

Xcel Energy
Service Quality Report 2022
Cause of Outages

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Cause of Outages

State of Minnesota

All Days	Customer Interruptions - Actuals					18-22	20-22	Customer Interruptions - Percent					18-22	20-22
Primary Cause	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	317,027	209,405	283,531	294,547	257,119	272,326	278,399	26%	19%	20%	22%	18%	21%	20%
Equipment - UG	156,054	140,057	212,294	200,326	172,117	176,170	194,912	13%	13%	15%	15%	12%	14%	14%
Lightning	42,283	44,113	23,042	24,933	44,981	35,870	30,985	4%	4%	2%	2%	3%	3%	2%
Other	51,698	55,931	43,328	65,226	68,876	57,012	59,143	4%	5%	3%	5%	5%	4%	4%
Power Supply	79,709	79,762	53,933	48,154	60,005	64,313	54,031	7%	7%	4%	4%	4%	5%	4%
Planned	84,694	89,170	108,234	90,224	100,216	94,508	99,558	7%	8%	8%	7%	7%	7%	7%
Public	70,243	104,267	149,490	90,553	81,062	99,123	107,035	6%	10%	11%	7%	6%	8%	8%
Unknown	75,153	52,174	87,990	108,725	80,580	80,924	92,432	6%	5%	6%	8%	6%	6%	7%
Vegetation	246,732	251,508	287,523	288,042	408,086	296,378	327,884	20%	23%	21%	21%	28%	23%	23%
Weather - Non Lightning)	1,478	3,085	5,048	494	80	2,037	1,874	0%	0%	0%	0%	0%	0%	0%
Wildlife	80,096	64,059	138,348	156,703	166,160	121,073	153,737	7%	6%	10%	11%	12%	9%	11%
All Causes	1,205,167	1,093,531	1,392,761	1,367,927	1,439,282			100%	100%	100%	100%	100%		

State of Minnesota

IEEE MN Reg Normalized	Customer Interruptions - Actuals					18-22	20-22	Customer Interruptions - Percent					18-22	20-22
Primary Cause	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	291,884	177,739	274,553	285,356	229,581	251,823	263,163	26%	19%	21%	24%	20%	22%	22%
Equipment - UG	155,620	132,264	210,985	199,257	169,689	173,563	193,310	14%	14%	17%	16%	15%	15%	16%
Lightning	41,677	31,997	21,115	17,105	13,481	25,075	17,234	4%	3%	2%	1%	1%	2%	1%
Other	47,457	49,028	41,577	63,115	63,746	52,985	56,146	4%	5%	3%	5%	6%	5%	5%
Power Supply	74,551	64,219	47,918	38,605	42,916	53,642	43,146	7%	7%	4%	3%	4%	5%	4%
Planned	83,562	82,982	106,347	85,696	98,262	91,370	96,768	7%	9%	8%	7%	9%	8%	8%
Public	65,282	101,957	149,145	88,107	78,620	96,622	105,291	6%	11%	12%	7%	7%	8%	9%
Unknown	70,929	47,267	82,890	101,032	68,993	74,222	84,305	6%	5%	6%	8%	6%	6%	7%
Vegetation	219,279	202,216	200,434	175,487	231,747	205,833	202,556	19%	21%	16%	15%	20%	18%	17%
Weather - Non Lightning)	1,478	2,620	5,046	191	54	1,878	1,764	0%	0%	0%	0%	0%	0%	0%
Wildlife	80,045	63,206	138,213	155,731	152,051	117,849	148,665	7%	7%	11%	13%	13%	10%	12%
All Causes	1,131,764	955,495	1,278,223	1,209,682	1,149,140			100%	100%	100%	100%	100%		

Cause of Outages

State of Minnesota

State of Minnesota

All Days	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
Primary Cause	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	3,837	3,829	3,697	3,225	3,374	3,592	3,432	20%	20%	18%	16%	15%	18%	16%
Equipment - UG	2,617	2,889	2,562	2,601	2,447	2,623	2,537	14%	15%	12%	13%	11%	13%	12%
Lightning	712	856	718	531	698	703	649	4%	4%	3%	3%	3%	3%	3%
Other	607	559	628	840	830	693	766	3%	3%	3%	4%	4%	3%	4%
Power Supply	103	94	74	64	79	83	72	1%	0%	0%	0%	0%	0%	0%
Planned	3,590	3,145	4,150	3,648	4,082	3,723	3,960	19%	16%	20%	18%	18%	18%	19%
Public	518	648	609	600	583	592	597	3%	3%	3%	3%	3%	3%	3%
Unknown	1,032	909	1,044	1,081	1,237	1,061	1,121	5%	5%	5%	5%	5%	5%	5%
Vegetation	3,847	4,121	4,359	4,221	5,933	4,496	4,838	20%	21%	21%	21%	26%	22%	23%
Weather - Non Lightning)	14	120	10	17	8	34	12	0%	1%	0%	0%	0%	0%	0%
Wildlife	2,081	2,219	2,740	3,362	3,335	2,747	3,146	11%	11%	13%	17%	15%	13%	15%
All Causes	18,958	19,389	20,591	20,190	22,606			100%	100%	100%	100%	100%		

State of Minnesota

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	3,757	3,629	3,609	3,074	3,147	3,443	3,277	20%	20%	19%	16%	16%	18%	17%
Equipment - UG	2,606	2,851	2,523	2,569	2,403	2,590	2,498	14%	15%	13%	14%	12%	14%	13%
Lightning	693	760	647	477	498	615	541	4%	4%	3%	3%	2%	3%	3%
Other	587	513	599	785	694	636	693	3%	3%	3%	4%	3%	3%	4%
Power Supply	94	74	66	53	53	68	57	1%	0%	0%	0%	0%	0%	0%
Planned	3,577	3,108	4,118	3,631	4,033	3,693	3,927	19%	17%	21%	19%	20%	19%	20%
Public	517	641	604	595	578	587	592	3%	3%	3%	3%	3%	3%	3%
Unknown	1,015	883	1,004	1,049	1,160	1,022	1,071	6%	5%	5%	6%	6%	5%	5%
Vegetation	3,497	3,622	3,481	3,284	4,268	3,630	3,678	19%	20%	18%	17%	21%	19%	19%
Weather - Non Lightning)	14	119	9	5	7	31	7	0%	1%	0%	0%	0%	0%	0%
Wildlife	2,075	2,209	2,729	3,342	3,308	2,733	3,126	11%	12%	14%	18%	16%	14%	16%
All Causes	18,432	18,409	19,389	18,864	20,149			100%	100%	100%	100%	100%		

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Metro East Work Region

All Days Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	122,575	48,988	129,714	92,998	82,738	95,403		101,817		31%	14%	28%	21%	18%	22%		23%	
Equipment - UG	47,324	48,396	56,160	60,074	52,619	52,915		56,284		12%	13%	12%	14%	11%	13%		12%	
Lightning	11,769	8,648	10,482	9,556	10,612	10,213		10,217		3%	2%	2%	2%	2%	2%		2%	
Other	11,012	31,028	17,986	17,780	36,585	22,878		24,117		3%	9%	4%	4%	8%	5%		5%	
Power Supply	3,687	13,633	12,633	2,104	3,875	7,186		6,204		1%	4%	3%	0%	1%	2%		1%	
Planned	35,927	33,058	47,448	38,436	41,368	39,247		42,417		9%	9%	10%	9%	9%	9%		9%	
Public	30,942	30,213	46,276	39,211	20,516	33,432		35,334		8%	8%	10%	9%	4%	8%		8%	
Unknown	18,029	13,405	11,282	14,273	16,014	14,601		13,856		4%	4%	2%	3%	3%	3%		3%	
Vegetation	96,735	114,058	97,590	120,676	148,972	115,606		122,413		24%	32%	21%	28%	32%	27%		27%	
Weather - Non Lightning)	1	178	1	1	1	36		1		0%	0%	0%	0%	0%	0%		0%	
Wildlife	22,923	17,507	27,776	40,448	47,341	31,199		38,522		6%	5%	6%	9%	10%	7%		9%	
All Causes	400,924	359,112	457,348	435,557	460,641					100%	100%	100%	100%	100%				

Metro East Work Region

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	119,216	42,129	129,333	87,872	77,367	91,183		98,191		31%	13%	30%	24%	20%	24%		25%	
Equipment - UG	47,266	48,175	55,721	59,381	52,512	52,611		55,871		12%	15%	13%	16%	13%	14%		14%	
Lightning	11,246	4,829	10,346	2,536	4,195	6,630		5,692		3%	2%	2%	1%	1%	2%		1%	
Other	10,923	27,022	17,909	17,366	36,537	21,951		23,937		3%	9%	4%	5%	9%	6%		6%	
Power Supply	3,687	13,633	12,633	0	3,875	6,766		5,503		1%	4%	3%	0%	1%	2%		1%	
Planned	35,458	30,376	47,342	37,312	41,122	38,322		41,925		9%	10%	11%	10%	10%	10%		11%	
Public	25,981	30,211	46,031	39,211	20,501	32,387		35,248		7%	10%	11%	11%	5%	9%		9%	
Unknown	16,175	13,393	10,701	8,857	15,126	12,850		11,561		4%	4%	2%	2%	4%	3%		3%	
Vegetation	94,347	88,539	74,138	67,491	95,026	83,908		78,885		24%	28%	17%	19%	24%	22%		20%	
Weather - Non Lightning)	1	178	1	1	1	36		1		0%	0%	0%	0%	0%	0%		0%	
Wildlife	22,912	17,500	27,771	40,183	47,254	31,124		38,403		6%	6%	6%	11%	12%	8%		10%	
All Causes	387,212	315,985	431,926	360,210	393,516					100%	100%	100%	100%	100%				

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Metro East Work Region

Metro East Work Region

Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	1,169	1,066	1,067	955	967	1,045	996	19%	17%	17%	15%	13%	16%	15%
Equipment - UG	918	1,010	891	864	816	900	857	15%	16%	14%	14%	11%	14%	13%
Lightning	245	210	210	131	158	191	166	4%	3%	3%	2%	2%	3%	3%
Other	163	187	157	209	180	179	182	3%	3%	2%	3%	2%	3%	3%
Power Supply	2	11	9	1	3	5	4	0%	0%	0%	0%	0%	0%	0%
Planned	1,132	1,031	1,392	1,142	1,504	1,240	1,346	18%	16%	22%	18%	21%	19%	20%
Public	175	204	194	200	180	191	191	3%	3%	3%	3%	2%	3%	3%
Unknown	257	232	236	239	257	244	244	4%	4%	4%	4%	4%	4%	4%
Vegetation	1,304	1,489	1,267	1,508	2,009	1,515	1,595	21%	24%	20%	24%	28%	23%	24%
Weather - Non Lightning)	1	51	1	1	1	11	1	0%	1%	0%	0%	0%	0%	0%
Wildlife	760	788	963	1,129	1,139	956	1,077	12%	13%	15%	18%	16%	15%	16%
All Causes	6,126	6,279	6,387	6,379	7,214			100%	100%	100%	100%	100%		

Metro East Work Region

Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	1,148	1,049	1,056	903	914	1,014	958	19%	17%	17%	15%	14%	17%	15%
Equipment - UG	915	1,000	885	852	805	891	847	15%	17%	14%	15%	12%	15%	14%
Lightning	234	189	200	104	119	169	141	4%	3%	3%	2%	2%	3%	2%
Other	159	177	155	199	167	171	174	3%	3%	2%	3%	3%	3%	3%
Power Supply	2	11	9	0	3	5	4	0%	0%	0%	0%	0%	0%	0%
Planned	1,125	1,028	1,391	1,138	1,490	1,234	1,340	19%	17%	22%	19%	23%	20%	22%
Public	174	202	192	200	179	189	190	3%	3%	3%	3%	3%	3%	3%
Unknown	251	227	231	230	237	235	233	4%	4%	4%	4%	4%	4%	4%
Vegetation	1,233	1,305	1,142	1,092	1,464	1,247	1,233	21%	22%	18%	19%	22%	20%	20%
Weather - Non Lightning)	1	51	1	1	1	11	1	0%	1%	0%	0%	0%	0%	0%
Wildlife	756	787	962	1,125	1,128	952	1,072	13%	13%	15%	19%	17%	16%	17%
All Causes	5,998	6,026	6,224	5,844	6,507			100%	100%	100%	100%	100%		

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Metro West Work Region

All Days Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	136,996	85,591	105,060	138,339	116,794	116,556		120,064		25%	19%	15%	19%	17%			19%	17%
Equipment - UG	93,990	79,495	135,620	128,398	108,219	109,144		124,079		17%	18%	20%	18%	15%			18%	18%
Lightning	21,743	12,518	3,292	9,534	28,259	15,069		13,695		4%	3%	0%	1%	4%			3%	2%
Other	28,585	16,430	17,336	33,149	19,006	22,901		23,164		5%	4%	2%	5%	3%			4%	3%
Power Supply	18,800	18,979	7,724	6,233	11,761	12,699		8,573		3%	4%	1%	1%	2%			2%	1%
Planned	32,239	37,810	41,303	34,947	41,235	37,507		39,162		6%	8%	6%	5%	6%			6%	6%
Public	30,507	44,979	90,284	36,704	47,554	50,006		58,181		6%	10%	13%	5%	7%			8%	8%
Unknown	44,857	27,857	44,432	84,824	44,742	49,342		57,999		8%	6%	6%	12%	6%			8%	8%
Vegetation	100,997	90,773	151,619	133,891	208,093	137,075		164,534		18%	20%	22%	19%	30%			22%	23%
Weather - Non Lightning)	1,322	1,289	5,021	190	67	1,578		1,759		0%	0%	1%	0%	0%			0%	0%
Wildlife	43,092	34,962	92,262	106,193	72,976	69,897		90,477		8%	8%	13%	15%	10%			11%	13%
All Causes	553,128	450,683	693,953	712,402	698,706					100%	100%	100%	100%	100%				

Metro West Work Region

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	119,400	82,501	97,418	137,295	103,519	108,027		112,744		23%	19%	16%	21%	19%			20%	19%
Equipment - UG	93,654	72,018	135,014	128,131	106,089	106,981		123,078		18%	17%	22%	19%	19%			19%	20%
Lightning	21,669	11,499	2,262	9,157	4,887	9,895		5,435		4%	3%	0%	1%	1%			2%	1%
Other	28,584	15,085	16,329	32,533	15,494	21,605		21,452		5%	4%	3%	5%	3%			4%	3%
Power Supply	18,800	18,979	5,865	6,233	11,761	12,328		7,953		4%	4%	1%	1%	2%			2%	1%
Planned	32,176	35,708	40,420	34,756	39,547	36,521		38,241		6%	8%	7%	5%	7%			7%	6%
Public	30,507	44,899	90,202	34,393	45,128	49,026		56,574		6%	11%	15%	5%	8%			9%	9%
Unknown	44,418	27,099	40,742	82,787	38,465	46,702		53,998		8%	6%	7%	13%	7%			8%	9%
Vegetation	89,488	80,889	92,616	86,242	109,970	91,841		96,276		17%	19%	15%	13%	20%			17%	16%
Weather - Non Lightning)	1,322	1,289	5,019	190	41	1,572		1,750		0%	0%	1%	0%	0%			0%	0%
Wildlife	43,052	34,765	92,132	105,517	72,786	69,650		90,145		8%	8%	15%	16%	13%			12%	15%
All Causes	523,070	424,731	618,019	657,234	547,687					100%	100%	100%	100%	100%				

Cause of Outages

Metro West Work Region

Metro West Work Region

All Days Primary Cause	Count of Outages - Actuals					18-22 5 Yr Avg	20-22 3 Yr Avg	Count of Outages - Percent Total					18-22 5 Yr Avg	20-22 3 Yr Avg
	2018	2019	2020	2021	2022			2018	2019	2020	2021	2022		
Equipment - OH	1,560	1,426	1,419	1,323	1,404	1,426	1,382	18%	17%	15%	14%	13%	16%	14%
Equipment - UG	1,222	1,273	1,177	1,206	1,097	1,195	1,160	14%	15%	12%	13%	10%	13%	12%
Lightning	123	128	127	93	157	126	126	1%	2%	1%	1%	1%	1%	1%
Other	272	241	350	433	440	347	408	3%	3%	4%	5%	4%	4%	4%
Power Supply	18	15	10	6	12	12	9	0%	0%	0%	0%	0%	0%	0%
Planned	2,030	1,666	2,035	1,799	1,939	1,894	1,924	24%	20%	21%	19%	18%	20%	20%
Public	227	273	280	251	255	257	262	3%	3%	3%	3%	2%	3%	3%
Unknown	522	496	619	640	699	595	653	6%	6%	6%	7%	7%	6%	7%
Vegetation	1,669	1,873	2,495	2,044	3,140	2,244	2,560	20%	22%	26%	22%	30%	24%	26%
Weather - Non Lightning)	4	53	5	4	3	14	4	0%	1%	0%	0%	0%	0%	0%
Wildlife	827	937	1,168	1,535	1,434	1,180	1,379	10%	11%	12%	16%	14%	13%	14%
All Causes	8,474	8,381	9,685	9,334	10,580			100%	100%	100%	100%	100%		

Metro West Work Region

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					18-22 5 Yr Avg	20-22 3 Yr Avg	Count of Outages - Percent Total					18-22 5 Yr Avg	20-22 3 Yr Avg
	2018	2019	2020	2021	2022			2018	2019	2020	2021	2022		
Equipment - OH	1,525	1,400	1,356	1,288	1,294	1,373	1,313	18%	17%	15%	15%	14%	16%	15%
Equipment - UG	1,216	1,252	1,151	1,194	1,072	1,177	1,139	15%	15%	13%	13%	12%	14%	13%
Lightning	118	118	91	80	87	99	86	1%	1%	1%	1%	1%	1%	1%
Other	272	220	325	419	340	315	361	3%	3%	4%	5%	4%	4%	4%
Power Supply	18	15	8	6	12	12	9	0%	0%	0%	0%	0%	0%	0%
Planned	2,026	1,640	2,008	1,789	1,909	1,874	1,902	24%	20%	23%	20%	21%	22%	21%
Public	227	271	278	248	252	255	259	3%	3%	3%	3%	3%	3%	3%
Unknown	516	490	589	625	659	576	624	6%	6%	7%	7%	7%	7%	7%
Vegetation	1,560	1,751	1,800	1,686	2,204	1,800	1,897	19%	22%	21%	19%	24%	21%	21%
Weather - Non Lightning)	4	53	4	4	2	13	3	0%	1%	0%	0%	0%	0%	0%
Wildlife	825	933	1,158	1,527	1,427	1,174	1,371	10%	11%	13%	17%	15%	13%	15%
All Causes	8,307	8,143	8,768	8,866	9,258			100%	100%	100%	100%	100%		

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Cause of Outages

Northwest Work Region(Includes ND region custs/outs in state of MN)

All Days Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	34,499	28,206	27,769	36,619	32,065	31,832		32,151		33%	25%	23%	37%	21%	28%		27%	
Equipment - UG	7,335	5,022	10,950	3,839	6,113	6,652		6,967		7%	4%	9%	4%	4%	6%		6%	
Lightning	5,552	13,639	1,773	1,908	2,983	5,171		2,221		5%	12%	1%	2%	2%	5%		2%	
Other	2,698	2,283	3,378	4,553	8,497	4,282		5,476		3%	2%	3%	5%	6%	4%		4%	
Power Supply	16,817	20,318	16,149	19,661	21,807	18,950		19,206		16%	18%	13%	20%	14%	16%		16%	
Planned	10,729	7,363	11,840	7,955	10,158	9,609		9,984		10%	6%	10%	8%	7%	8%		8%	
Public	5,945	12,273	7,850	7,516	5,841	7,885		7,069		6%	11%	6%	8%	4%	7%		6%	
Unknown	3,970	1,426	23,734	3,055	12,250	8,887		13,013		4%	1%	20%	3%	8%	7%		10%	
Vegetation	13,926	19,873	14,809	10,368	32,534	18,302		19,237		13%	17%	12%	11%	22%	15%		15%	
Weather - Non Lightning)	73	8	3	0	3	17		2		0%	0%	0%	0%	0%	0%		0%	
Wildlife	2,442	3,197	2,534	3,201	18,349	5,945		8,028		2%	3%	2%	3%	12%	5%		6%	
All Causes	103,986	113,608	120,789	98,675	150,600					100%	100%	100%	100%	100%				

Northwest Work Region(Includes ND region custs/outs in state of MN)

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	34,499	24,035	27,010	36,611	23,818	29,195		29,146		33%	25%	24%	40%	27%	30%		30%	
Equipment - UG	7,335	4,968	10,839	3,808	5,932	6,576		6,860		7%	5%	9%	4%	7%	7%		7%	
Lightning	5,552	11,144	1,449	1,902	1,765	4,362		1,705		5%	12%	1%	2%	2%	4%		2%	
Other	2,698	1,490	2,711	4,553	6,928	3,676		4,731		3%	2%	2%	5%	8%	4%		5%	
Power Supply	16,817	16,331	12,703	16,897	7,321	14,014		12,307		16%	17%	11%	18%	8%	14%		13%	
Planned	10,729	7,246	11,171	5,507	10,147	8,960		8,942		10%	8%	10%	6%	12%	9%		9%	
Public	5,945	12,273	7,850	7,516	5,841	7,885		7,069		6%	13%	7%	8%	7%	8%		7%	
Unknown	3,970	773	23,734	3,054	9,600	8,226		12,129		4%	1%	21%	3%	11%	8%		12%	
Vegetation	13,926	14,174	14,316	9,139	10,873	12,486		11,443		13%	15%	13%	10%	13%	13%		12%	
Weather - Non Lightning)	73	8	3	0	3	17		2		0%	0%	0%	0%	0%	0%		0%	
Wildlife	2,442	2,573	2,534	3,194	4,517	3,052		3,415		2%	3%	2%	3%	5%	3%		4%	
All Causes	103,986	95,015	114,320	92,181	86,745					100%	100%	100%	100%	100%				

Cause of Outages

Northwest Work Region(Includes ND region custs/outs in state of MN)

Northwest Work Region(Includes ND region custs/outs in state of MN)

All Days Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	462	502	543	426	505	488	491	27%	28%	32%	22%	22%	26%	25%
Equipment - UG	234	311	215	265	283	262	254	14%	18%	13%	14%	12%	14%	13%
Lightning	127	177	134	116	127	136	126	7%	10%	8%	6%	6%	7%	6%
Other	59	47	53	89	119	73	87	3%	3%	3%	5%	5%	4%	4%
Power Supply	31	32	22	28	32	29	27	2%	2%	1%	1%	1%	2%	1%
Planned	277	136	148	313	320	239	260	16%	8%	9%	16%	14%	13%	13%
Public	47	71	54	62	65	60	60	3%	4%	3%	3%	3%	3%	3%
Unknown	86	62	100	95	144	97	113	5%	3%	6%	5%	6%	5%	6%
Vegetation	247	222	220	265	423	275	303	14%	13%	13%	14%	19%	14%	15%
Weather - Non Lightning)	3	2	2	0	1	2	1	0%	0%	0%	0%	0%	0%	0%
Wildlife	156	214	225	274	266	227	255	9%	12%	13%	14%	12%	12%	13%
All Causes	1,729	1,776	1,716	1,933	2,285			100%	100%	100%	100%	100%		

Northwest Work Region(Includes ND region custs/outs in state of MN)

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	462	479	533	421	452	469	469	27%	29%	32%	23%	23%	27%	26%
Equipment - UG	234	308	210	264	277	259	250	14%	18%	13%	14%	14%	15%	14%
Lightning	127	161	123	110	71	118	101	7%	10%	7%	6%	4%	7%	6%
Other	59	45	51	89	97	68	79	3%	3%	3%	5%	5%	4%	4%
Power Supply	31	29	17	24	10	22	17	2%	2%	1%	1%	1%	1%	1%
Planned	277	134	147	312	317	237	259	16%	8%	9%	17%	16%	13%	14%
Public	47	71	54	62	65	60	60	3%	4%	3%	3%	3%	3%	3%
Unknown	86	57	100	94	130	93	108	5%	3%	6%	5%	7%	5%	6%
Vegetation	247	179	196	214	258	219	223	14%	11%	12%	11%	13%	12%	12%
Weather - Non Lightning)	3	2	2	0	1	2	1	0%	0%	0%	0%	0%	0%	0%
Wildlife	156	211	225	272	257	224	251	9%	13%	14%	15%	13%	13%	14%
All Causes	1,729	1,676	1,658	1,862	1,935			100%	100%	100%	100%	100%		

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Cause of Outages

Southeast Work Region(Includes SD region custs/outs in state of MN)

All Days Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	22,957	46,620	20,988	26,591	25,522	28,536		24,367		16%	27%	17%	22%	20%	20%		20%	
Equipment - UG	7,405	7,144	9,564	8,015	5,166	7,459		7,582		5%	4%	8%	7%	4%	6%		6%	
Lightning	3,219	9,308	7,495	3,935	3,127	5,417		4,852		2%	5%	6%	3%	2%	4%		4%	
Other	9,403	6,190	4,628	9,744	4,788	6,951		6,387		6%	4%	4%	8%	4%	5%		5%	
Power Supply	40,405	26,832	17,427	20,156	22,562	25,476		20,048		27%	16%	14%	17%	17%	18%		16%	
Planned	5,799	10,939	7,643	8,886	7,455	8,144		7,995		4%	6%	6%	7%	6%	6%		6%	
Public	2,849	16,802	5,080	7,122	7,151	7,801		6,451		2%	10%	4%	6%	6%	5%		5%	
Unknown	8,297	9,486	8,542	6,573	7,574	8,094		7,563		6%	6%	7%	5%	6%	6%		6%	
Vegetation	35,074	26,804	23,505	23,107	18,487	25,395		21,700		24%	16%	19%	19%	14%	18%		18%	
Weather - Non Lightning)	82	1,610	23	303	9	405		112		0%	1%	0%	0%	0%	0%		0%	
Wildlife	11,639	8,393	15,776	6,861	27,494	14,033		16,710		8%	5%	13%	6%	21%	11%		13%	
All Causes	147,129	170,128	120,671	121,293	129,335					100%	100%	100%	100%	100%				

Southeast Work Region(Includes SD region custs/outs in state of MN)

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					18-22		20-22		Customer Interruptions - Percent					18-22		20-22	
	2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg		2018	2019	2020	2021	2022	5 Yr Avg		3 Yr Avg	
Equipment - OH	18,769	29,074	20,792	23,578	24,877	23,418		23,082		16%	24%	18%	24%	21%	21%		21%	
Equipment - UG	7,365	7,103	9,411	7,937	5,156	7,394		7,501		6%	6%	8%	8%	4%	7%		7%	
Lightning	3,210	4,525	7,058	3,510	2,634	4,187		4,401		3%	4%	6%	4%	2%	4%		4%	
Other	5,252	5,431	4,628	8,663	4,787	5,752		6,026		4%	5%	4%	9%	4%	5%		6%	
Power Supply	35,247	15,276	16,717	15,475	19,959	20,535		17,384		30%	13%	15%	15%	16%	18%		16%	
Planned	5,199	9,652	7,414	8,121	7,446	7,566		7,660		4%	8%	7%	8%	6%	7%		7%	
Public	2,849	14,574	5,062	6,987	7,150	7,324		6,400		2%	12%	4%	7%	6%	6%		6%	
Unknown	6,366	6,002	7,713	6,334	5,802	6,443		6,616		5%	5%	7%	6%	5%	6%		6%	
Vegetation	21,518	18,614	19,364	12,615	15,878	17,598		15,952		18%	16%	17%	13%	13%	15%		14%	
Weather - Non Lightning)	82	1,145	23	0	9	252		11		0%	1%	0%	0%	0%	0%		0%	
Wildlife	11,639	8,368	15,776	6,837	27,494	14,023		16,702		10%	7%	14%	7%	23%	12%		14%	
All Causes	117,496	119,764	113,958	100,057	121,192					100%	100%	100%	100%	100%				

Cause of Outages

Southeast Work Region(Includes SD region custs/outs in state of MN)

Southeast Work Region(Includes SD region custs/outs in state of MN)

All Days Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	646	835	668	521	498	634	562	25%	28%	24%	20%	20%	23%	21%
Equipment - UG	243	295	279	266	251	267	265	9%	10%	10%	10%	10%	10%	10%
Lightning	217	341	247	191	256	250	231	8%	12%	9%	8%	10%	9%	9%
Other	113	84	68	109	91	93	89	4%	3%	2%	4%	4%	3%	3%
Power Supply	52	36	33	29	32	36	31	2%	1%	1%	1%	1%	1%	1%
Planned	151	312	575	394	319	350	429	6%	11%	21%	15%	13%	13%	16%
Public	69	100	81	87	83	84	84	3%	3%	3%	3%	3%	3%	3%
Unknown	167	119	89	107	137	124	111	6%	4%	3%	4%	5%	5%	4%
Vegetation	627	537	377	404	361	461	381	24%	18%	13%	16%	14%	17%	15%
Weather - Non Lightning)	6	14	2	12	3	7	6	0%	0%	0%	0%	0%	0%	0%
Wildlife	338	280	384	424	496	384	435	13%	9%	14%	17%	20%	14%	17%
All Causes	2,629	2,953	2,803	2,544	2,527			100%	100%	100%	100%	100%		

Southeast Work Region(Includes SD region custs/outs in state of MN)

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					18-22	20-22	Count of Outages - Percent Total					18-22	20-22
	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg	2018	2019	2020	2021	2022	5 Yr Avg	3 Yr Avg
Equipment - OH	622	701	664	462	487	587	538	26%	27%	24%	20%	20%	24%	21%
Equipment - UG	241	291	277	259	249	263	262	10%	11%	10%	11%	10%	11%	11%
Lightning	214	292	233	183	221	229	212	9%	11%	9%	8%	9%	9%	9%
Other	97	71	68	78	90	81	79	4%	3%	2%	3%	4%	3%	3%
Power Supply	43	19	32	23	28	29	28	2%	1%	1%	1%	1%	1%	1%
Planned	149	306	572	392	317	347	427	6%	12%	21%	17%	13%	14%	17%
Public	69	97	80	85	82	83	82	3%	4%	3%	4%	3%	3%	3%
Unknown	162	109	84	100	134	118	106	7%	4%	3%	4%	5%	5%	4%
Vegetation	457	387	343	292	342	364	326	19%	15%	13%	13%	14%	15%	13%
Weather - Non Lightning)	6	13	2	0	3	5	2	0%	1%	0%	0%	0%	0%	0%
Wildlife	338	278	384	418	496	383	433	14%	11%	14%	18%	20%	15%	18%
All Causes	2,398	2,564	2,739	2,292	2,449			100%	100%	100%	100%	100%		