

Table 4.8.A. U.S. Transmission Circuit Automatic Outage Counts, by High-Voltage Size and NERC Region, 2010

Voltage Type	Transmission Circuit Automatic Outage Counts									
	Operating (kV)	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Total
Momentary Outage										
AC	100-199	NA	NA	NA	NA	NA	NA	NA	NA	NA
AC	200-299	95	W	W	57	189	W	-	261	602
AC	300-399	-	66	32	150	46	94	121	87	596
AC	400-599	1	W	-	7	46	W	-	96	150
AC	600+	-	-	W	17	-	-	-	-	17
AC Total		96	110	35	231	281	115	121	444	1,433
<i>Total AC Outages per 1,000 Circuit Miles</i>		13	6	5	9	8	15	13	7	8
DC Total		-	W	W	W	-	-	-	W	44
<i>Total DC Outages per 1,000 Circuit Miles</i>		-	W	W	W	-	-	-	W	11
Sustained Outage										
AC	100-199	NA	NA	NA	NA	NA	NA	NA	NA	NA
AC	200-299	133	W	13	138	179	W	-	504	967
AC	300-399	-	111	50	102	59	93	71	186	672
AC	400-599	3	W	-	14	82	W	-	148	247
AC	600+	-	-	W	10	-	-	-	-	10
AC Total		136	217	70	264	320	128	71	838	2,044
<i>Total Outages per 1,000 Circuit Miles</i>		19	11	10	10	10	17	7	14	12
DC Total		-	W	W	W	-	-	-	W	61
<i>Total DC Outages per 1,000 Circuit Miles</i>		-	W	W	W	-	-	-	W	15
Momentary and Sustained outages										
AC	100-199	NA	NA	NA	NA	NA	NA	NA	NA	NA
AC	200-299	228	W	W	195	368	W	-	765	1,569
AC	300-399	-	177	82	252	105	187	192	273	1,268
AC	400-599	4	W	-	21	128	W	-	244	397
AC	600+	-	-	W	27	-	-	-	-	27
AC Total		232	327	105	495	601	243	192	1,282	3,477
<i>Total AC Outages per 1,000 Circuit Miles</i>		33	17	15	20	18	31	20	21	21
DC Total		-	W	W	W	-	-	-	W	105
<i>Total DC Outages per 1,000 Circuit Miles</i>		-	W	W	W	-	-	-	W	26

Notes:

- NA - Not Available
- W - Withheld
- An Automatic Outage is an outage which results from the automatic operation of a switching device, causing an Element to change from an In-Service State to a not In-Service State.
 - Momentary Outage is an automatic outage with an outage duration less than one minute.
 - A Sustained Outage is an automatic outage with an outage duration of a minute or greater.

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."