2018 HAZ-13	SO	OHR	1	305
7/27/2018 HAZ-13	SO	OHR	1	212
7/27/2018 HOU-23	EF	PMJ	264	25334
7/27/2018 NRU-25	EF	UPC	7	4720
7/28/2018 KWH-22	BA	OTF	5	300
7/28/2018 KWH-22	BA	OTF	59	1564

7/28/2018 PHA-16	EF	UPC	113	42650
7/28/2018 SOM-17	BA	UTC	12	703
7/30/2018 CLY-27	BA	OTF	7	403
7/30/2018 PHA-17	BA	OFU	27	4033
7/31/2018 BTR-22	TV	OCO	5	539
7/31/2018 EGT-28	UN	USV	1	232
7/31/2018 HOU-25	SO	OPO	18	5986
7/31/2018 LHL-26	EF	OSV	7	376
8/1/2018 EGT-11	SO	UTC	1	86
8/1/2018 KWH-23	SO	OCO	4	208
8/2/2018 PHA-16	TV	OTF	11	1464
8/2/2018 SBE-26	DU	USV	1	252
8/4/2018 EGT-28	UN	USV	1	155
8/5/2018 HOU-23	TV	OTF	5	408
8/5/2018 MLK-15	BA	UGF	162	24451
8/6/2018 EGT-28	UN	UPC	58	14812
8/6/2018 FAC-14	SO	ACE	4	342
8/6/2018 KWH-23	EF	USV	1	103
8/6/2018 KWH-23	SO	OCO	11	3027
8/6/2018 KWH-23	SO	OCO	1	22
8/6/2018 SOM-16	SO	UPT	10	1313
8/7/2018 KWH-23	SO	OCO	126	58123
8/8/2018 CLY-25	BA	UGF	150	20423
8/9/2018 OVE-15	EF	USV	1	23
8/9/2018 SBE-23	SO	UEL	1	325
8/9/2018 SOM-15	EF	UPT	183	32616
8/10/2018 HOU-25	SO	OPO	4	792
8/10/2018 PHA-13	BA	OFU	57	8707
8/11/2018 EGT-16	BA	UGF	1	102
8/11/2018 KWH-25	EF	OJU	35	4772
8/11/2018 SOM-16	BA	UTC	164	13430
8/11/2018 SOM-16	BA	UOT	71	19808
8/12/2018 FAC-12	EF	UTR	7	2381
8/12/2018 FAC-25	EF	OTR	16	3785
8/13/2018 SBE-23	SO	UEL	59	7386
8/14/2018 EGT-16	EF	UPS	1	414
8/14/2018 MLK-15	EF	UPC	3	2619
8/14/2018 PHA-13	EF	UPC	38	8655
8/14/2018 SBE-23	SO	UEL	1	41
8/15/2018 BTR-21	SO	UPC	14	3377
8/15/2018 KWH-22	UN	OFU	38	4045
8/15/2018 SBE-23	SO	UEL	24	40
8/15/2018 SBE-23	UN	UPC	10	5357
8/16/2018 EGT-16	EF	UPC	31	7062
8/16/2018 EGT-28	EF	UPC	59	15419
8/16/2018 NRU-26	SO	ACE	1	39
8/16/2018 SOM-16	EF	USV	1	133

8/18/2018 NOB-24	SO	ACE	19	9004
8/20/2018 NRU-27	SO	OPO	3	865
8/21/2018 EGT-11	EF	UPC	35	10139
8/21/2018 FAC-25	CE	OSV	2	701
8/21/2018 MLK-13	BA	OFU	42	3751
8/21/2018 NRU-27	SO	OPO	20	6821
8/21/2018 SOM-16	SO	UPC	177	52531
8/22/2018 HAZ-13	BA	OTR	7	347
8/22/2018 HAZ-13	BA	OTR	3	733
8/22/2018 KWH-23	SO	OCO	1	56
8/22/2018 KWH-23	SO	OCO	2	548
8/22/2018 PHA-17	SO	OPO	36	12077
8/23/2018 ARD-15	BA	OCO	882	46303
8/23/2018 ARD-15	SO	USE	229	15715
8/23/2018 EGT-26	UN	UGF	5	776
8/23/2018 KWH-22	BA	OCO	1176	61737
8/23/2018 KWH-22	TV	UTC	81	27498
8/23/2018 LHL-25	BA	OCO	2284	119895
8/24/2018 FAC-25	UN	OFU	3	636
8/25/2018 EGT-13	SO	ACE	1	250
8/25/2018 NOB-24	SO	ACE	114	38479
8/25/2018 SBE-26	TV	OTF	2	207
8/25/2018 SOM-16	UN	UOT	71	14427
8/26/2018 COL-26	EF	OTF	4	164
8/26/2018 HAZ-13	TV	OCO	107	11795
8/27/2018 BTR-22	TV	OFU	1	150
8/27/2018 LHL-25	BA	OTF	6	403
8/27/2018 NOB-24	EF	UPC	1	378
8/27/2018 PHA-13	SO	UPC	5	1148
8/28/2018 EGT-16	UN	OSV	1	152
8/28/2018 KWH-26	BA	OTR	12	4194
8/28/2018 PHA-13	SO	UPC	4	1714
8/29/2018 KWH-23	SO	OCO	2	136
8/29/2018 KWH-23	SO	OCO	4	145
8/29/2018 NRU-23	BA	OFU	4	416
8/30/2018 COL-24	SO	UPC	1	115
8/30/2018 COL-26	BA	OTF	29	2826
8/30/2018 NOB-24	SO	OPO	1	265
8/31/2018 KWH-22	CP	OCN	3	569
8/31/2018 LHL-25	EF	USV	1	244
8/31/2018 SOM-16	EF	UPC	128	14677
9/1/2018 FAC-12	DU	USV	9	929
9/1/2018 HAZ-12	EF	UPC	69	14887
9/1/2018 NRU-23	BA	OTF	9	1170
9/3/2018 EGT-12	BA	OTF	1	143
9/5/2018 KWH-25	EF	USC	3	707
9/5/2018 LOC-22	UN	UPS	2262	235814

9/5/2018 ROS-17	BA	OFU	10	576
9/5/2018 SBE-22	BA	UOT	1	131
9/7/2018 EGT-12	SO	OCO	6	985
9/7/2018 HAZ-12	EF	USV	1	147
9/7/2018 KWH-25	EF	UTR	44	4154
9/8/2018 CLY-26	BA	OTF	1	85
9/8/2018 MLK-13	EF	UPC	108	29898
9/8/2018 MLK-13	EF	UPC	14	2116
9/9/2018 EGT-27	BA	OTF	1	156
9/9/2018 LHL-22	EF	UPC	4	1411
9/10/2018 FAC-25	EF	OTF	1	30
9/10/2018 NOB-14	DU	UPC	14	1064
9/10/2018 SBE-26	EF	USV	1	238
9/11/2018 BTR-22	EF	OMP	1	236
9/12/2018 ROS-17	EF	OSV	1	161
9/13/2018 LHL-25	EF	UPC	9	7821
9/13/2018 OVE-12	EF	SCB	552	102203
9/13/2018 OVE-15	EF	SCB	297	54989
9/14/2018 EGT-28	SO	UPC	65	27757
9/14/2018 OVE-12	EF	UPC	4	1209
9/14/2018 OVE-12	EF	UPC	4	663
9/14/2018 PHA-15	BA	OTR	38	5578
9/17/2018 CLY-23	SO	OTR	2	204
9/17/2018 NOB-24	SO	ACE	19	10514
9/18/2018 EVE-23	AC	OFU	4	174
9/18/2018 KWH-23	OD	OMP	1	102
9/18/2018 NOB-24	SO	ACE	19	11459
9/19/2018 NOB-23	EF	USV	1	125
9/19/2018 NOB-24	SO	ACE	19	10807
9/19/2018 NRU-26	TV	OCO	1	487
9/19/2018 SBE-26	EF	USV	1	338
9/20/2018 EGT-12	EF	USV	1	326
9/20/2018 LHL-25	BA	OTF	4	293
9/20/2018 NRU-26	EF	OMP	1	456
9/21/2018 BTR-22	EF	UPC	18	2571
9/21/2018 NOB-23	EF	USV	1	446
9/23/2018 MLK-13	EF	UTR	10	2403
9/24/2018 MLK-13	EF	UPC	106	24446
9/25/2018 FAC-12	EF	UTR	24	1970
9/25/2018 FAC-12	EF	UTR	24	1970
9/25/2018 GOO-13	SO	ACE	171	70814
9/25/2018 NOB-24	SO	UPC	4	810
9/27/2018 BTR-21	EF	UPC	1	361
9/27/2018 EGT-16	BA	OTF	8	715
9/27/2018 SBE-22	UN	UPC	15	8538
9/28/2018 LHL-25	SO	UPC	36	13260
9/28/2018 LOC-22	EF	UEL	604	175906

9/28/2018	LOC-22	EF	UEL	1012	80943
9/28/2018	SBE-25	EF	UPC	53	5165
9/29/2018	CEN-13	SO	ACE	6	6869
9/29/2018	EVE-23	EF	USC	1	2
9/29/2018	SBE-22	UN	UPC	8	268
9/30/2018	LHL-25	EF	UTR	9	2785
10/1/2018	CLY-27	SO	UPC	1	295
10/1/2018	EGT-28	SO	OPO	2	667
10/2/2018	EGT-11	TV	OCO	190	26188
10/2/2018	EVE-23	TV	OTF	5	222
10/3/2018	BTR-22	UN	USV	1	231
10/3/2018	LHL-23	EF	UPC	81	13107
10/3/2018	NRU-25	EF	UPC	6	3130
10/5/2018	HAZ-13	SO	OPO	20	2039
10/5/2018	KWH-25	EF	OTF	2	144
10/5/2018	NOB-24	SO	UPC	114	17334
10/7/2018	ARD-13	EF	UPT	1	343
10/9/2018	HAZ-13	SO	OPO	2	238
10/9/2018	HAZ-13	SO	OPO	19	2835
10/10/2018	HOU-25	BA	OTF	5	495
10/11/2018	ARD-15	EF	UTR	51	7178
10/11/2018	EGT-11	SO	UPC	112	18040
10/12/2018	FAC-12	EF	USV	1	216
10/12/2018	KWH-23	SO	OPO	41	6871
10/13/2018	NOB-24	SO	UPC	114	41417
10/13/2018	SOM-15	EF	OMP	1	72
10/15/2018	EGT-15	SO	UTC	4	761
10/15/2018	PHA-13	FI	OMP	1	128
10/15/2018	ROS-17	EF	USV	1	2
10/16/2018	LHL-22	SO	OCO	17	8681
10/16/2018	LHL-25	SO	UPC	207	49333
10/17/2018	ARD-15	EF	UPC	880	21857
10/17/2018	KWH-22	EF	UPC	1173	29143
10/17/2018	LHL-25	EF	UPC	2278	56597
10/17/2018	SOM-17	TV	OTF	11	1723
10/18/2018	FAC-24	BA	UPS	3	417
10/18/2018	PHA-17	EF	UTC	106	13468
10/19/2018	LHL-25	EF	OTR	14	1106
10/19/2018	SOM-16	UN	UTC	81	11470
10/20/2018	EGT-12	TV	OFU	8	942
10/20/2018	PHA-16	EF	OCN	1	111
10/22/2018	BTR-21	SO	UTR	9	5250
10/22/2018	BTR-21	SO	UTR	9	245
10/22/2018	SBE-26	BA	OFU	70	5485
10/22/2018	SOM-16	EF	USV	1	134
10/24/2018	BTR-21	SO	UTR	13	7103
10/24/2018	EGT-28	SO	UEL	1	62

10/24/2018	NOB-14	UN	ACE	1	15
10/26/2018	FAC-12	EF	UPC	2	1373
10/26/2018	PHA-13	TV	OSV	1	177
10/26/2018	SBE-22	EF	OCN	7	1097
10/27/2018	GOO-21	TV	UOT	0	583
10/27/2018	GOO-21	TV	UOT	50	6503
10/27/2018	SOM-17	TV	OSV	1	242
10/28/2018	KWH-22	TV	OFU	49	4451
10/29/2018	KWH-26	EF	UEL	33	4692
10/31/2018	ARD-13	EF	UTR	83	7227
10/31/2018	EVE-23	CE	ACE	73	1405
11/1/2018	CEN-22	SO	UPS	3	427
11/1/2018	HOU-25	TV	OCO	497	34608
11/1/2018	LOC-22	BA	OTF	3	475
11/2/2018	EGT-12	TV	OCO	8	750
11/2/2018	GOO-13	TV	OCO	195	29958
11/3/2018	SOM-16	SO	CTX	39	8182
11/3/2018	SOM-16	TV	OFU	34	3171
11/4/2018	EVE-23	EF	USV	1	351
11/5/2018	EVE-23	SO	OPO	4	282
11/6/2018	EGT-11	BA	OTR	36	4099
11/6/2018	EGT-27	SO	UPT	11	714
11/7/2018	ARD-15	EF	UTR	4	818
11/8/2018	BTR-21	TV	OTF	3	207
11/8/2018	FAC-12	EF	UPC	96	32074
11/8/2018	NOB-24	TV	OCO	1	112
11/9/2018	EGT-12	BA	OTF	1	113
11/9/2018	EVE-23	SO	OPO	4	1241
11/9/2018	LHL-25	EF	UPC	680	93693
11/10/2018	KWH-25	BA	OTF	7	446
11/11/2018	ROS-17	UN	OCN	77	28774
11/12/2018	EGT-11	UN	USV	1	142
11/12/2018	EVE-23	EF	USV	1	453
11/12/2018	EVE-23	EF	USV	1	165
11/12/2018	EVE-23	SO	UPT	7	723
11/12/2018	KWH-25	EF	USV	1	148
11/12/2018	ROS-17	UN	OCN	17	2814
11/15/2018	EVE-23	EF	USV	1	409
11/15/2018	KWH-23	SO	UPC	6	219
11/16/2018	KWH-25	EF	USV	1	151
11/16/2018	OVE-12	SO	OTR	5	770
11/17/2018	BTR-21	EF	UPC	1	325
11/17/2018	CEN-11	SO	UPS	1	23
11/17/2018	FAC-12	BA	OTF	10	776
11/18/2018	EGT-11	BA	OTF	10	894
11/18/2018	EGT-28	EF	UTR	4	1174
11/19/2018	NRU-25	EF	OCO	49	10018

11/20/2018 PHA-16	SO	OTH	121	3007
11/20/2018 PHA-16	SO	OTH	56	3811
11/20/2018 PHA-16	SO	OTH	85	7415
11/20/2018 PHA-16	SO	OTH	49	1763
11/20/2018 SOM-15	EF	UPC	228	4754
11/20/2018 SOM-15	EF	UPC	5	511
11/23/2018 NOB-11	UN	PMF	22	5312
11/26/2018 CLY-25	BA	PMF	98	14434
11/26/2018 KWH-25	EF	OPO	6	885
11/26/2018 KWH-25	UN	OPO	134	51952
11/26/2018 SOM-17	EF	UTF	8	1040
11/28/2018 EGT-12	UN	USV	1	112
11/29/2018 MLK-15	EF	UPC	1663	12524
12/1/2018 KWH-26	SO	ACE	3	1209
12/1/2018 NRU-25	EF	UPC	7	2805
12/3/2018 BTR-22	BA	OTF	2	181
12/3/2018 MLK-13	AC	UPS	1589	298089
12/3/2018 NOB-11	EF	UPC	22	6380
12/5/2018 SBE-26	SO	OPO	64	10015
12/5/2018 SOM-15	EF	USV	1	218
12/7/2018 FAC-25	EF	OCN	3	431
12/8/2018 ARD-13	SO	ACE	1	302
12/8/2018 ARD-43	UN	UFI	10	1041
12/10/2018 COL-26	UN	OTF	2	167
12/10/2018 NRU-27	AC	ACE	1	117
12/11/2018 EGT-15	EF	OSV	1	86
12/12/2018 SBE-26	SO	OPO	4	1128
12/13/2018 BTR-22	UN	OTF	1	138
12/14/2018 CLY-25	TV	OFC	7	19355
12/14/2018 CLY-27	TV	OCO	719	113111
12/14/2018 CLY-27	TV	OCO	719	8928
12/14/2018 EGT-11	TV	OCO	156	413312
12/14/2018 EGT-16	TV	OCO	180	35559
12/14/2018 GOO-13	TV	OCO	1978	521855
12/14/2018 GOO-21	TV	OCO	221	112796
12/14/2018 HAZ-12	TV	OCO	0	352
12/14/2018 HAZ-12	TV	OCO	0	241
12/14/2018 HAZ-12	TV	OCO	0	187
12/14/2018 HAZ-12	TV	OCO	0	2132
12/14/2018 HAZ-12	TV	OCO	2690	384821
12/14/2018 HAZ-12	TV	OCO	81	103285
12/14/2018 KWH-23	TV	OCO	124	144460
12/14/2018 MED-35	TV	OCO	0	1665
12/14/2018 MLK-15	TV	OCO	3246	455310
12/14/2018 NRU-25	TV	OCO	4	7414
12/14/2018 OVE-12	TV	OCO	10	11969
12/14/2018 OVE-15	TV	OCO	44	38876

12/14/2018	ROS-17	EF	USV	1	145
12/15/2018	CLY-26	EF	OCO	6	2310
12/15/2018	CLY-26	TV	OCO	19	3909
12/15/2018	HAZ-12	TV	OCO	3	1785
12/15/2018	HOU-25	TV	OCO	37	3180
12/15/2018	MED-35	TV	OCO	5	1334
12/15/2018	NOB-24	TV	OPO	1	2080
12/15/2018	NRU-23	TV	OCO	3	2715
12/15/2018	OVE-15	TV	OCO	9	9249
12/16/2018	BTR-22	TV	OTF	7	1262
12/16/2018	COL-22	² EF	OCO	1	22
12/16/2018	COL-23	² EF	OCO	198	4286
12/16/2018	COL-24	² EF	OCO	33	714
12/16/2018	COL-25	² EF	OCO	238	5152
12/16/2018	COL-26	² EF	OCO	1838	39741
12/16/2018	EGT-25	EF	OTF	1	303
12/16/2018	NRU-23	TV	OCO	3	1715
12/16/2018	PHA-13	² UN	OCO	1,046	273006
12/16/2018	PHA-15	² UN	OCO	179	31683
12/16/2018	PHA-16	² UN	OCO	2,080	423838
12/16/2018	PHA-17	² UN	OCO	703	168017
12/16/2018	SBE-22	TV	OSV	1	249
12/17/2018	NRU-25	SO	UPC	209	64543
12/18/2018	NRU-23	TV	OCO	4	1113
12/18/2018	NRU-25	OD	USV	1	175
12/19/2018	MLK-16	EF	UPC	481	67921
12/20/2018	CLY-26	TV	OFU	14	14632
12/20/2018	EGT-27	TV	OSV	7	7269
12/20/2018	HOU-25	TV	OTF	2	2199
12/20/2018	MLK-15	TV	OCO	111	15690
12/20/2018	NOB-24	TV	OIN	312	39619
12/20/2018	NRU-26	TV	OTF	12	9783
12/20/2018	OVE-15	TV	OCO	3	858
12/20/2018	SBE-26	TV	OSV	1	890
12/20/2018	SOM-17	TV	OCO	23	5298
12/21/2018	HAZ-13	TV	OCO	1	374
12/21/2018	NOB-24	TV	OSV	1	193
12/21/2018	OVE-15	TV	OFU	4	232
12/22/2018	HOU-25	EF	OTF	2	173
12/22/2018	OVE-15	TV	OSV	3	398
12/23/2018	EGT-12	TV	OSV	1	158
12/23/2018	KWH-25	EF	USV	1	191
12/23/2018	KWH-25	EF	OTF	5	267
12/23/2018	LHL-22	EF	OIN	59	10438
12/24/2018	HAZ-12	UN	USV	1	442
12/25/2018	HAZ-13	UN	USV	1	222
12/26/2018	KWH-22	TV	OCO	12	1531

12/27/2018 EGT-11	TV	OTR	2	794
12/27/2018 FAC-12	SO	UPC	37	6230
12/28/2018 HOU-23	TV	OCO	56	1210
12/29/2018 LHL-22	FI	OMP	1	352
12/29/2018 SBE-22	UN	OJU	25	2138
12/29/2018 SOM-16	TV	OTF	1	87
12/30/2018 MED-36	EF	OTF	85	10363
12/31/2018 HAZ-13	EF	OTF	4	324
Totals			75,968	11,816,526
Substation and transmission outages			13,516	2,424,166
Scheduled Outages			4,533	1,054,632

1 Substation Circuit Breaker

2018 RELIABILITY REPORT CODES LEGEND

DISTRIBUTION SUBSTATION CODES	OUTAGE CAUSE CODES
ARD ARDMORE (REDMOND)	AC ACCIDENT
BTR BRIDLE TRAILS	BA BIRD OR ANIMAL
CEN CENTER	CE CUSTOMER EQUIPMENT
CLY CLYDE HILL	CP CAR POLE
COL COLLEGE	DU DIG UP UNDERGROUND
EGT EASTGATE	EF EQUIPMENT FAILURE
EVE EVERGREEN (REDMOND)	EO ELECTRICAL OVERLOAD
FAC FACTORIA	EQ EARTHQUAKE
GOO GOODES CORNER (ISSAQUAH)	FI FAULTY INSTALLATION
HAZ HAZELWOOD (NEWCASTLE)	LI LIGHTNING
HOU HOUGHTON (KIRKLAND)	OD OUTSIDE DISTURBANCE
KWH KENILWORTH (REDMOND)	OE OPERATING ERROR
LHL LAKE HILLS	PO PARTIAL OUTAGE
LOC LOCHLEVEN	SO SCHEDULED OUTAGE
MED MEDINA (MEDINA)	TF TREE - OFF RIGHT OF WAY
MLK MIDLAKES	TO TREE - ON RIGHT OF WAY
NOB NORTH BELLEVUE	TV TREE - RIGHT OF WAY UNKNOWN
NRU NORTHRUP	UII USER - IMPROPER INSTALLATION
OVE OVERLAKE (MEDINA)	UN UNKNOWN CAUSE
PHA PHANTOM LAKE	VA VANDALISM
ROS ROSE HILL (REDMOND)	
SBE SOUTH BELLEVUE	
SOM SOMERSET	
	MAJOR EVENT DAY & STORM CODES
	MEJ IEEE MAJOR EVENT DAY & MAJOR STORM
	MEN IEEE MAJOR EVENT DAY, but NON MAJOR STORM
	NMJ NON IEEE MAJOR EVENT DAY, but MAJOR STORM
	NON NON IEEE MAJOR EVENT DAY & NON MAJOR STORM

EQUIPMENT CODES	
ACE ALL CUSTOMER EQUIPMENT	OTR OVERHEAD TRANSFORMER
ARR SURGE ARRESTER	OTS OVERHEAD TRAFFIC CONTROL SIGNAL
CC CAPACITOR CAN	OUP OVERHEAD TO UNDERGROUND
CDH CONDUCTOR DOWN & HOT	OUS HOT OUS OVERHEAD TO
CFD CAPACITOR BANK FUSED DISCONNECT	PED DISCONNECT PEDESTAL
CHG CHARGER	PFT PADMOUNT FAST TRANSFORMER (EDUT130)
CON CONNECTIONS	PMF PADMOUNT SWITCH FUSE
CTX TRANSFORMER INSTRUMENT (CURRENT)	PMJ PADMOUNT J-BOX
DNO DID NOT OPERATE	PMP PADMOUNT METER POINT (EDUM100)
ELT ELBOW - TRANSFORMER	PST PADMOUNT STEP TRNSFORMER (EDUT120)
ERC RECLOSER CONTROLLER	PTF PADMOUNT TRANSFORMER FUSE
FCC FUSE - CAPACITOR CAN	PTX PADMOUNT TRANSFORMER INSTRUMENT
FHV FUSE - HIGH VOLTAGE (POWER)	RLE RELAY - ELECTROMECHANICAL
FLV FUSE - LOW VOLTAGE (CONTROL)	RLM RELAY - MICROPROCESSOR
GAR GUY ANCHOR ROD	RLS RELAY - SOLID STATE
GCB GAS CIRCUIT BREAKER (POWER)	SCB POWER CIRCUIT BREAKER
INS INSULATOR	SPT STATION POWER TRANSFORMER
LTC LOAD TAP CHANGER	SRG STATION REGULATOR
MAN MANUAL OPERATION	SWC SWITCH - CAPACITOR BANK
MOT MOTOR OPERATOR	SWD SWITCH - DISTRIBUTION DISCONNECT
MTR METER	SWT SWITCH - TRANSMISSION
OAL OVERHEAD AREA LIGHT	TER TERMINATION (POWER CABLE)
OAN OVERHEAD ANCHOR	UCU UNDERGROUND COMMUNICATION CABLE
OAR OVERHEAD ARRESTER	UDC UNDERGROUND DUST CAP
OAT OVERHEAD AUTO TRANSFORMER (EDOT110)	UEL UNDERGROUND ELBOW
OCA OVERHEAD CAPACITOR (EDOC100)	UFE UNDERGROUND FUSED ELBOW
OCB CIRCUIT BREAKER (POWER) - OIL	UFI UNDERGROUND FAULT INDICATOR
OCE CUSTOMER EQUIPMENT	UFJ UNDERGROUND J-BOX
OCN OVERHEAD SECONDARY CONNECTOR	UFO UNDERGROUND FIBER OPTICS
OCO OVERHEAD CONDUCTOR	UFS UNDERGROUND FIRE SIGNAL
OCR OVERHEAD CROSSARM	UGF UNDERGROUND SUBMERSIBLE FUSE
OFD OVERHEAD CUT-OUT	UGV UNDERGROUND VAULT
OFI OVERHEAD FAULT INDICATOR	UHH UNDERGROUND HANDHOLE - SECONDARY
OFL OVERHEAD FLOOD LIGHT	UHM UNDERGROUND HAMMERHEADS
OFS OVERHEAD FIRE SIGNAL	UIC UNDERGROUND INDOOR STRESS CONE
OFU OVERHEAD LINE FUSE / FUSE LINK	UJU UNDERGROUND PRIMARY JUMPER
OGD OVERHEAD DOWN GUY	UMP UNDERGROUND SUBMERSIBLE METER POINT
OGS OVERHEAD SPAN GUY	UNK UNDERGROUND UNKNOWN
OHR OVERHEAD RECLOSER (EDOR100)	UOT UNDERGROUND OUTDOOR TERMINATION
OHS OVERHEAD SECTIONALIZER (EDOX100)	UPC UNDERGROUND PRIMARY CABLE
OIN OVERHEAD INSULATOR	UPH UNDERGROUND PADMOUNT PHASE SHIFTER
OJU OVERHEAD JUMPER WIRE	UPS UNDERGROUND PADMOUNT SWITCH (EDUS100)
OMP OVERHEAD METER POINT (EDOM100)	UPT UNDERGROUND PADMOUNT TRANSFORMER
ONI OVERHEAD NEUTRAL ISOLATOR	USC UNDERGROUND SECONDARY CABLE
OPB OVERHEAD POLE BRACE (EDOP110)	USE UNDERGROUND SECONDARY CONNECT
OPI OVERHEAD INSULATOR PIN	USP UNDERGROUND PRIMARY SPLICE
OPO OVERHEAD POLE (EDOP100)	USS UNDERGROUND SCHOOL SIGNAL
OPS OVERHEAD POLE STUB (EDOP120)	USV UNDERGROUND SERVICE
ORE OVERHEAD REGULATOR (EDOG100)	UTC UNDERGROUND TERMINAL FUSE
OSL OVERHEAD STREET LIGHT (EDOL100)	UTF UNDERGROUND SUBMERSIBLE TRANSFORMER FUSE
OSP OVERHEAD SPLICE PRIMARY	UTR UNDERGROUND SUBMERSIBLE TRANSFORMER
OSS OVERHEAD SCHOOL SIGNAL	UTS UNDERGROUND TRAFFIC CONTROL SIGNAL
OST OVERHEAD STEP TRANSFORMER (EDOT110)	UUS UNDERGROUND SUBMERSIBLE
OSV OVERHEAD SERVICE	VCB VACUUM CIRCUIT BREAKER (POWER)
OSW OVERHEAD SWITCH (EDOS100)	XFR TRANSFORMER - UNKNOWN TYPE
OTF OVERHEAD TRANSFORMER FUSE	XRT NEUTRAL REACTOR
OTH OVERHEAD OTHER	XSS TRANSFORMER - STATION SERVICE