

1 **Q. Please provide tables indicating the causes of customer interruptions (“CI”) by year,**  
 2 **including total numbers of CIs and Customer Minutes of Interruptions, without and**  
 3 **with major events, each year, the number of CIs for each cause each year, and the**  
 4 **percentage each cause contributed to the total CIs for each year from 2009 through**  
 5 **2013. For the “equipment malfunction” cause, provide a table for each year**  
 6 **indicating the equipment type which failed including, but not limited to, substation**  
 7 **transformers, relays, cutouts, poles, insulators, wires, underground cables, aerial**  
 8 **cables, splices, etc.**

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 10 A. The number of customer interruptions by year, by cause code excluding significant  
 11 events for the period 2009 to 2013 is provided in Table 1.  
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**Table 1**  
**Customer Interruptions By Cause Code**

<b>Normal Operations</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Animals	1,494	854	2,706	1,781	370
Birds	3,193	16,502	8,062	7,932	6,493
Damages Outside Party	13,597	15,719	8,918	12,284	3,208
Employee Operating Error	6,789	4,896	8,571	7,499	1,232
Equipment Failure	140,410	117,032	142,627	148,498	154,944
Fire	6,789	7,222	5,419	6,332	7,014
Flooding	0	20	0	0	10
Generating Plant or System Problems	40,870	11,079	7,286	33,893	13,948
Improperly Installed Equipment	1,148	3	72	29	915
Lightning	26,925	15,782	4,404	21,767	19,937
NLH System Problems	73,658	23,329	16,640	168,024	350,673
NP System Problems	7,781	3,758	6,572	3,458	2,459
Other	13,196	4,681	28,056	12,093	9,838
Overloaded Equipment	4,325	1,381	4,408	256	3,879
Plant Upgrades	47,688	41,882	35,657	41,245	19,675
Preventative Maintenance or Repair	52,868	59,084	38,034	33,860	36,891
Salt Spray	489	3,374	6,549	2,250	2,938
Sleet	20,779	4,681	4,145	4,104	3,459
Snow	6,948	2,481	8,763	7,534	12,297
Trees in Line	21,959	23,406	23,771	22,121	19,675
Under Frequency	34,286	21,346	17,020	18,118	87,200

**Table 1 (Cont'd)**  
**Customer Interruptions By Cause Code**

<b>Normal Operations</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Underground Dig In	108	82	51	213	6
Unexplained	12,478	18,894	18,212	15,336	16,832
Vandalism	73	0	9,165	0	20
Vehicles Causing Damage	819	262	3,356	11,468	8,797
Water in Equipment or Vaults	0	0	0	2	0
Wind	26,648	28,088	28,525	19,348	29,513

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The number of customer interruptions by year for significant events for the period 2009 to 2013 is provided in Table 2. Newfoundland Power does not have information to provide a breakdown by cause code.

**Table 2**  
**Customer Interruptions - Significant Events**

<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
0	273,855	59,428	96,742	78,702

1 The customer hours of interruption by year, by cause code excluding significant events  
2 for the period 2009 to 2013 is provided in Table 3.  
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**Table 3**  
**Customer Hours of Interruption By Cause Code**

<b>Normal Operations</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Animals	36	36	26	37	10
Birds	75	234	197	191	129
Damages Outside Party	447	631	270	324	227
Employee Operating Error	16	3	40	68	5
Equipment Failure	4,182	3,238	4,437	3,829	3,484
Fire	120	92	87	129	341
Flooding	0	1	0	0	1
Generating Plant or System Problems	167	152	205	645	185
Improperly Installed Equipment	23	0	3	1	10
Lightning	227	382	36	779	382
NLH System Problems	422	1,054	198	3,553	27,423
NP System Problems	56	25	99	37	82
Other	242	413	688	376	328
Overloaded Equipment	76	11	149	7	296
Plant Upgrades	1,180	1,630	1,030	322	615
Preventative Maintenance or Repair	705	1,484	832	927	738
Salt Spray	22	113	56	136	545
Sleet	446	195	251	173	255
Snow	251	80	132	242	246
Trees in Line	749	741	475	484	369
Under Frequency	28	18	24	32	1,272
Underground Dig In	7	10	6	15	0
Unexplained	133	197	407	240	321
Vandalism	0	0	223	0	1
Vehicles Causing Damage	121	19	84	264	105
Water in Equipment or Vaults	0	0	0	0	0
Wind	574	897	475	605	533

1 The customer hours of interruption by year for significant events for the period 2009 to  
2 2013 is provided in Table 4. Newfoundland Power does not have information to provide  
3 a breakdown by cause code.  
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**Table 4**  
**Customer Hours of Interruption - Significant Events**

<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
0	43,809	4,992	12,536	3,320

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8 The percentage of customer interruptions by year, contributed by each cause code  
9 excluding significant events for the period 2009 to 2013 is provided in Table 5.  
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**Table 5**  
**% Customer Interruptions By Cause Code**

<b>Normal Operations</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Animals	0.26%	0.20%	0.62%	0.30%	0.05%
Birds	0.56%	3.88%	1.84%	1.32%	0.80%
Damages Outside Party	2.41%	3.69%	2.04%	2.05%	0.39%
Employee Operating Error	1.20%	1.15%	1.96%	1.25%	0.15%
Equipment Failure	24.84%	27.48%	32.64%	24.77%	19.08%
Fire	1.20%	1.70%	1.24%	1.06%	0.86%
Flooding	0.00%	0.00%	0.00%	0.00%	0.00%
Generating Plant or System Problems	7.23%	2.60%	1.67%	5.65%	1.72%
Improperly Installed Equipment	0.20%	0.00%	0.02%	0.00%	0.11%
Lightning	4.76%	3.71%	1.01%	3.63%	2.45%
NLH System Problems	13.03%	5.48%	3.81%	28.03%	43.17%
NP System Problems	1.38%	0.88%	1.50%	0.58%	0.30%
Other	2.33%	1.10%	6.42%	2.02%	1.21%
Overloaded Equipment	0.77%	0.32%	1.01%	0.04%	0.48%
Plant Upgrades	8.44%	9.84%	8.16%	6.88%	2.42%
Preventative Maintenance or Repair	9.35%	13.87%	8.70%	5.65%	4.54%
Salt Spray	0.09%	0.79%	1.50%	0.38%	0.36%
Sleet	3.68%	1.10%	0.95%	0.68%	0.43%
Snow	1.23%	0.58%	2.01%	1.26%	1.51%
Trees in Line	3.88%	5.50%	5.44%	3.69%	2.42%
Under Frequency	6.06%	5.01%	3.89%	3.02%	10.74%
Underground Dig In	0.02%	0.02%	0.01%	0.04%	0.00%

**Table 5 (Cont'd)**  
**% Customer Interruptions By Cause Code**

<b>Normal Operations</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Unexplained	2.21%	4.44%	4.17%	2.56%	2.07%
Vandalism	0.01%	0.00%	2.10%	0.00%	0.00%
Vehicles Causing Damage	0.14%	0.06%	0.77%	1.91%	1.08%
Water in Equipment or Vaults	0.00%	0.00%	0.00%	0.00%	0.00%
Wind	4.71%	6.60%	6.53%	3.23%	3.63%

The number of customer interruptions for equipment failure by part that failed for the period 2009 to 2013 is provided in Table 6.

**Table 6**  
**Customer Interruptions - Equipment Failure**

<b>Equipment Type</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Primary Conductor	29,350	31,115	36,803	31,695	46,242
Secondary Conductor	978	2,704	7,173	9,801	11,855
U/G Cable	5,004	1,321	7,264	5,710	3,889
Relay	955	0	0	442	0
Fuse	7,778	7,867	9,280	6,372	6,182
Recloser/Breaker	10,296	1,211	3,797	12,650	13,488
Transformer Distribution	1,608	1,580	1,837	2,418	1,041
Transformer Power	6,597	13,518	9,529	2,046	7,876
Secondary Connections	1,073	2,535	3,993	997	2,096
Pole	7,351	2,487	6,318	1,448	8,699
Crossarm	6,043	1,875	3,071	1,269	6,939
Insulators	21,123	26,606	19,905	34,429	27,810
Cutout	23,451	22,648	22,411	25,733	9,922
Lightning Arrestor	15,423	1,259	122	5,907	2,494
Voltage Regulator	2,941	0	2,319	1,213	1,522
Pothead	0	0	2,958	1,476	0
Switch	0	0	1,513		2,601
LV Bus	0	0	19	3,338	1,682
Metering Tank	0	0	0	4	8
Potential Transformer	0	0	2,593	0	0
Aerial Cable	439	306	1,722	0	598
Submarine Cable	0	0	0	1,550	0