

Cause of Outages

State of Minnesota

All Days Primary Cause	Customer Interruptions - Actuals					20-24		Customer Interruptions - Percent					20-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	283,531	294,547	257,119	230,195	284,147	269,908	257,154	20%	22%	18%	16%	14%	18%	16%
Equipment - UG	212,294	200,326	172,117	161,799	177,827	184,873	170,581	15%	15%	12%	11%	9%	12%	11%
Lightning	23,042	24,933	44,981	35,992	106,304	47,050	62,426	2%	2%	3%	3%	5%	3%	4%
Other	43,328	65,226	68,876	71,050	72,567	64,209	70,831	3%	5%	5%	5%	4%	4%	4%
Power Supply	53,933	48,154	60,005	65,168	55,586	56,569	60,253	4%	4%	4%	5%	3%	4%	4%
Planned	108,234	90,224	100,216	113,459	148,834	112,193	120,836	8%	7%	7%	8%	7%	7%	7%
Public	149,490	90,553	81,062	103,626	112,037	107,354	98,908	11%	7%	6%	7%	6%	7%	6%
Unknown	87,990	108,725	80,580	72,535	137,115	97,389	96,743	6%	8%	6%	5%	7%	6%	6%
Vegetation	287,523	288,042	408,086	444,139	747,953	435,149	533,393	21%	21%	28%	31%	37%	28%	32%
Weather - Non Lightning)	5,048	494	80	1,536	679	1,567	765	0%	0%	0%	0%	0%	0%	0%
Wildlife	138,348	156,703	166,160	121,781	163,288	149,256	150,410	10%	11%	12%	9%	8%	10%	9%
All Causes	1,392,761	1,367,927	1,439,282	1,421,280	2,006,337			100%	100%	100%	100%	100%		

State of Minnesota

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					20-24		Customer Interruptions - Percent					20-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	274,553	285,356	229,581	188,691	245,478	244,732	221,250	21%	24%	20%	17%	17%	20%	18%
Equipment - UG	210,985	199,257	169,689	156,469	171,700	181,620	165,953	17%	16%	15%	14%	12%	15%	13%
Lightning	21,115	17,105	13,481	26,994	63,499	28,439	34,658	2%	1%	1%	2%	4%	2%	3%
Other	41,577	63,115	63,746	68,326	54,286	58,210	62,119	3%	5%	6%	6%	4%	5%	5%
Power Supply	47,918	38,605	42,916	52,200	54,579	47,244	49,898	4%	3%	4%	5%	4%	4%	4%
Planned	106,347	85,696	98,262	105,478	139,932	107,143	114,557	8%	7%	9%	9%	10%	9%	9%
Public	149,145	88,107	78,620	103,053	108,112	105,407	96,595	12%	7%	7%	9%	7%	8%	8%
Unknown	82,890	101,032	68,993	64,681	113,844	86,288	82,506	6%	8%	6%	6%	8%	7%	6%
Vegetation	200,434	175,487	231,747	254,414	368,193	246,055	284,785	16%	15%	20%	22%	25%	20%	23%
Weather - Non Lightning)	5,046	191	54	31	611	1,187	232	0%	0%	0%	0%	0%	0%	0%
Wildlife	138,213	155,731	152,051	120,881	148,987	143,173	140,640	11%	13%	13%	11%	10%	12%	11%
All Causes	1,278,223	1,209,682	1,149,140	1,141,218	1,469,221			100%	100%	100%	100%	100%		

State of Minnesota

All Days Primary Cause	Count of Outages - Actuals					20-24		Customer Interruptions - Percent					20-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	3,697	3,225	3,374	3,640	3,885	3,564	3,633	18%	16%	15%	15%	13%	15%	14%
Equipment - UG	2,562	2,601	2,447	2,746	2,369	2,545	2,521	12%	13%	11%	11%	8%	11%	10%
Lightning	718	531	698	514	847	662	686	3%	3%	3%	2%	3%	3%	3%
Other	628	840	830	827	1,038	833	898	3%	4%	4%	3%	3%	4%	3%
Power Supply	74	64	79	57	56	66	64	0%	0%	0%	0%	0%	0%	0%
Planned	4,150	3,648	4,082	5,736	8,868	5,297	6,229	20%	18%	18%	23%	29%	22%	23%
Public	609	600	583	571	572	587	575	3%	3%	3%	2%	2%	3%	2%
Unknown	1,044	1,081	1,237	940	1,564	1,173	1,247	5%	5%	5%	4%	5%	5%	5%
Vegetation	4,359	4,221	5,933	6,214	8,696	5,885	6,948	21%	21%	26%	25%	28%	24%	26%
Weather - Non Lightning)	10	17	8	26	23	17	19	0%	0%	0%	0%	0%	0%	0%
Wildlife	2,740	3,362	3,335	3,439	3,125	3,200	3,300	13%	17%	15%	14%	10%	14%	13%
All Causes	20,591	20,190	22,606	24,710	31,043			100%	100%	100%	100%	100%		

State of Minnesota

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					20-24		Customer Interruptions - Percent					20-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	3,609	3,074	3,147	3,456	3,407	3,339	3,337	19%	16%	16%	15%	13%	16%	15%
Equipment - UG	2,523	2,569	2,403	2,712	2,295	2,500	2,470	13%	14%	12%	12%	9%	12%	11%
Lightning	647	477	498	450	621	539	523	3%	3%	2%	2%	2%	3%	2%
Other	599	785	694	750	754	716	733	3%	4%	3%	3%	3%	3%	3%
Power Supply	66	53	53	44	55	54	51	0%	0%	0%	0%	0%	0%	0%
Planned	4,118	3,631	4,033	5,665	8,776	5,245	6,158	21%	19%	20%	25%	33%	24%	26%
Public	604	595	578	562	568	581	569	3%	3%	3%	2%	2%	3%	2%
Unknown	1,004	1,049	1,160	902	1,395	1,102	1,152	5%	6%	6%	4%	5%	5%	5%
Vegetation	3,481	3,284	4,268	4,568	5,674	4,255	4,837	18%	17%	21%	20%	21%	20%	21%
Weather - Non Lightning)	9	5	7	14	13	10	11	0%	0%	0%	0%	0%	0%	0%
Wildlife	2,729	3,342	3,308	3,403	3,104	3,177	3,272	14%	18%	16%	15%	12%	15%	14%
All Causes	19,389	18,864	20,149	22,526	26,662			100%	100%	100%	100%	100%		

Cause of Outages

Metro East Work Region

Primary Cause	Customer Interruptions - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	129,714	92,998	82,738	91,967	69,905	93,464	81,537	28%	21%	18%	16%	11%	19%	15%
Equipment - UG	56,160	60,074	52,619	59,140	54,021	56,403	55,260	12%	14%	11%	10%	8%	11%	10%
Lightning	10,482	9,556	10,612	11,416	63,137	21,041	28,388	2%	2%	2%	2%	10%	4%	5%
Other	17,986	17,780	36,585	21,880	12,883	21,423	23,783	4%	4%	8%	4%	2%	4%	5%
Power Supply	12,633	2,104	3,875	25,021	5,814	9,889	11,570	3%	0%	1%	4%	1%	2%	2%
Planned	47,448	38,436	41,368	45,367	55,759	45,676	47,498	10%	9%	9%	8%	8%	9%	8%
Public	46,276	39,211	20,516	36,798	36,929	35,946	31,414	10%	9%	4%	6%	6%	7%	5%
Unknown	11,282	14,273	16,014	24,752	29,447	19,154	23,404	2%	3%	3%	4%	4%	4%	4%
Vegetation	97,590	120,676	148,972	218,412	252,218	167,574	206,534	21%	28%	32%	37%	38%	31%	36%
Weather - Non Lightning)	1	1	1	39	1	9	14	0%	0%	0%	0%	0%	0%	0%
Wildlife	27,776	40,448	47,341	51,403	80,525	49,499	59,756	6%	9%	10%	9%	12%	9%	10%
All Causes	457,348	435,557	460,641	586,195	660,639			100%	100%	100%	100%	100%		

Metro East Work Region

Primary Cause	Customer Interruptions - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	129,333	87,872	77,367	74,162	61,900	86,127	71,143	30%	24%	20%	17%	13%	21%	16%
Equipment - UG	55,721	59,381	52,512	56,485	50,422	54,904	53,140	13%	16%	13%	13%	10%	13%	12%
Lightning	10,346	2,536	4,195	9,453	37,521	12,810	17,056	2%	1%	1%	2%	8%	3%	4%
Other	17,909	17,366	36,537	21,306	12,469	21,117	23,437	4%	5%	9%	5%	3%	5%	6%
Power Supply	12,633	0	3,875	19,162	5,814	8,297	9,617	3%	0%	1%	4%	1%	2%	2%
Planned	47,342	37,312	41,122	44,287	53,770	44,767	46,393	11%	10%	10%	10%	11%	11%	11%
Public	46,031	39,211	20,501	36,495	36,836	35,815	31,277	11%	11%	5%	8%	8%	9%	7%
Unknown	10,701	8,857	15,126	23,946	19,074	15,541	19,382	2%	2%	4%	5%	4%	4%	4%
Vegetation	74,138	67,491	95,026	104,601	130,392	94,330	110,006	17%	19%	24%	24%	27%	22%	25%
Weather - Non Lightning)	1	1	1	12	1	3	5	0%	0%	0%	0%	0%	0%	0%
Wildlife	27,771	40,183	47,254	51,330	77,090	48,726	58,558	6%	11%	12%	12%	16%	11%	13%
All Causes	431,926	360,210	393,516	441,239	485,289			100%	100%	100%	100%	100%		

Metro East Work Region

Primary Cause	Count of Outages - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	1,067	955	967	992	1,005	997	988	17%	15%	13%	12%	10%	13%	12%
Equipment - UG	891	864	816	912	835	864	854	14%	14%	11%	11%	8%	12%	10%
Lightning	210	131	158	123	213	167	165	3%	2%	2%	1%	2%	2%	2%
Other	157	209	180	235	174	191	196	2%	3%	2%	3%	2%	3%	2%
Power Supply	9	1	3	12	5	6	7	0%	0%	0%	0%	0%	0%	0%
Planned	1,392	1,142	1,504	1,922	2,961	1,784	2,129	22%	18%	21%	23%	30%	23%	24%
Public	194	200	180	202	182	192	188	3%	3%	2%	2%	2%	3%	2%
Unknown	236	239	257	278	320	266	285	4%	4%	4%	3%	3%	3%	3%
Vegetation	1,267	1,508	2,009	2,630	3,055	2,094	2,565	20%	24%	28%	31%	31%	27%	30%
Weather - Non Lightning)	1	1	1	10	1	3	4	0%	0%	0%	0%	0%	0%	0%
Wildlife	963	1,129	1,139	1,184	1,243	1,132	1,189	15%	18%	16%	14%	12%	15%	14%
All Causes	6,387	6,379	7,214	8,500	9,994			100%	100%	100%	100%	100%		

Metro East Work Region

Primary Cause	Count of Outages - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	1,056	903	914	919	870	932	901	17%	15%	14%	13%	10%	14%	12%
Equipment - UG	885	852	805	899	810	850	838	14%	15%	12%	12%	9%	13%	11%
Lightning	200	104	119	97	131	130	116	3%	2%	2%	1%	2%	2%	2%
Other	155	199	167	203	154	176	175	2%	3%	3%	3%	2%	3%	2%
Power Supply	9	0	3	6	5	5	5	0%	0%	0%	0%	0%	0%	0%
Planned	1,391	1,138	1,490	1,884	2,933	1,767	2,102	22%	19%	23%	26%	34%	25%	28%
Public	192	200	179	198	181	190	186	3%	3%	3%	3%	2%	3%	3%
Unknown	231	230	237	267	289	251	264	4%	4%	4%	4%	3%	4%	4%
Vegetation	1,142	1,092	1,464	1,698	1,967	1,473	1,710	18%	19%	22%	23%	23%	21%	23%
Weather - Non Lightning)	1	1	1	5	1	2	2	0%	0%	0%	0%	0%	0%	0%
Wildlife	962	1,125	1,128	1,174	1,233	1,124	1,178	15%	19%	17%	16%	14%	16%	16%
All Causes	6,224	5,844	6,507	7,350	8,574			100%	100%	100%	100%	100%		

Cause of Outages

Metro West Work Region

All Days Primary Cause	Customer Interruptions - Actuals					20-24	22-24	Customer Interruptions - Percent To					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	105,060	138,339	116,794	87,600	149,308	119,420	117,901	15%	19%	17%	14%	14%	16%	15%
Equipment - UG	135,620	128,398	108,219	79,195	113,292	112,945	100,235	20%	18%	15%	13%	11%	15%	13%
Lightning	3,292	9,534	28,259	12,291	35,353	17,746	25,301	0%	1%	4%	2%	3%	2%	3%
Other	17,336	33,149	19,006	40,713	39,228	29,886	32,982	2%	5%	3%	7%	4%	4%	4%
Power Supply	7,724	6,233	11,761	18,789	22,819	13,465	17,790	1%	1%	2%	3%	2%	2%	2%
Planned	41,303	34,947	41,235	49,890	69,930	47,461	53,685	6%	5%	6%	8%	7%	6%	7%
Public	90,284	36,704	47,554	52,038	68,583	59,033	56,058	13%	5%	7%	9%	6%	8%	7%
Unknown	44,432	84,824	44,742	22,868	77,842	54,942	48,484	6%	12%	6%	4%	7%	7%	6%
Vegetation	151,619	133,891	208,093	188,456	427,371	221,886	274,640	22%	19%	30%	31%	40%	28%	34%
Weather - Non Lightning)	5,021	190	67	1,493	78	1,370	546	1%	0%	0%	0%	0%	0%	0%
Wildlife	92,262	106,193	72,976	54,160	66,950	78,508	64,695	13%	15%	10%	9%	6%	11%	9%
All Causes	693,953	712,402	698,706	607,493	1,070,754			100%	100%	100%	100%	100%		

Metro West Work Region

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					20-24	22-24	Customer Interruptions - Percent To					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	97,418	137,295	103,519	67,825	119,298	105,071	96,881	16%	21%	19%	14%	16%	17%	16%
Equipment - UG	135,014	128,131	106,089	76,665	110,784	111,337	97,846	22%	19%	19%	16%	15%	18%	17%
Lightning	2,262	9,157	4,887	5,298	19,382	8,197	9,856	0%	1%	1%	1%	3%	1%	2%
Other	16,329	32,533	15,494	39,447	28,927	26,546	27,956	3%	5%	3%	8%	4%	4%	5%
Power Supply	5,865	6,233	11,761	11,680	22,819	11,672	15,420	1%	1%	2%	2%	3%	2%	3%
Planned	40,420	34,756	39,547	43,067	63,536	44,265	48,717	7%	5%	7%	9%	9%	7%	8%
Public	90,202	34,393	45,128	51,768	64,751	57,248	53,882	15%	5%	8%	11%	9%	9%	9%
Unknown	40,742	82,787	38,465	20,107	64,957	49,412	41,176	7%	13%	7%	4%	9%	8%	7%
Vegetation	92,616	86,242	109,970	120,280	189,571	119,736	139,940	15%	13%	20%	25%	26%	20%	23%
Weather - Non Lightning)	5,019	190	41	15	10	1,055	22	1%	0%	0%	0%	0%	0%	0%
Wildlife	92,132	105,517	72,786	53,345	56,084	75,973	60,738	15%	16%	13%	11%	8%	13%	11%
All Causes	618,019	657,234	547,687	489,497	740,119			100%	100%	100%	100%	100%		

Metro West Work Region

All Days Primary Cause	Count of Outages - Actuals					20-24	22-24	Customer Interruptions - Percent To					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	1,419	1,323	1,404	1,681	1,959	1,557	1,681	15%	14%	13%	14%	13%	14%	13%
Equipment - UG	1,177	1,206	1,097	1,258	1,080	1,164	1,145	12%	13%	10%	11%	7%	11%	9%
Lightning	127	93	157	123	207	141	162	1%	1%	1%	1%	1%	1%	1%
Other	350	433	440	440	684	469	521	4%	5%	4%	4%	4%	4%	4%
Power Supply	10	6	12	13	20	12	15	0%	0%	0%	0%	0%	0%	0%
Planned	2,035	1,799	1,939	3,087	4,406	2,653	3,144	21%	19%	18%	26%	28%	23%	24%
Public	280	251	255	270	289	269	271	3%	3%	2%	2%	2%	2%	2%
Unknown	619	640	699	328	825	622	617	6%	7%	7%	3%	5%	6%	5%
Vegetation	2,495	2,044	3,140	2,983	4,765	3,085	3,629	26%	22%	30%	25%	31%	27%	29%
Weather - Non Lightning)	5	4	3	13	17	8	11	0%	0%	0%	0%	0%	0%	0%
Wildlife	1,168	1,535	1,434	1,508	1,214	1,372	1,385	12%	16%	14%	13%	8%	13%	11%
All Causes	9,685	9,334	10,580	11,704	15,466			100%	100%	100%	100%	100%		

Metro West Work Region

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					20-24	22-24	Customer Interruptions - Percent To					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	1,356	1,288	1,294	1,581	1,640	1,432	1,505	15%	15%	14%	15%	13%	14%	14%
Equipment - UG	1,151	1,194	1,072	1,241	1,034	1,138	1,116	13%	13%	12%	12%	8%	12%	10%
Lightning	91	80	87	96	127	96	103	1%	1%	1%	1%	1%	1%	1%
Other	325	419	340	398	432	383	390	4%	5%	4%	4%	3%	4%	4%
Power Supply	8	6	12	6	20	10	13	0%	0%	0%	0%	0%	0%	0%
Planned	2,008	1,789	1,909	3,059	4,348	2,623	3,105	23%	20%	21%	28%	34%	25%	28%
Public	278	248	252	265	286	266	268	3%	3%	3%	2%	2%	3%	2%
Unknown	589	625	659	304	694	574	552	7%	7%	7%	3%	5%	6%	5%
Vegetation	1,800	1,686	2,204	2,328	2,953	2,194	2,495	21%	19%	24%	22%	23%	22%	23%
Weather - Non Lightning)	4	4	2	6	7	5	5	0%	0%	0%	0%	0%	0%	0%
Wildlife	1,158	1,527	1,427	1,484	1,203	1,360	1,371	13%	17%	15%	14%	9%	14%	13%
All Causes	8,768	8,866	9,258	10,768	12,744			100%	100%	100%	100%	100%		

Cause of Outages

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

All Days Primary Cause	Customer Interruptions - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	27,769	36,619	32,065	31,340	38,533	33,265	33,979	23%	37%	21%	25%	27%	27%	25%
Equipment - UG	10,950	3,839	6,113	12,669	4,640	7,642	7,807	9%	4%	4%	10%	3%	6%	6%
Lightning	1,773	1,908	2,983	5,203	2,584	2,890	3,590	1%	2%	2%	4%	2%	2%	3%
Other	3,378	4,553	8,497	5,326	10,688	6,488	8,170	3%	5%	6%	4%	8%	5%	6%
Power Supply	16,149	19,661	21,807	12,071	15,997	17,137	16,625	13%	20%	14%	10%	11%	14%	12%
Planned	11,840	7,955	10,158	12,668	12,003	10,925	11,610	10%	8%	7%	10%	8%	9%	8%
Public	7,850	7,516	5,841	12,654	2,795	7,331	7,097	6%	8%	4%	10%	2%	6%	5%
Unknown	23,734	3,055	12,250	14,187	12,557	13,157	12,998	20%	3%	8%	11%	9%	10%	9%
Vegetation	14,809	10,368	32,534	11,345	39,569	21,725	27,816	12%	11%	22%	9%	28%	16%	20%
Weather - Non Lightning)	3	0	3	1	0	1	1	0%	0%	0%	0%	0%	0%	0%
Wildlife	2,534	3,201	18,349	6,374	2,619	6,615	9,114	2%	3%	12%	5%	2%	5%	6%
All Causes	120,789	98,675	150,600	123,838	141,985			100%	100%	100%	100%	100%		

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

IEEE MN Reg Normalized Primary Cause	Customer Interruptions - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	27,010	36,611	23,818	28,967	38,059	30,893	30,281	24%	40%	27%	25%	32%	30%	28%
Equipment - UG	10,839	3,808	5,932	12,558	4,620	7,551	7,703	9%	4%	7%	11%	4%	7%	7%
Lightning	1,449	1,902	1,765	5,202	1,603	2,384	2,857	1%	2%	2%	5%	1%	2%	3%
Other	2,711	4,553	6,928	4,691	3,798	4,536	5,139	2%	5%	8%	4%	3%	5%	5%
Power Supply	12,703	16,897	7,321	12,071	15,997	12,998	11,796	11%	18%	8%	10%	13%	12%	11%
Planned	11,171	5,507	10,147	12,632	11,887	10,269	11,555	10%	6%	12%	11%	10%	10%	11%
Public	7,850	7,516	5,841	12,654	2,795	7,331	7,097	7%	8%	7%	11%	2%	7%	7%
Unknown	23,734	3,054	9,600	9,910	12,547	11,769	10,686	21%	3%	11%	9%	11%	11%	10%
Vegetation	14,316	9,139	10,873	10,090	25,499	13,983	15,487	13%	10%	13%	9%	21%	13%	14%
Weather - Non Lightning)	3	0	3	1	0	1	1	0%	0%	0%	0%	0%	0%	0%
Wildlife	2,534	3,194	4,517	6,374	2,619	3,848	4,503	2%	3%	5%	6%	2%	4%	4%
All Causes	114,320	92,181	86,745	115,150	119,424			100%	100%	100%	100%	100%		

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

All Days Primary Cause	Count of Outages - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	543	426	505	489	459	484	484	32%	22%	22%	25%	19%	24%	22%
Equipment - UG	215	265	283	312	254	266	283	13%	14%	12%	16%	11%	13%	13%
Lightning	134	116	127	93	149	124	123	8%	6%	6%	5%	6%	6%	6%
Other	53	89	119	79	83	85	94	3%	5%	5%	4%	4%	4%	4%
Power Supply	22	28	32	16	17	23	22	1%	1%	1%	1%	1%	1%	1%
Planned	148	313	320	368	604	351	431	9%	16%	14%	19%	25%	17%	19%
Public	54	62	65	51	33	53	50	3%	3%	3%	3%	1%	3%	2%
Unknown	100	95	144	125	141	121	137	6%	5%	6%	6%	6%	6%	6%
Vegetation	220	265	423	208	405	304	345	13%	14%	19%	11%	17%	15%	15%
Weather - Non Lightning)	2	0	1	1	0	1	1	0%	0%	0%	0%	0%	0%	0%
Wildlife	225	274	266	226	225	243	239	13%	14%	12%	11%	9%	12%	11%
All Causes	1,716	1,933	2,285	1,968	2,370			100%	100%	100%	100%	100%		

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

IEEE MN Reg Normalized Primary Cause	Count of Outages - Actuals					20-24	22-24	Customer Interruptions - Percent					20-24	22-24
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg
Equipment - OH	533	421	452	483	440	466	458	32%	23%	23%	25%	20%	25%	23%
Equipment - UG	210	264	277	309	251	262	279	13%	14%	14%	16%	11%	14%	14%
Lightning	123	110	71	92	110	101	91	7%	6%	4%	5%	5%	5%	4%
Other	51	89	97	78	76	78	84	3%	5%	5%	4%	3%	4%	4%
Power Supply	17	24	10	16	17	17	14	1%	1%	1%	1%	1%	1%	1%
Planned	147	312	317	364	598	348	426	9%	17%	16%	19%	27%	18%	21%
Public	54	62	65	51	33	53	50	3%	3%	3%	3%	1%	3%	2%
Unknown	100	94	130	123	137	117	130	6%	5%	7%	6%	6%	6%	6%
Vegetation	196	214	258	199	339	241	265	12%	11%	13%	10%	15%	12%	13%
Weather - Non Lightning)	2	0	1	1	0	1	1	0%	0%	0%	0%	0%	0%	0%
Wildlife	225	272	257	226	225	241	236	14%	15%	13%	12%	10%	13%	12%
All Causes	1,658	1,862	1,935	1,942	2,226			100%	100%	100%	100%	100%		

Cause of Outages

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

Primary Cause	Customer Interruptions - Actuals					20-24		22-24		Customer Interruptions - Percent					20-24		22-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg
Equipment - OH	20,988	26,591	25,522	19,288	26,401	23,758	23,737	17%	22%	20%	19%	20%			19%	19%		
Equipment - UG	9,564	8,015	5,166	10,795	5,874	7,883	7,278	8%	7%	4%	10%	4%			7%	6%		
Lightning	7,495	3,935	3,127	7,082	5,230	5,374	5,146	6%	3%	2%	7%	4%			5%	4%		
Other	4,628	9,744	4,788	3,131	9,768	6,412	5,896	4%	8%	4%	3%	7%			5%	5%		
Power Supply	17,427	20,156	22,562	9,287	10,956	16,078	14,268	14%	17%	17%	9%	8%			13%	12%		
Planned	7,643	8,886	7,455	5,534	11,142	8,132	8,044	6%	7%	6%	5%	8%			7%	6%		
Public	5,080	7,122	7,151	2,136	3,730	5,044	4,339	4%	6%	6%	2%	3%			4%	3%		
Unknown	8,542	6,573	7,574	10,728	17,269	10,137	11,857	7%	5%	6%	10%	13%			8%	10%		
Vegetation	23,505	23,107	18,487	25,926	28,795	23,964	24,403	19%	19%	14%	25%	22%			20%	20%		
Weather - Non Lightning)	23	303	9	3	600	188	204	0%	0%	0%	0%	0%			0%	0%		
Wildlife	15,776	6,861	27,494	9,844	13,194	14,634	16,844	13%	6%	21%	9%	10%			12%	14%		
All Causes	120,671	121,293	129,335	103,754	132,959			100%	100%	100%	100%	100%						

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

Primary Cause	Customer Interruptions - Actuals					20-24		22-24		Customer Interruptions - Percent					20-24		22-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg
Equipment - OH	20,792	23,578	24,877	17,737	26,221	22,641	22,945	18%	24%	21%	19%	21%			20%	20%		
Equipment - UG	9,411	7,937	5,156	10,761	5,874	7,828	7,264	8%	8%	4%	11%	5%			7%	7%		
Lightning	7,058	3,510	2,634	7,041	4,993	5,047	4,889	6%	4%	2%	7%	4%			5%	5%		
Other	4,628	8,663	4,787	2,882	9,092	6,010	5,587	4%	9%	4%	3%	7%			5%	5%		
Power Supply	16,717	15,475	19,959	9,287	9,949	14,277	13,065	15%	15%	16%	10%	8%			13%	11%		
Planned	7,414	8,121	7,446	5,492	10,739	7,842	7,892	7%	8%	6%	6%	9%			7%	7%		
Public	5,062	6,987	7,150	2,136	3,730	5,013	4,339	4%	7%	6%	2%	3%			5%	4%		
Unknown	7,713	6,334	5,802	10,718	17,266	9,567	11,262	7%	6%	5%	11%	14%			9%	10%		
Vegetation	19,364	12,615	15,878	19,443	22,731	18,006	19,351	17%	13%	13%	20%	18%			16%	17%		
Weather - Non Lightning)	23	0	9	3	600	127	204	0%	0%	0%	0%	0%			0%	0%		
Wildlife	15,776	6,837	27,494	9,832	13,194	14,627	16,840	14%	7%	23%	10%	11%			13%	15%		
All Causes	113,958	100,057	121,192	95,332	124,389			100%	100%	100%	100%	100%						

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

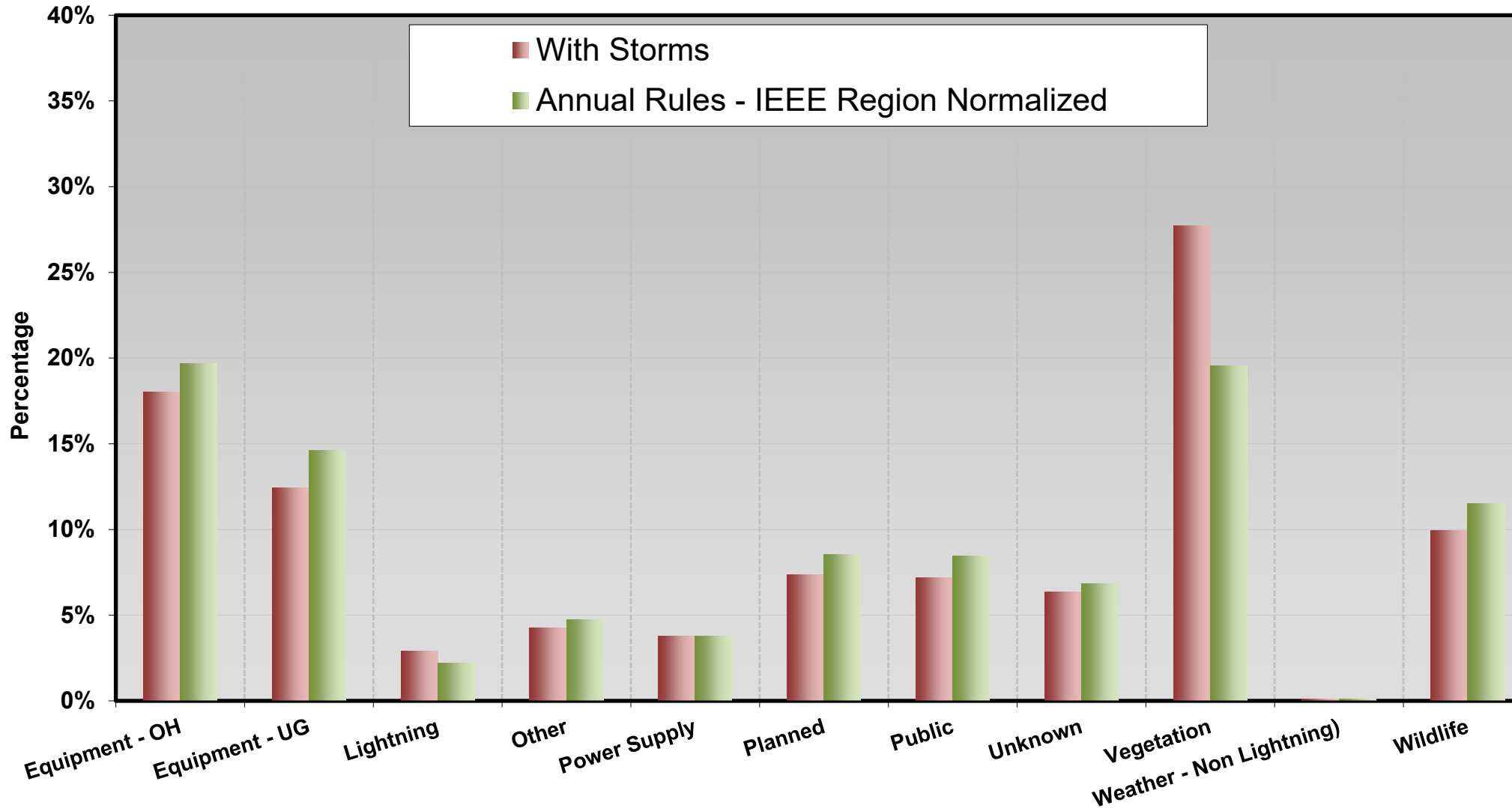
Primary Cause	Count of Outages - Actuals					20-24		22-24		Customer Interruptions - Percent					20-24		22-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg
Equipment - OH	668	521	498	478	462	525	479	24%	20%	20%	19%	14%			19%	18%		
Equipment - UG	279	266	251	264	200	252	238	10%	10%	10%	10%	6%			9%	9%		
Lightning	247	191	256	175	278	229	236	9%	8%	10%	7%	9%			8%	9%		
Other	68	109	91	73	97	88	87	2%	4%	4%	3%	3%			3%	3%		
Power Supply	33	29	32	16	14	25	21	1%	1%	1%	1%	0%			1%	1%		
Planned	575	394	319	359	897	509	525	21%	15%	13%	14%	28%			18%	18%		
Public	81	87	83	48	68	73	66	3%	3%	3%	2%	2%			3%	2%		
Unknown	89	107	137	209	278	164	208	3%	4%	5%	8%	9%			6%	7%		
Vegetation	377	404	361	393	471	401	408	13%	16%	14%	15%	15%			15%	15%		
Weather - Non Lightning)	2	12	3	2	5	5	3	0%	0%	0%	0%	0%			0%	0%		
Wildlife	384	424	496	521	443	454	487	14%	17%	20%	21%	14%			17%	18%		
All Causes	2,803	2,544	2,527	2,538	3,213			100%	100%	100%	100%	100%						

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

Primary Cause	Count of Outages - Actuals					20-24		22-24		Customer Interruptions - Percent					20-24		22-24	
	2020	2021	2022	2023	2024	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg	2019	2020	2021	2022	2023	5 Yr Avg	3 Yr Avg	5 Yr Avg	3 Yr Avg
Equipment - OH	664	462	487	473	457	509	472	24%	20%	20%	19%	15%			20%	18%		
Equipment - UG	277	259	249	263	200	250	237	10%	11%	10%	11%	6%			10%	9%		
Lightning	233	183	221	165	253	211	213	9%	8%	9%	7%	8%			8%	8%		
Other	68	78	90	71	92	80	84	2%	3%	4%	3%	3%			3%	3%		
Power Supply	32	23	28	16	13	22	19	1%	1%	1%	1%	0%			1%	1%		
Planned	572	392	317	358	897	507	524	21%	17%	13%	15%	29%			19%	19%		
Public	80	85	82	48	68	73	66	3%	4%	3%	2%	2%			3%	2%		
Unknown	84	100	134	208	275	160	206	3%	4%	5%	8%	9%			6%	8%		
Vegetation	343	292	342	343	415	347	367	13%	13%	14%	14%	13%			13%	14%		
Weather - Non Lightning)	2	0	3	2	5	2	3	0%	0%	0%	0%	0%			0%	0%		
Wildlife	384	418	496	519	443	452	486	14%	18%	20%	21%	14%			18%	19%		
All Causes	2,739	2,292	2,449	2,466	3,118			100%	100%	100%	100%	100%						

State of Minnesota **Outage Causes**

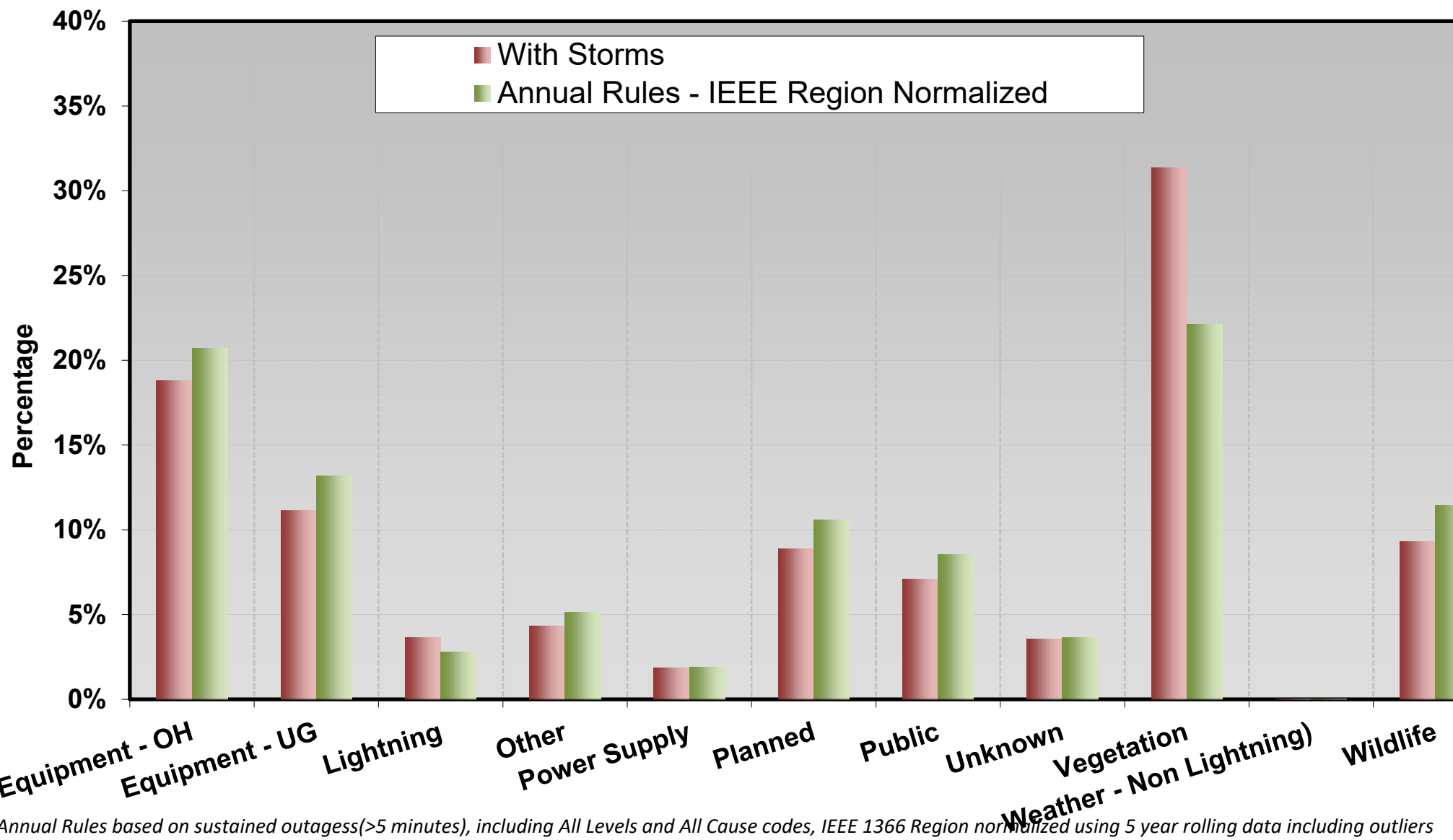
2020-2024 Average Annual Customer Interruption Percentages - All Levels



Annual Rules based on sustained outages(>5 minutes), including All Levels and All Cause codes, IEEE 1366 Region normalized using 5 year rolling data including outliers

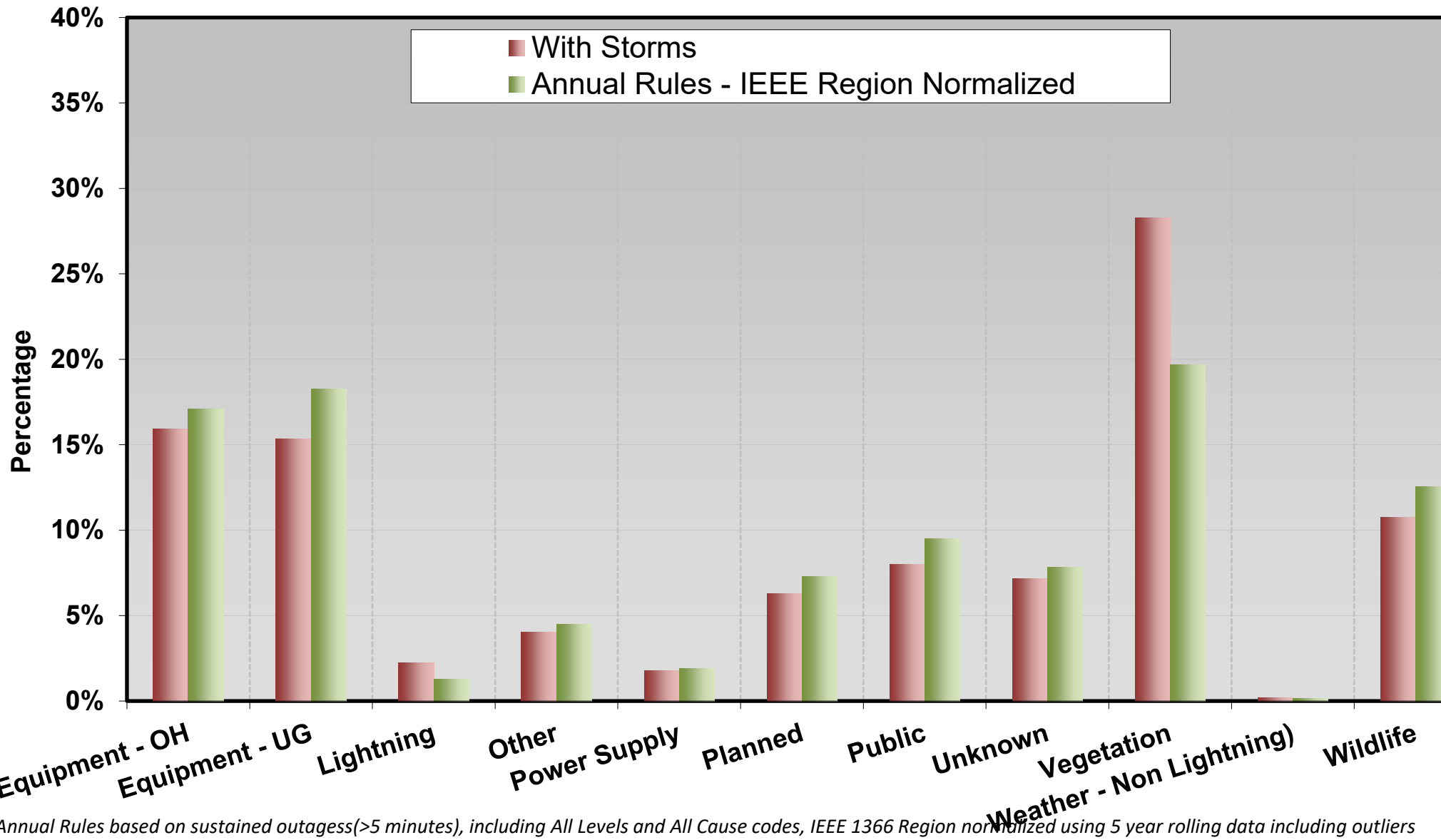
Metro East Workregion Outage Causes

2020-2024 Average Annual Customer Interruption Percentages - All Levels



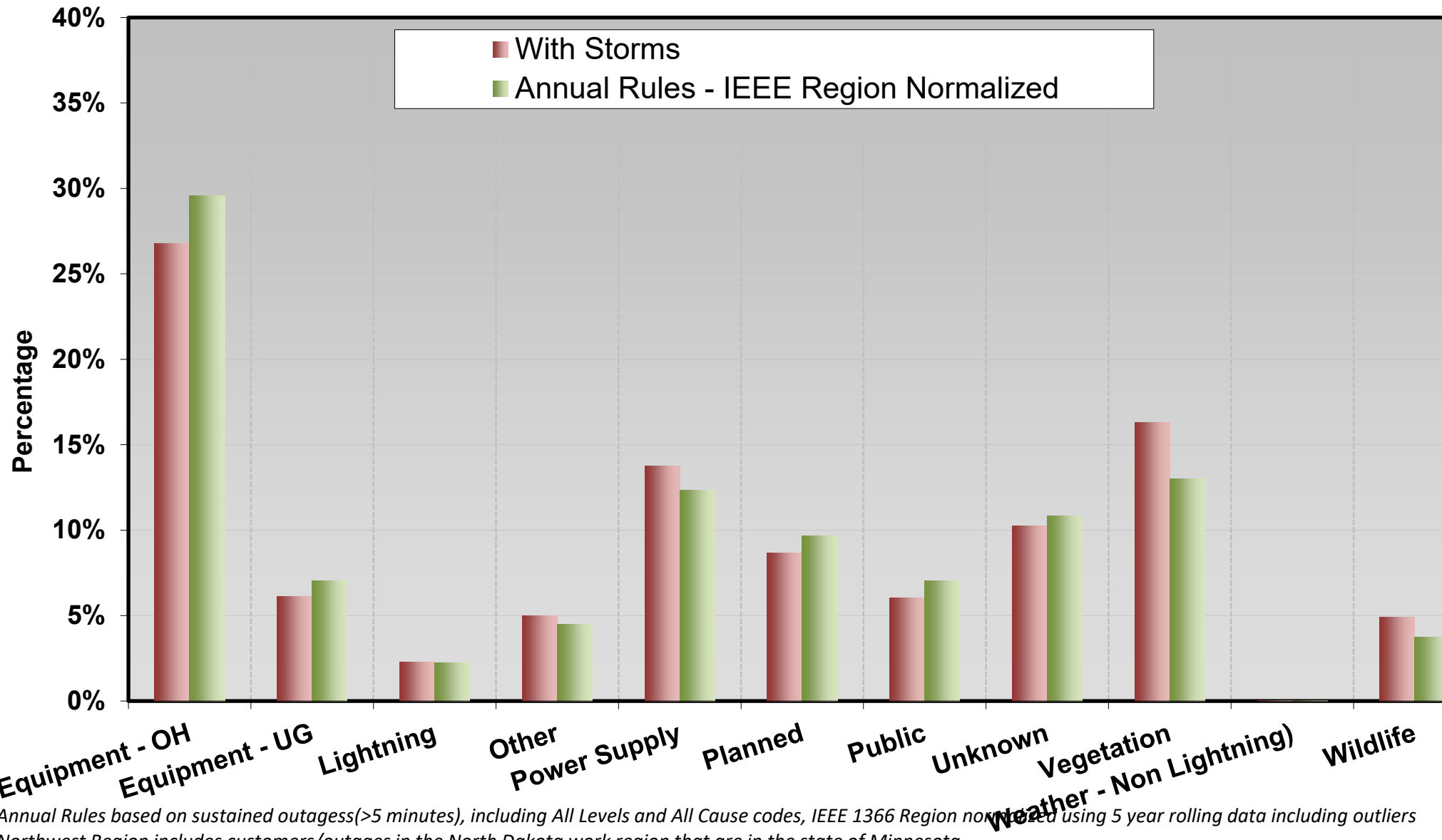
Metro West Workregion **Outage Causes**

2020-2024 Average Annual Customer Interruption Percentages - All Levels



Northwest Workregion **Outage Causes**

2020-2024 Average Annual Customer Interruption Percentages - All Levels



Southeast Workregion **Outage Causes**

2020-2024 Average Annual Customer Interruption Percentages - All Levels

