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1 **Request IR-28:**

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3 **The following question refers to the PowerPoint presentation “Power Production**
4 **Transformation Strategy” attached to NSPI’s response to Avon IR-6.**

5

6 **The response to SBA IR-12 states that “each successive severe weather occurrence**
7 **increases the risk of tree failure during subsequent wind events.” Since severe weather**
8 **would be expected to blow down trees and treetops, why would there be more risk of tree**
9 **failure in periods subsequent to severe weather?**

10

11 Response IR-28:

12

13 Although some trees may not fail (fall down or break) during an extreme weather event, they are
14 more susceptible to doing so with each subsequent event due to root and branch damage.

15

16 Trees are natural organisms and are subject to mortality from a number of external factors and,
17 given the thin soil layer across the province, most are susceptible to being blown down as roots
18 are shallow and therefore give way to the large mass of the tree being pushed by strong force
19 winds. This is actuated when the tree is exposed on the forest edge, as opposed to being
20 supported by other trees surrounding it.

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1 **Request IR-29:**

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3 **Since, according to Liberty IR-62, there seemed to be a very high number of hours of high**
4 **wind gusts in 2008 and 2010, after the date of NSP's Five Year Vegetation Management**
5 **Plan, has there been any inspection since 2010 to determine whether these weather**
6 **occurrences reduced height of trees and blown down trees that would have been addressed**
7 **through vegetation management? If so, please provide analysis and any reports on such**
8 **inspection.**

9

10 Response IR-29:

11

12 There have been no directed analyses to determine whether the tree threat has been reduced since
13 2010. With every storm occurrence, weakened edge trees in the forests adjacent to power lines
14 continue to increase in number and as such accumulate as an off-right-of-way threat to the
15 system.

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1 **Request IR-30:**

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3 **Is it correct that the analytical basis for finding that Vegetation Management is most**
4 **effective way to improve reliability is NSPI's assumptions about avoided interruptions**
5 **from more vegetation management? Please provide all backup for these assumptions.**

6

7 Response IR-30:

8

9 The method to determine the expected reliability improvements from vegetation management is
10 based on historical tree contact outages, the nature of the vegetation management activities and
11 historical improvements from similar vegetation management.

12

13 Reliability improvements are measured in avoided customer hours of interruption (ACHI).
14 Effectiveness is based on the ratio of the net present value of performing the work by the
15 estimated annual number of customer hours of interruption that will be avoided through the
16 completion of the work (\$/ACHI). Please refer to Liberty IR-59.

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1 **Request IR-31:**

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3 **In what geographic were the electric systems included in the data cited by the 2005 Ward**
4 **Peterson article ((Liberty IR-60) that led to the conclusion that from 66% to 94% of**
5 **outages were caused by trees falling into lines?**

6

7 Response IR-31:

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9 The geographic areas of the electric systems included in the data cited by the Ward Peterson
10 article included upstate New York, Washington State, and California.

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1 **Request IR-32:**

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3 **What is the right-of-way along NSPI's distribution lines?**

4

5 Response IR-32:

6

7 The majority of NS Power distribution lines were constructed prior to 2001 and do not have an
8 established vegetation right-of-way. In the case where NS Power distribution lines are located
9 adjacent to major roadways, they may share either Department of Transportation, Provincial or
10 Municipal rights-of-way. In 2001, NS Power established a standard for distribution rights-of-
11 way of twenty feet from either side of centre.

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1 **Request IR-33:**

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3 **What is the right-of-way along NSPI's transmission lines?**

4

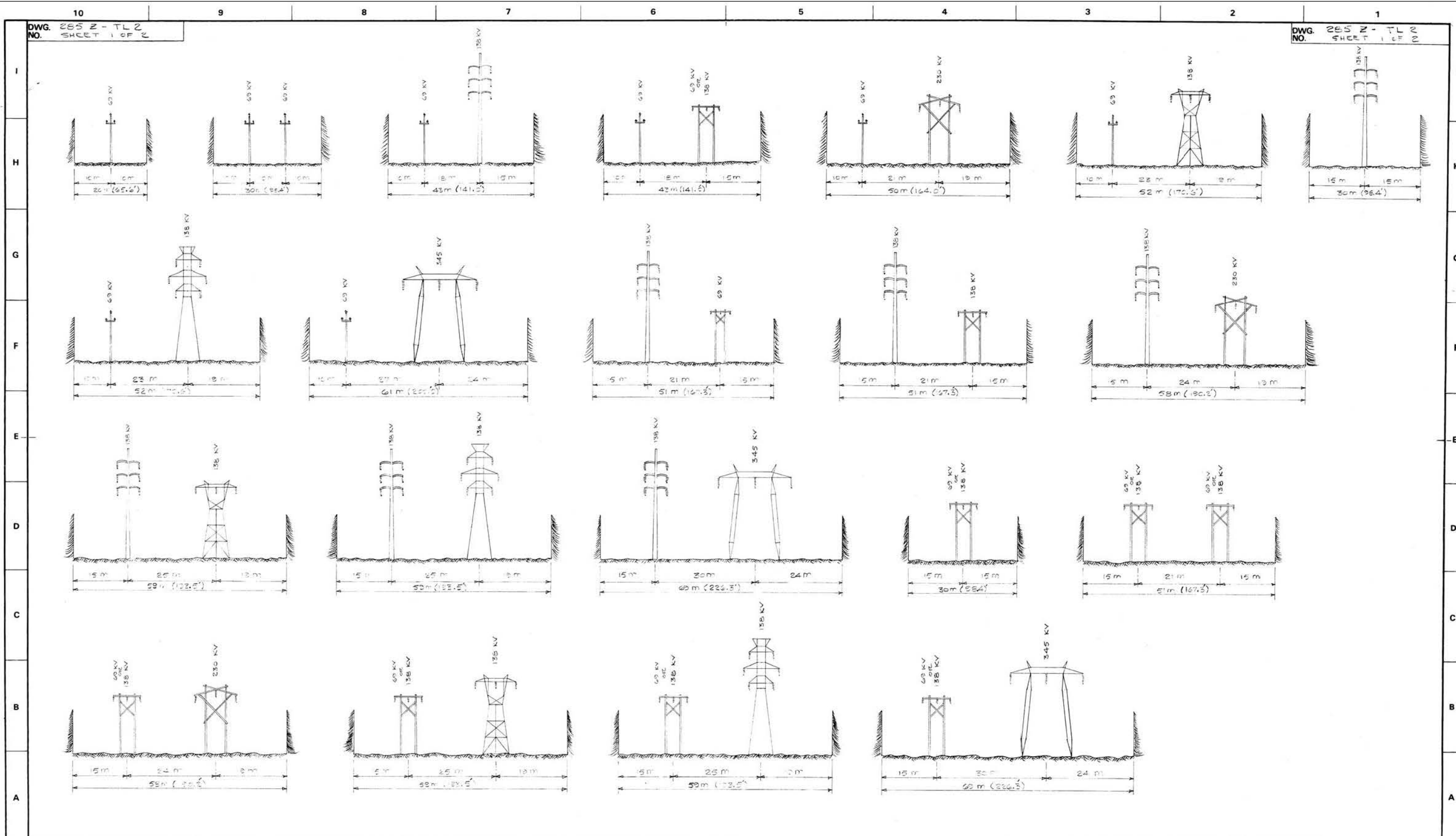
5 Response IR-33:

6

7 Please refer to Attachment 1.

8

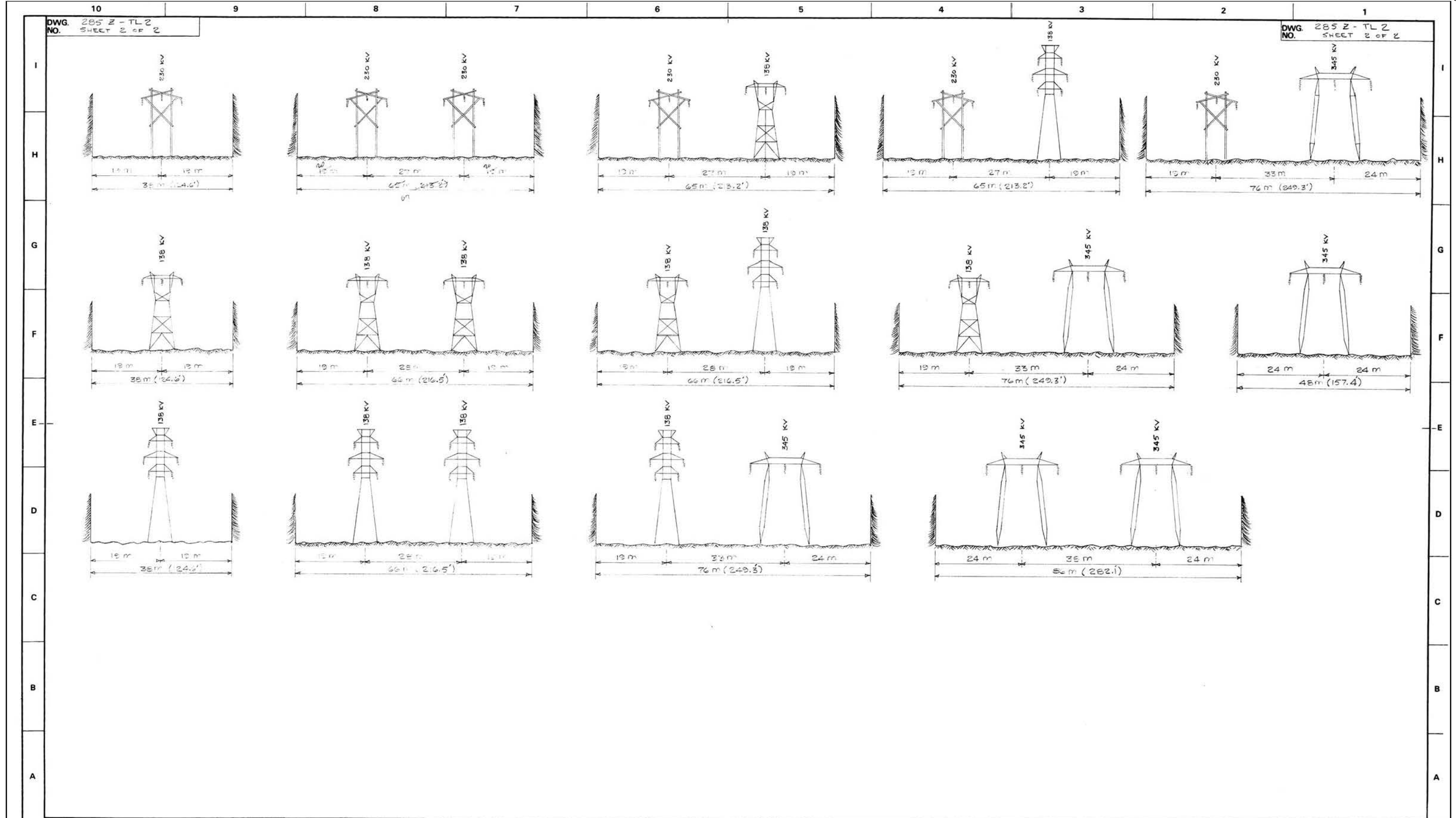
9 NS Power's transmission rights-of-way vary in width based on line voltage and structure type.



DWG. NO. 285 Z - TL 2
SHEET 1 OF 2

DWG. NO. 285 Z - TL 2
SHEET 1 OF 2

REFERENCE DRAWINGS		DWG. NO.	CHECKS		DEPARTMENTAL APPROVALS		SCALE	nova scotia power corporation	
							N.T.E.	HALIFAX, NOVA SCOTIA	
							DRAWN	TRANSMISSION LINE SECTION	
							J.F. MALCOLM	STANDARD DRAWING	
							TRACED	TYPICAL TRANSMISSION LINE	
							DESIGNED	SEPARATIONS	
							APPROVED	DATE	
								JAN 12/77	
							DATE	DWG. NO. 285 Z - 2	
								NO. SHEET 1 OF 2	
							JOB NO.	REV 0	



REFERENCE DRAWINGS		DWG. NO.	CHECKS		DEPARTMENTAL APPROVALS		SCALE N.T.S.	<p>HALIFAX, NOVA SCOTIA</p> <p>TRANSMISSION LINE SECTION</p> <p>STANDARD DRAWING</p> <p>TYPICAL TRANSMISSION LINE SEPARATIONS</p>
							DRAWN J. F. MALCOLM	
							TRACED:	
							DESIGNED:	
							APPROVED	
							DATE	
							JOB NO.	
							DATE JAN 12/77	
							DWG. NO. 285 E-2	
							SHEET 2 OF 2	
							REV 0	

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1 **Request IR-34:**

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3 **What was the range of distribution right-of-ways in the systems studied in the Ward**

4 **Peterson article?**

5

6 Response IR-34:

7

8 NS Power is not aware of the range of distribution rights-of-way widths included in the Ward

9 Peterson article.

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1 **Request IR-35:**

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3 **If the Company does not know what systems were included in the Ward Peterson analysis,**
4 **and the right-of-ways in those systems, what basis does it have to applying results of this**
5 **study to its own system?**

6

7 Response IR-35:

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9 Please refer to NSUARB IR-24(d). The proportion of annual customer hours of interruption
10 from tree contacts in 2003 to 2011 caused by falling trees ranges from 87 to 97 percent. This is
11 consistent with the higher end of the range provided in the Ward Peterson article.

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1 **Request IR-36:**

2
3 **Question 36 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5
6 **Please provide detailed analysis of how NSPI projected a 25% reduction in the number of**
7 **tree-related interruptions and a 30% improvement in customer hours of interruption.**

8
9 Response IR-36:

10
11 Please refer to Attachment 1.

12
13 NS Power calculated the 25 percent reduction in the number of tree-related interruptions and the
14 30 percent improvement in customer hours of interruption using the following steps:

- 15
16 1. NS Power calculated the average customer interruptions and customer hours due to tree
17 contacts (excluding extreme weather events) for the period 2006 to 2007 for all feeders in
18 the province. Please refer to Attachment 1 Pages 2-22.
19
20 2. NS Power applied a 95 percent improvement factor to the average to calculate the
21 expected feeder performance after vegetation management.
22
23 3. NS Power applied a 1 percent customer growth factor per year to each feeder customer
24 count.
25
26 4. NS Power applied a 12.6 percent improvement factor (based on a half-hour improvement
27 on historical tree contact Customer Average Interruption Duration Index (CAIDI) of
28 3.98) to the customer hours of interruption to account for expected reductions in
29 restoration time from vegetation management.

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- 1
- 2 5. NS Power applied these factors to each feeder section identified in the 5 Year Vegetation
3 Management Plan to calculate the expected feeder performance improvements following
4 vegetation management. Please refer to Attachment 1 Pages 23-30.
- 5
- 6 6. The percent improvements were calculated by dividing the expected improvements by
7 the baseline customer interruptions and customer hours of interruption. Baseline levels
8 are based on 2003-2007 annual tree contact performance (excluding extreme weather
9 events) of all feeders.

Tree Contact Reliability Improvements Summary

	Customer Hours of Interruption	Customer Interruptions
Avoided:	342,879	74,396
Baseline:	1,129,211	283,806
Improvement:	30.4%	26.2%

Customer Hours of Interruption

Feeder Section	2006	2007	Average
100C-421	6	11,099	5,553
100C-421G	0	10	5
100C-422	5,714	143	2,928
100C-422G	9	363	186
100C-423	0	0	0
100H-201	0	0	0
100H-202	14	0	7
100H-203	0	0	0
101H-411	144	1,196	670
101H-411G	0	0	0
101H-412	0	23,052	11,526
101H-413	1	12	7
101H-413G	0	0	0
101H-421	309	1,288	799
101H-421G	0	0	0
101H-422	0	0	0
101H-423	4	14	9
102H-211	0	0	0
102W-311	1,893	5	949
102W-311G	0	18	9
102W-312	2,301	13,701	8,001
102W-312G	45	81	63
102W-312H	547	0	274
103C-311	0	9	4
103C-313	3	1	2
103C-314	4	9	6
103H-431	11,445	44	5,744
103H-431G	0	0	0
103H-432	1,620	0	810
103H-432G	126	357	242
103H-432GA	0	1,115	557
103H-433	0	0	0
103H-434	2	11	6
103H-434G	0	0	0
103H-434GA	0	0	0
103W-311	507	66	287
103W-311G	1,179	1,002	1,090
103W-312	761	330	545
103W-312G	0	0	0
104H-411	144	0	72
104H-412	33	15,508	7,770
104H-413	6,353	4,366	5,360
104H-413G	0	0	0
104H-421	0	2,904	1,452
104H-422	3	1,219	611
104H-422G	0	0	0
104H-423	89	171	130
104H-423G	0	0	0
104H-431	9	0	4
104H-431G	0	0	0
104H-432	3,354	2,308	2,831
104H-433	54	50	52
104H-433G	0	0	0
104H-441	7	19	13
104H-442	0	2,369	1,185
104H-442G	0	0	0
104S-311	5	101	53
104S-311G	16	1,633	825
104S-311GA	15	451	233
104S-311GB	0	0	0

Customer Interruptions

Feeder Section	2006	2007	Average
100C-421	3	1,789	896
100C-421G	0	1	1
100C-422	448	12	230
100C-422G	3	200	102
100C-423	0	0	0
100H-201	0	0	0
100H-202	1	0	1
100H-203	0	0	0
101H-411	108	235	172
101H-411G	0	0	0
101H-412	0	2,583	1,292
101H-413	1	9	5
101H-413G	0	0	0
101H-421	56	262	159
101H-421G	0	0	0
101H-422	0	0	0
101H-423	2	4	3
102H-211	0	0	0
102W-311	2,309	3	1,156
102W-311G	0	1	1
102W-312	510	3,082	1,796
102W-312G	15	19	17
102W-312H	137	0	69
103C-311	0	2	1
103C-313	2	1	2
103C-314	2	1	2
103H-431	2,960	4	1,482
103H-431G	0	0	0
103H-432	575	0	288
103H-432G	20	38	29
103H-432GA	0	358	179
103H-433	0	0	0
103H-434	1	4	3
103H-434G	0	0	0
103H-434GA	0	0	0
103W-311	77	6	42
103W-311G	221	289	255
103W-312	320	216	268
103W-312G	0	0	0
104H-411	69	0	35
104H-412	7	1,796	902
104H-413	6,249	5,832	6,041
104H-413G	0	0	0
104H-421	0	1,752	876
104H-422	1	1,096	549
104H-422G	0	0	0
104H-423	41	115	78
104H-423G	0	0	0
104H-431	2	0	1
104H-431G	0	0	0
104H-432	2,570	1,426	1,998
104H-433	10	40	25
104H-433G	0	0	0
104H-441	6	3	5
104H-442	0	2,701	1,351
104H-442G	0	0	0
104S-311	2	41	22
104S-311G	3	1,033	518
104S-311GA	7	59	33
104S-311GB	0	0	0

Customer Hours of Interruption

Feeder Section	2006	2007	Average
104S-312	1,111	627	869
104S-313	412	10,724	5,568
104S-313G	3	0	1
105S-999	0	0	0
107S	0	0	0
108H-411	0	0	0
108H-412	3	0	1
108H-413	0	170	85
108H-413G	0	0	0
108S	0	0	0
108W-101	0	0	0
10C-211	19	212	115
10C-212	0	187	93
10H-231	0	0	0
10H-232	15	115	65
10H-233	0	0	0
10H-234G	0	0	0
10H-236	0	0	0
10H-237	0	0	0
10H-999	0	0	0
112C	0	0	0
113H-431	0	35	17
113H-431G	0	0	0
113H-432	0	68	34
113H-432G	0	0	0
113H-433	7,801	1,466	4,633
113H-433G	0	0	0
113H-434	5	45	25
113H-434G	0	0	0
113H-434GA	0	0	0
113H-441	2	215	108
113H-441G	0	0	0
113H-442	0	101	51
113H-442G	0	0	0
113H-442GA	0	0	0
113H-443	1	1,114	558
113H-443G	0	0	0
113H-444	0	0	0
114H-211	0	0	0
11C-301	24	566	295
11C-302	0	248	124
11N-200	0	0	0
11S-301	39	3,182	1,610
11S-301G	0	76	38
11S-301H	1,026	436	731
11S-301J	1,023	4,449	2,736
11S-301JA	95	0	47
11S-301JAA	0	1,145	572
11S-301K	0	0	0
11S-302	166	91	128
11S-302G	0	2	1
11S-302H	2	44	23
11S-303	437	3,223	1,830
11S-303G	0	0	0
11S-303H	0	0	0
11S-304	0	27	13
11S-305	567	34	301
11S-305G	67	366	216
11S-306	44	58	51
11S-306H	0	0	0
11S-411	1,536	30	783

Customer Interruptions

Feeder Section	2006	2007	Average
104S-312	253	160	207
104S-313	102	1,526	814
104S-313G	1	0	1
105S-999	0	0	0
107S	0	0	0
108H-411	0	0	0
108H-412	1	0	1
108H-413	0	3	2
108H-413G	0	0	0
108S	0	0	0
108W-101	0	0	0
10C-211	1	8	5
10C-212	0	6	3
10H-231	0	0	0
10H-232	5	563	284
10H-233	0	0	0
10H-234G	0	0	0
10H-236	0	0	0
10H-237	0	0	0
10H-999	0	0	0
112C	0	0	0
113H-431	0	1	1
113H-431G	0	0	0
113H-432	0	37	19
113H-432G	0	0	0
113H-433	2,506	551	1,529
113H-433G	0	0	0
113H-434	1	1	1
113H-434G	0	0	0
113H-434GA	0	0	0
113H-441	1	8	5
113H-441G	0	0	0
113H-442	0	67	34
113H-442G	0	0	0
113H-442GA	0	0	0
113H-443	1	1,141	571
113H-443G	0	0	0
113H-444	0	0	0
114H-211	0	0	0
11C-301	8	229	119
11C-302	0	116	58
11N-200	0	0	0
11S-301	9	2,142	1,076
11S-301G	0	6	3
11S-301H	223	223	223
11S-301J	596	1,687	1,142
11S-301JA	30	0	15
11S-301JAA	0	224	112
11S-301K	0	0	0
11S-302	31	14	23
11S-302G	0	1	1
11S-302H	1	2	2
11S-303	19	1,073	546
11S-303G	0	0	0
11S-303H	0	0	0
11S-304	0	5	3
11S-305	28	5	17
11S-305G	3	20	12
11S-306	2	2	2
11S-306H	0	0	0
11S-411	77	6	42

Customer Hours of Interruption

Feeder Section	2006	2007	Average
11S-411G	5,717	6,658	6,187
11S-411H	1,804	2,449	2,126
11W-201	0	0	0
11W-202	0	0	0
11W-203	0	0	0
124H-301	0	0	0
124H-302	0	0	0
126H-311	3,478	882	2,180
126H-312	26	2,353	1,189
126H-312G	9	2,827	1,418
126H-313	4,554	1,086	2,820
126H-313G	0	6	3
127H-411	3,592	306	1,949
127H-411G	0	0	0
127H-411H	22	3	13
127H-412	0	0	0
127H-413	123	0	62
129H-411	437	0	219
129H-411G	0	0	0
129H-412	67	1	34
129H-412G	0	0	0
129H-413	5	1,303	654
12V-302	226	0	113
12V-302G	2,031	1,531	1,781
12V-302H	0	4	2
12V-302J	1,593	3	798
12V-303	0	12	6
12V-303G	2	0	1
12V-304	397	641	519
131H-421	5,052	311	2,682
131H-422	68	698	383
131H-422G	27	229	128
131H-423	10,619	190	5,404
131H-423G	0	0	0
131H-424	0	1,939	969
136H	0	0	0
137H-412	0	0	0
137H-413	0	0	0
137H-414	0	0	0
139H-411	0	0	0
139H-413	0	0	0
139H-414	0	0	0
13N-204	0	0	0
13N-205	0	0	0
13N-211	2	14	8
13N-411	1,887	0	944
13V-303	1,389	8,141	4,765
14C-211	1,999	137	1,068
14V-303	0	0	0
15C-211	0	49	25
15N-202	0	188	94
15N-203	0	2	1
15N-401	47	10	29
15N-401G	0	0	0
15N-402	0	0	0
15N-403	2	0	1
15N-403G	590	17	304
15N-404	1,399	13,241	7,320
15N-404G	0	0	0
15S-301	751	93	422
15S-302	1,643	7	825

Customer Interruptions

Feeder Section	2006	2007	Average
11S-411G	1,375	3,121	2,248
11S-411H	563	1,074	819
11W-201	0	0	0
11W-202	0	0	0
11W-203	0	0	0
124H-301	0	0	0
124H-302	0	0	0
126H-311	1,566	121	844
126H-312	6	1,868	937
126H-312G	3	219	111
126H-313	1,740	27	884
126H-313G	0	3	2
127H-411	3,033	106	1,570
127H-411G	0	0	0
127H-411H	9	1	5
127H-412	0	0	0
127H-413	87	0	44
129H-411	124	0	62
129H-411G	0	0	0
129H-412	35	1	18
129H-412G	0	0	0
129H-413	3	108	56
12V-302	43	0	22
12V-302G	614	697	656
12V-302H	0	1	1
12V-302J	1,130	1	566
12V-303	0	2	1
12V-303G	1	0	1
12V-304	148	932	540
131H-421	3,982	73	2,028
131H-422	34	367	201
131H-422G	5	9	7
131H-423	4,726	6	2,366
131H-423G	0	0	0
131H-424	0	123	62
136H	0	0	0
137H-412	0	0	0
137H-413	0	0	0
137H-414	0	0	0
139H-411	0	0	0
139H-413	0	0	0
139H-414	0	0	0
13N-204	0	0	0
13N-205	0	0	0
13N-211	1	3	2
13N-411	2,359	0	1,180
13V-303	459	1,314	887
14C-211	268	9	139
14V-303	0	0	0
15C-211	0	2	1
15N-202	0	151	76
15N-203	0	1	1
15N-401	24	2	13
15N-401G	0	0	0
15N-402	0	0	0
15N-403	1	0	1
15N-403G	1,264	5	635
15N-404	2,399	5,008	3,704
15N-404G	0	0	0
15S-301	60	11	36
15S-302	55	3	29

Customer Hours of Interruption

Feeder Section	2006	2007	Average
15S-303	317	0	158
16N-301	1,072	116	594
16N-301G	0	9,846	4,923
16N-302	1,017	1,898	1,458
16V-314	0	4,667	2,334
16V-314G	106	371	239
16V-314H	0	0	0
16V-315	3,762	624	2,193
16W-301	298	0	149
16W-301G	3,731	4,952	4,342
16W-301GA	795	0	398
16W-301H	0	0	0
16W-301J	8	246	127
16W-302	7	53	30
16W-302G	550	0	275
16W-302GA	0	436	218
16W-302GAA	0	0	0
17N-201	2	0	1
17N-202	0	76	38
17N-203	0	0	0
17N-203G	0	0	0
18V-411	2,028	29	1,029
18V-412	1,800	2,693	2,247
18V-413	12,445	6,503	9,474
18V-413G	854	67	461
18V-413GA	0	0	0
18V-413GB	0	0	0
18V-413H	0	0	0
18V-413J	0	0	0
19C-201	0	0	0
19C-202	0	0	0
19C-203	0	0	0
19H-201	0	0	0
19H-211	0	0	0
19W-311	0	11	6
19W-312	0	1,997	998
19W-312G	0	3,393	1,696
1C-411	0	1,214	607
1C-412	0	0	0
1H-204	0	0	0
1H-245	0	0	0
1H-248	0	0	0
1H-403	3	0	2
1H-405	0	0	0
1H-415	0	0	0
1H-419	0	0	0
1H-424	0	0	0
1H-427	0	0	0
1H-429	0	0	0
1H-431	0	0	0
1N-402	396	3,704	2,050
1N-402G	6	3,050	1,528
1N-402GA	338	32	185
1N-402GB	25	2,369	1,197
1N-403	11	3	7
1N-404	0	2,434	1,217
1N-405	604	510	557
1N-405G	0	1,224	612
1N-405GA	5	73	39
1N-421	171	0	85
1V-443	881	3,293	2,087

Customer Interruptions

Feeder Section	2006	2007	Average
15S-303	12	0	6
16N-301	255	90	173
16N-301G	0	361	181
16N-302	713	366	540
16V-314	0	831	416
16V-314G	38	200	119
16V-314H	0	0	0
16V-315	2,201	72	1,137
16W-301	33	0	17
16W-301G	900	1,324	1,112
16W-301GA	177	0	89
16W-301H	0	0	0
16W-301J	1	139	70
16W-302	2	14	8
16W-302G	260	0	130
16W-302GA	0	175	88
16W-302GAA	0	0	0
17N-201	1	0	1
17N-202	0	24	12
17N-203	0	0	0
17N-203G	0	0	0
18V-411	1,302	4	653
18V-412	745	801	773
18V-413	6,107	2,067	4,087
18V-413G	355	7	181
18V-413GA	0	0	0
18V-413GB	0	0	0
18V-413H	0	0	0
18V-413J	0	0	0
19C-201	0	0	0
19C-202	0	0	0
19C-203	0	0	0
19H-201	0	0	0
19H-211	0	0	0
19W-311	0	2	1
19W-312	0	1,047	524
19W-312G	0	851	426
1C-411	0	1,640	820
1C-412	0	0	0
1H-204	0	0	0
1H-245	0	0	0
1H-248	0	0	0
1H-403	1	0	1
1H-405	0	0	0
1H-415	0	0	0
1H-419	0	0	0
1H-424	0	0	0
1H-427	0	0	0
1H-429	0	0	0
1H-431	0	0	0
1N-402	1,076	1,195	1,136
1N-402G	4	1,161	583
1N-402GA	156	1	79
1N-402GB	4	677	341
1N-403	14	2	8
1N-404	0	459	230
1N-405	180	175	178
1N-405G	0	291	146
1N-405GA	2	11	7
1N-421	148	0	74
1V-443	562	357	460

Customer Hours of Interruption

Feeder Section	2006	2007	Average
1V-443G	2,559	10,521	6,540
1V-443GA	5	3,446	1,726
1W-411	0	169	85
20H-301	0	17	9
20H-302	0	6	3
20H-303	0	22	11
20H-303G	6	4	5
20H-303H	9	3	6
20H-304	9,408	0	4,704
20H-305	14	7	11
20H-306	131	4	68
20N-201	1	3	2
20N-203	0	0	0
20N-204	0	0	0
20V-311	1	228	115
20W-311	0	0	0
20W-312	155	17	86
21W-311	0	223	112
21W-312	5	56	30
22C-402	6	516	261
22C-403	1,856	1,200	1,528
22C-403G	0	0	0
22C-403GA	3,689	492	2,091
22C-404	2,455	690	1,572
22C-404G	0	3	1
22C-404GA	25,614	15,369	20,492
22C-404GAA	6	2,900	1,453
22N-401	3	0	1
22N-402	0	5,853	2,927
22N-402G	0	0	0
22N-403	0	715	357
22N-403G	208	302	255
22N-404	0	2	1
22V-312	0	4	2
22V-313	0	37	18
22V-314	0	203	102
22V-321	15	382	199
22V-322	645	338	491
22V-322G	0	12	6
22V-322H	0	0	0
22V-323	0	0	0
22V-323G	423	264	344
22V-323GA	1,320	12,019	6,670
22V-323GAA	0	60	30
22V-323GB	2,374	37	1,206
22W-311	0	0	0
22W-311G	1,284	21	652
22W-311GA	0	380	190
22W-311H	2	2,685	1,343
22W-312	0	50	25
22W-312G	0	2,463	1,232
22W-313	26	94	60
23H-301	2	0	1
23H-302	3,197	0	1,599
23H-302G	0	0	0
23H-303	0	85	42
23H-303G	0	0	0
23H-304	759	168	463
23W-301	641	3,207	1,924
23W-302	32	1,543	788
23W-302G	0	3,331	1,665

Customer Interruptions

Feeder Section	2006	2007	Average
1V-443G	1,029	1,000	1,015
1V-443GA	2	278	140
1W-411	0	6	3
20H-301	0	3	2
20H-302	0	2	1
20H-303	0	7	4
20H-303G	4	1	3
20H-303H	3	2	3
20H-304	5,131	0	2,566
20H-305	4	2	3
20H-306	48	1	25
20N-201	1	1	1
20N-203	0	0	0
20N-204	0	0	0
20V-311	1	19	10
20W-311	0	0	0
20W-312	44	4	24
21W-311	0	8	4
21W-312	1	4	3
22C-402	2	185	94
22C-403	412	734	573
22C-403G	0	0	0
22C-403GA	497	146	322
22C-404	701	45	373
22C-404G	0	1	1
22C-404GA	4,169	2,663	3,416
22C-404GAA	1	1,114	558
22N-401	2	0	1
22N-402	0	2,275	1,138
22N-402G	0	0	0
22N-403	0	451	226
22N-403G	181	88	135
22N-404	0	1	1
22V-312	0	2	1
22V-313	0	1	1
22V-314	0	245	123
22V-321	6	91	49
22V-322	537	171	354
22V-322G	0	3	2
22V-322H	0	0	0
22V-323	0	0	0
22V-323G	36	186	111
22V-323GA	523	513	518
22V-323GAA	0	18	9
22V-323GB	296	4	150
22W-311	0	0	0
22W-311G	746	3	375
22W-311GA	0	10	5
22W-311H	1	630	316
22W-312	0	3	2
22W-312G	0	848	424
22W-313	4	7	6
23H-301	1	0	1
23H-302	1,744	0	872
23H-302G	0	0	0
23H-303	0	15	8
23H-303G	0	0	0
23H-304	367	179	273
23W-301	45	319	182
23W-302	16	261	139
23W-302G	0	805	403

Customer Hours of Interruption

Feeder Section	2006	2007	Average
23W-302H	66	3,473	1,770
23W-302HA	0	14	7
24C-442	21,774	906	11,340
24C-442G	15	98	57
24C-442GA	361	2,422	1,392
24C-442GB	4	7	6
24C-443	4,436	305	2,371
24C-443G	64	1,882	973
24C-443GA	7	106	56
24H	0	0	0
25C-211	0	0	0
25N-201	0	0	0
25W-301	46	1,362	704
25W-301G	474	303	388
25W-301H	29	322	175
25W-301J	113	113	113
25W-302	1,352	3,116	2,234
25W-302G	440	9,699	5,070
25W-303	3,167	2,763	2,965
26C-202	0	536	268
26N-211	0	997	499
27N-201	0	0	0
28N-201	0	3	1
28V-201	0	0	0
2C-401	187	1,305	746
2C-402	0	5,649	2,824
2C-402G	30	3,593	1,811
2C-402GA	26	17,007	8,517
2H-411	56	0	28
2H-412	3,210	1,795	2,503
2H-413	0	48	24
2H-413G	0	0	0
30N-411	9	0	5
30N-412	7	354	180
31C-311	5	941	473
32N-301	3	570	286
33N-201	0	0	0
34C-311	0	347	173
35C-211	0	0	0
35V-312	2,495	20	1,258
35V-312G	4	40	22
36C-211	0	62	31
36N-201	0	0	0
36V-301	293	849	571
36V-302	718	24,639	12,678
36V-302G	905	35	470
36V-302H	0	13	7
36V-302J	26	0	13
36V-303	15	272	143
36V-303G	796	207	501
36V-303H	3	0	2
36W-301	10,824	329	5,576
36W-301G	378	29	203
36W-304	1,098	7,163	4,130
36W-304G	11	0	5
37N-411	2,348	966	1,657
37N-411G	38	52	45
37N-412	7	3	5
37N-413	684	1	342
37N-413G	344	1,124	734
37N-413GA	0	236	118

Customer Interruptions

Feeder Section	2006	2007	Average
23W-302H	22	509	266
23W-302HA	0	11	6
24C-442	1,236	415	826
24C-442G	4	5	5
24C-442GA	125	1,042	584
24C-442GB	1	2	2
24C-443	1,425	28	727
24C-443G	8	177	93
24C-443GA	2	6	4
24H	0	0	0
25C-211	0	0	0
25N-201	0	0	0
25W-301	8	463	236
25W-301G	100	38	69
25W-301H	16	107	62
25W-301J	13	66	40
25W-302	853	739	796
25W-302G	70	911	491
25W-303	1,337	1,254	1,296
26C-202	0	127	64
26N-211	0	230	115
27N-201	0	0	0
28N-201	0	1	1
28V-201	0	0	0
2C-401	48	713	381
2C-402	0	1,327	664
2C-402G	35	733	384
2C-402GA	22	2,220	1,121
2H-411	10	0	5
2H-412	1,354	1,357	1,356
2H-413	0	32	16
2H-413G	0	0	0
30N-411	3	0	2
30N-412	2	83	43
31C-311	3	195	99
32N-301	2	51	27
33N-201	0	0	0
34C-311	0	191	96
35C-211	0	0	0
35V-312	1,329	2	666
35V-312G	3	5	4
36C-211	0	3	2
36N-201	0	0	0
36V-301	106	187	147
36V-302	261	2,791	1,526
36V-302G	124	122	123
36V-302H	0	1	1
36V-302J	13	0	7
36V-303	33	1,784	909
36V-303G	96	208	152
36V-303H	10	0	5
36W-301	2,807	109	1,458
36W-301G	345	2	174
36W-304	205	440	323
36W-304G	1	0	1
37N-411	1,476	772	1,124
37N-411G	4	14	9
37N-412	2	1	2
37N-413	508	1	255
37N-413G	347	695	521
37N-413GA	0	170	85

Customer Hours of Interruption

Feeder Section	2006	2007	Average
37N-414	0	15,646	7,823
37W-201	0	17	9
37W-202	0	0	0
37W-203	0	0	0
38N-201	3	0	1
38N-202	0	0	0
39H-211	0	0	0
39N-201	0	259	129
3N-301	2	118	60
3N-301G	7	16	12
3N-301GA	17	51	34
3N-303	440	15	227
3N-303G	0	0	0
3N-303H	302	0	151
3N-411	0	0	0
3S-301	0	23	11
3S-301G	40	6	23
3S-302	0	12	6
3S-302G	0	10	5
3S-303	0	430	215
3S-303G	0	0	0
3S-307	40	20,446	10,243
3S-308	0	2,845	1,423
3S-309	0	40	20
3S-309G	57	0	29
3S-403	0	17	8
3S-403G	10	13	11
3S-403H	187	25	106
3S-403J	45	2	23
3S-405	0	0	0
3W-201	0	0	0
40C-201	0	0	0
40H-302	0	87	43
40H-302G	0	0	0
40H-303	0	6	3
40H-304	0	0	0
40H-305	0	11	6
40H-401	0	0	0
45V-201	0	0	0
45V-202	77	0	38
46W-301	250	6,607	3,428
46W-301G	3,768	3,730	3,749
46W-303	17	157	87
47N-211	0	0	0
48H-301	2	0	1
48H-302	2	184	93
48H-303	0	224	112
48H-304	0	15	7
48W-201	2	530	266
48W-203	0	0	0
48W-204	4	1,024	514
49C-301	0	862	431
49N-332	0	0	0
4C-424	0	1,898	949
4C-424G	0	0	0
4C-424J	0	0	0
4C-430	4,132	5,217	4,675
4C-430G	16	0	8
4C-430GA	0	0	0
4C-430H	2	6,564	3,283
4C-430J	0	0	0

Customer Interruptions

Feeder Section	2006	2007	Average
37N-414	0	1,129	565
37W-201	0	2	1
37W-202	0	0	0
37W-203	0	0	0
38N-201	1	0	1
38N-202	0	0	0
39H-211	0	0	0
39N-201	0	101	51
3N-301	1	32	17
3N-301G	4	2	3
3N-301GA	6	2	4
3N-303	961	3	482
3N-303G	0	0	0
3N-303H	117	0	59
3N-411	0	0	0
3S-301	0	3	2
3S-301G	3	2	3
3S-302	0	2	1
3S-302G	0	1	1
3S-303	0	45	23
3S-303G	0	0	0
3S-307	5	7,868	3,937
3S-308	0	726	363
3S-309	0	7	4
3S-309G	7	0	4
3S-403	0	4	2
3S-403G	1	1	1
3S-403H	45	8	27
3S-403J	4	1	3
3S-405	0	0	0
3W-201	0	0	0
40C-201	0	0	0
40H-302	0	4	2
40H-302G	0	0	0
40H-303	0	1	1
40H-304	0	0	0
40H-305	0	1	1
40H-401	0	0	0
45V-201	0	0	0
45V-202	459	0	230
46W-301	50	1,555	803
46W-301G	809	216	513
46W-303	5	8	7
47N-211	0	0	0
48H-301	1	0	1
48H-302	1	6	4
48H-303	0	6	3
48H-304	0	1	1
48W-201	1	21	11
48W-203	0	0	0
48W-204	1	397	199
49C-301	0	231	116
49N-332	0	0	0
4C-424	0	875	438
4C-424G	0	0	0
4C-424J	0	0	0
4C-430	2,026	990	1,508
4C-430G	3	0	2
4C-430GA	0	0	0
4C-430H	1	1,433	717
4C-430J	0	0	0

Customer Hours of Interruption

Feeder Section	2006	2007	Average
4C-432	1,365	3,031	2,198
4C-432G	579	2,756	1,667
4C-432H	54	6	30
4C-441	4,534	3,275	3,905
4C-441G	5	2,741	1,373
4C-441H	29	32	31
4N-311	108	491	300
4N-311G	3	4	3
4N-311H	4	218	111
4N-312	62	76	69
4N-312G	0	4,610	2,305
4N-312H	2	87	44
4N-312HA	160	47	103
4N-312HB	0	0	0
4N-313	0	42	21
4N-313G	1,370	63	717
4N-313GA	132	91	111
4N-313GB	0	663	331
4N-313H	55	109	82
4S-203	0	0	0
4S-321	157	0	79
4S-321G	0	0	0
4S-322	523	0	262
4S-323	166	3	84
4S-324	38	28	33
4S-331	15	0	8
4S-332	0	6	3
4S-332G	86	35	61
4S-332H	0	0	0
4S-333	28	293	160
4S-334	0	0	0
4W-211	5	0	2
500N-301	8	262	135
501H-301	7	326	166
501N-301	0	321	160
502H-301	173	20	96
503N-311	2	313	157
503N-321	0	148	74
503S-211	17	0	8
504H-301	2	26	14
504N-301	172	67	120
504S-211	80	0	40
505S-211	2	413	207
505V-201	15	2	9
506N-301	0	0	0
507H-311	456	1,272	864
507H-312	220	221	221
507N-301	0	24	12
507S-211	83	0	41
508S-201	0	0	0
508S-211	0	17	9
508S-212	0	5	3
509H-201	0	0	0
509N-301	0	44	22
509S-211	0	0	0
509V-301	9	18	13
509V-301G	0	50	25
509V-302	0	0	0
50N-311	0	0	0
50N-325	0	0	0
50N-410	1,018	562	790

Customer Interruptions

Feeder Section	2006	2007	Average
4C-432	1,026	344	685
4C-432G	131	139	135
4C-432H	34	1	18
4C-441	968	1,466	1,217
4C-441G	3	1,615	809
4C-441H	2	1	2
4N-311	47	50	49
4N-311G	1	3	2
4N-311H	1	241	121
4N-312	23	8	16
4N-312G	0	262	131
4N-312H	1	17	9
4N-312HA	82	46	64
4N-312HB	0	0	0
4N-313	0	1	1
4N-313G	606	7	307
4N-313GA	43	49	46
4N-313GB	0	322	161
4N-313H	7	25	16
4S-203	0	0	0
4S-321	54	0	27
4S-321G	0	0	0
4S-322	827	0	414
4S-323	113	2	58
4S-324	1	4	3
4S-331	2	0	1
4S-332	0	1	1
4S-332G	6	4	5
4S-332H	0	0	0
4S-333	2	24	13
4S-334	0	0	0
4W-211	1	0	1
500N-301	3	105	54
501H-301	3	128	66
501N-301	0	83	42
502H-301	13	2	8
503N-311	1	14	8
503N-321	0	71	36
503S-211	2	0	1
504H-301	1	2	2
504N-301	63	3	33
504S-211	3	0	2
505S-211	1	25	13
505V-201	3	1	2
506N-301	0	0	0
507H-311	118	26	72
507H-312	51	47	49
507N-301	0	1	1
507S-211	3	0	2
508S-201	0	0	0
508S-211	0	1	1
508S-212	0	1	1
509H-201	0	0	0
509N-301	0	18	9
509S-211	0	0	0
509V-301	1	2	2
509V-301G	0	15	8
509V-302	0	0	0
50N-311	0	0	0
50N-325	0	0	0
50N-410	1,298	334	816

Customer Hours of Interruption

Feeder Section	2006	2007	Average
50N-410G	8,066	3,005	5,536
50N-410GA	0	0	0
50N-410GAA	987	506	747
50N-410GAAA	6	1,024	515
50N-410GAB	0	2,492	1,246
50N-411	48	48	48
50N-411G	0	0	0
50N-412	2,254	1	1,128
50N-415	2,153	37	1,095
50V-401	63	11	37
50V-402	840	526	683
50W-411	1,229	11,115	6,172
50W-411G	0	0	0
50W-411H	0	0	0
50W-412	310	12,720	6,515
50W-412G	5,968	17,157	11,563
50W-412GA	2,206	19,509	10,857
50W-412GAA	0	0	0
50W-412GAB	0	0	0
50W-412GB	0	12,351	6,176
510N-301	275	86	180
510W-211	1,244	276	760
511N-301	5	0	3
511S-211	0	0	0
512C-311	0	1,180	590
512C-311G	0	14	7
512N-311	4	55	29
512N-321	17	133	75
512N-331	348	184	266
512V-311	0	0	0
512W-311	113	1,320	717
513N-301	1	2,534	1,267
513V-311	2	3	2
514C-301	1,375	356	865
514N-201	0	0	0
514S-311	109	0	54
514V-311	0	0	0
514W-211	0	0	0
515C-301	0	0	0
515S-311	0	13	7
515S-311G	382	36	209
515S-311GA	148	51	99
515V-311	0	0	0
515W-211	187	2,031	1,109
516C-311	1,769	4,371	3,070
516C-311G	0	0	0
516C-313	0	0	0
516N-311	3	69	36
516N-331	0	79	39
516V-311	0	0	0
516W-211	277	69	173
517C-301	0	0	0
517S-311	3	3	3
517V-311	0	0	0
517W-311	0	814	407
518N-311	16	0	8
518S-211	0	0	0
518V-311	0	0	0
519N-201	175	0	87
519W-311	1,353	2,464	1,908
51V-301	261	0	131

Customer Interruptions

Feeder Section	2006	2007	Average
50N-410G	2,054	1,176	1,615
50N-410GA	0	0	0
50N-410GAA	270	47	159
50N-410GAAA	2	333	168
50N-410GAB	0	199	100
50N-411	8	6	7
50N-411G	0	0	0
50N-412	2,292	1	1,147
50N-415	1,460	738	1,099
50V-401	30	2	16
50V-402	1,800	48	924
50W-411	1,291	5,379	3,335
50W-411G	0	0	0
50W-411H	0	0	0
50W-412	72	6,487	3,280
50W-412G	2,072	1,120	1,596
50W-412GA	893	977	935
50W-412GAA	0	0	0
50W-412GAB	0	0	0
50W-412GB	0	450	225
510N-301	25	3	14
510W-211	216	61	139
511N-301	2	0	1
511S-211	0	0	0
512C-311	0	278	139
512C-311G	0	1	1
512N-311	1	274	138
512N-321	26	3	15
512N-331	413	14	214
512V-311	0	0	0
512W-311	139	206	173
513N-301	1	195	98
513V-311	1	1	1
514C-301	668	13	341
514N-201	0	0	0
514S-311	66	0	33
514V-311	0	0	0
514W-211	0	0	0
515C-301	0	0	0
515S-311	0	3	2
515S-311G	99	59	79
515S-311GA	94	2	48
515V-311	0	0	0
515W-211	23	131	77
516C-311	385	483	434
516C-311G	0	0	0
516C-313	0	0	0
516N-311	1	4	3
516N-331	0	15	8
516V-311	0	0	0
516W-211	14	14	14
517C-301	0	0	0
517S-311	1	1	1
517V-311	0	0	0
517W-311	0	114	57
518N-311	3	0	2
518S-211	0	0	0
518V-311	0	0	0
519N-201	282	0	141
519W-311	124	118	121
51V-301	98	0	49

Customer Hours of Interruption

Feeder Section	2006	2007	Average
51V-301G	0	9	4
520S-211	0	0	0
521N-301	0	0	0
521S-211	0	0	0
522C-301	0	2	1
522S-211	0	0	0
522W-311	159	2,993	1,576
523C-301	29	14	22
524C-201	0	84	42
524N-311	0	26	13
524S-311	0	0	0
524S-311G	271	606	438
525S-311	7,779	116	3,948
525W-311	442	410	426
526S-211	0	0	0
527S-311	0	0	0
527S-311G	157	16	86
528C-301	5	184	94
528N-201	0	5	3
528N-202	0	4	2
528S-311	93	7	50
529C-201	0	0	0
529S-311	3	105	54
52C-211	0	0	0
52V-251	0	0	0
530N-201	0	57	28
530S-311	0	0	0
530W-201	0	0	0
531N-311	1	0	0
531S-311	0	0	0
531W-311	6	76	41
531W-311G	0	0	0
532N-201	1,252	0	626
532S-211	0	0	0
533N-311	3	477	240
533N-321	13	157	85
533S-211	55	0	28
534N-201	2	0	1
534S-212	0	0	0
534W-211	0	1,370	685
535N-311	12	723	367
535N-321	448	1,439	943
535N-331	5	399	202
535N-341	0	0	0
535S-201	0	0	0
536N-201	6	4	5
538W-311	87	3	45
539N-201	3	0	1
539W-311	0	0	0
53N-Dist	0	0	0
540C-311	0	0	0
540C-312	0	2	1
540N-201	0	17	8
541C-311	5	429	217
541W-211	0	0	0
542C-311	0	329	164
542W-311	0	0	0
542W-311G	3	74	39
542W-311H	0	0	0
543C-211	19	70	45
543W-311	0	0	0

Customer Interruptions

Feeder Section	2006	2007	Average
51V-301G	0	10	5
520S-211	0	0	0
521N-301	0	0	0
521S-211	0	0	0
522C-301	0	1	1
522S-211	0	0	0
522W-311	29	182	106
523C-301	8	4	6
524C-201	0	38	19
524N-311	0	1	1
524S-311	0	0	0
524S-311G	9	330	170
525S-311	198	115	157
525W-311	60	115	88
526S-211	0	0	0
527S-311	0	0	0
527S-311G	23	1	12
528C-301	1	18	10
528N-201	0	1	1
528N-202	1	1	1
528S-311	8	2	5
529C-201	0	0	0
529S-311	1	4	3
52C-211	0	0	0
52V-251	0	0	0
530N-201	0	1	1
530S-311	0	0	0
530W-201	0	0	0
531N-311	1	0	1
531S-311	0	0	0
531W-311	3	9	6
531W-311G	0	0	0
532N-201	963	0	482
532S-211	0	0	0
533N-311	1	16	9
533N-321	4	114	59
533S-211	3	0	2
534N-201	1	0	1
534S-212	0	0	0
534W-211	0	87	44
535N-311	7	126	67
535N-321	205	327	266
535N-331	2	231	117
535N-341	0	0	0
535S-201	0	0	0
536N-201	2	2	2
538W-311	31	1	16
539N-201	1	0	1
539W-311	0	0	0
53N-Dist	0	0	0
540C-311	0	0	0
540C-312	0	1	1
540N-201	0	2	1
541C-311	1	227	114
541W-211	0	0	0
542C-311	0	131	66
542W-311	0	0	0
542W-311G	1	2	2
542W-311H	0	0	0
543C-211	2	3	3
543W-311	0	0	0

Customer Hours of Interruption

Feeder Section	2006	2007	Average
544C-311	0	0	0
544W-311	0	0	0
545C-211	0	93	46
545N-301	4	138	71
545W-311	173	3,163	1,668
546C-311	5,525	0	2,763
546C-311G	9	1,472	741
546W-311	692	577	635
546W-321	211	931	571
547C-311	0	0	0
547C-312	0	6	3
547N-411	0	0	0
548C-311	23	520	271
548W-311	0	970	485
548W-311G	22	29	25
548W-311GA	10	45	27
549C-211	0	37	19
549N-201	0	0	0
54C-211	0	108	54
54C-213	0	5	2
54H-301	0	26	13
54H-302	0	109	55
54H-303	0	203	101
54H-304	0	0	0
550W-311	3	0	1
551C-301	0	0	0
552C-301	0	0	0
552W-311	0	37	18
553C-301	14	0	7
553W-211	58	1,987	1,022
554C-311	0	0	0
554W-311	0	1	1
555C-311	0	50	25
555W-311	295	390	342
556C-311	1,186	531	858
556W	0	0	0
556W-211	0	0	0
559C-311	0	32	16
55N-201	376	402	389
55N-202	1	836	418
55N-203	42	6	24
55N-204	0	5	3
55V-311	97	53	75
55V-312	0	50	25
55V-312G	0	12	6
55V-312H	0	3	1
55V-313	227	138	182
55V-313G	190	1,546	868
55V-313GA	0	0	0
55V-313H	5	74	39
55V-313J	2	0	1
55V-313JA	2,614	778	1,696
55V-313JB	0	36	18
55V-313K	0	0	0
55V-314	345	133	239
55V-314G	232	2,106	1,169
55V-322	0	0	0
55V-323	0	0	0
55V-323G	0	0	0
562C-311	0	0	0
564C-311	0	352	176

Customer Interruptions

Feeder Section	2006	2007	Average
544C-311	0	0	0
544W-311	0	0	0
545C-211	0	74	37
545N-301	2	7	5
545W-311	20	151	86
546C-311	291	0	146
546C-311G	3	369	186
546W-311	196	102	149
546W-321	26	34	30
547C-311	0	0	0
547C-312	0	35	18
547N-411	0	0	0
548C-311	80	101	91
548W-311	0	428	214
548W-311G	2	2	2
548W-311GA	21	3	12
549C-211	0	16	8
549N-201	0	0	0
54C-211	0	9	5
54C-213	0	2	1
54H-301	0	2	1
54H-302	0	2	1
54H-303	0	3	2
54H-304	0	0	0
550W-311	1	0	1
551C-301	0	0	0
552C-301	0	0	0
552W-311	0	1	1
553C-301	4	0	2
553W-211	39	49	44
554C-311	0	0	0
554W-311	0	1	1
555C-311	0	19	10
555W-311	162	130	146
556C-311	84	46	65
556W	0	0	0
556W-211	0	0	0
559C-311	0	1	1
55N-201	348	351	350
55N-202	1	328	165
55N-203	15	1	8
55N-204	0	2	1
55V-311	74	28	51
55V-312	0	2	1
55V-312G	0	56	28
55V-312H	0	1	1
55V-313	129	89	109
55V-313G	91	47	69
55V-313GA	0	0	0
55V-313H	3	25	14
55V-313J	2	0	1
55V-313JA	689	32	361
55V-313JB	0	72	36
55V-313K	0	0	0
55V-314	53	31	42
55V-314G	297	132	215
55V-322	0	0	0
55V-323	0	0	0
55V-323G	0	0	0
562C-311	0	0	0
564C-311	0	44	22

Customer Hours of Interruption

Feeder Section	2006	2007	Average
568C-311	4	1,154	579
56C-211	94	3,152	1,623
56N-401	0	46	23
56N-401G	11	154	83
56N-402	0	0	0
56N-414	4	314	159
56N-414G	10	141	76
56N-414H	9	86	48
570C-311	0	24	12
570C-311G	4	19	12
571C-311	0	1	1
572C-211	0	0	0
573C-311	0	0	0
574C-311	7	46	27
576C-311	0	0	0
578C-311	0	0	0
579C-211	0	4	2
57C-417	1	1,903	952
57C-422	2,262	1,905	2,084
57C-422G	11,297	39	5,668
57C-422GA	490	2	246
57C-422GAA	3,420	2,397	2,909
57C-422GB	0	0	0
57C-426	20	6,749	3,385
57C-426G	10,660	23,007	16,834
57C-426GA	49	14,203	7,126
57C-426H	8,371	1,140	4,756
57C-426HA	1,007	1,281	1,144
57C-426HB	4,276	0	2,138
57C-426J	5,545	1,749	3,647
57N-201	1	0	1
57S-401	5,216	74	2,645
57S-401G	1,619	1,616	1,617
57S-401H	7,833	438	4,136
57S-401J	76	2	39
57S-402	26,899	109	13,504
57S-402G	173	22	98
57S-402GA	0	0	0
57S-402H	1,606	9	808
57S-402J	1,110	252	681
57S-402L	2	64	33
57W-401	4,829	10,766	7,798
57W-402	5	1,941	973
580C-311	2	0	1
580C-312	2	75	38
581C-311	2,346	4,086	3,216
581N-301	9	9	9
582C-311	2,132	48	1,090
582N-301	0	0	0
583C-211	0	51	26
584N-301	13	3	8
585C-311	77	3,575	1,826
585C-311G	827	4,845	2,836
586C-311	30	202	116
586N-311	0	0	0
587C-311	0	36	18
587C-311G	0	0	0
587N-201	0	9	5
588C-311	86	736	411
588C-311G	0	0	0
589C-311	0	0	0

Customer Interruptions

Feeder Section	2006	2007	Average
568C-311	1	34	18
56C-211	3	392	198
56N-401	0	2	1
56N-401G	5	349	177
56N-402	0	0	0
56N-414	2	198	100
56N-414G	4	7	6
56N-414H	3	11	7
570C-311	0	1	1
570C-311G	1	1	1
571C-311	0	1	1
572C-211	0	0	0
573C-311	0	0	0
574C-311	2	2	2
576C-311	0	0	0
578C-311	0	0	0
579C-211	0	6	3
57C-417	1	176	89
57C-422	282	1,157	720
57C-422G	710	3	357
57C-422GA	280	1	141
57C-422GAA	189	234	212
57C-422GB	0	0	0
57C-426	1	1,934	968
57C-426G	561	2,028	1,295
57C-426GA	9	602	306
57C-426H	583	609	596
57C-426HA	170	162	166
57C-426HB	275	0	138
57C-426J	344	50	197
57N-201	1	0	1
57S-401	2,087	6	1,047
57S-401G	45	598	322
57S-401H	530	45	288
57S-401J	5	1	3
57S-402	1,747	7	877
57S-402G	6	1	4
57S-402GA	0	0	0
57S-402H	159	1	80
57S-402J	41	27	34
57S-402L	1	19	10
57W-401	1,542	659	1,101
57W-402	1	136	69
580C-311	1	0	1
580C-312	1	2	2
581C-311	630	1,961	1,296
581N-301	3	1	2
582C-311	473	9	241
582N-301	0	0	0
583C-211	0	37	19
584N-301	2	2	2
585C-311	21	419	220
585C-311G	186	560	373
586C-311	2	20	11
586N-311	0	0	0
587C-311	0	2	1
587C-311G	0	0	0
587N-201	0	27	14
588C-311	15	124	70
588C-311G	0	0	0
589C-311	0	0	0

Customer Hours of Interruption

Feeder Section	2006	2007	Average
589C-311G	347	0	174
58C-403	11	3,715	1,863
58C-403G	5	60	33
58C-405	9	8,055	4,032
58C-405G	108	3,324	1,716
58C-405H	7,193	2,194	4,694
58C-405HA	57	752	404
58H&111H-Dist	0	0	0
58H-421	7,841	394	4,118
58H-421G	0	0	0
58H-431	0	1,129	565
590C-311	6,373	81	3,227
591C-311	0	38	19
591N-311	0	0	0
592C-211	0	7	3
592N-301	0	0	0
593C-211	0	0	0
593N-301	0	1	1
594C-211	0	122	61
595C-311	0	0	0
595N-311	0	0	0
596C-311	0	0	0
598C-311	0	0	0
599C-211	3	0	1
59C-401	2,616	216	1,416
59C-402	0	7,316	3,658
59C-402G	124	1,872	998
59C-402H	943	194	569
59C-402HA	817	0	409
59C-402HB	803	1,750	1,276
59C-402HBA	3,856	0	1,928
59C-403	4,038	821	2,429
5N-301	2,383	2,011	2,197
600C-311	14	0	7
601V-311	0	1	1
605V-211	0	0	0
607N-301	38	0	19
607N-301G	2,048	15	1,031
607N-301GA	1,050	1,445	1,248
608N-301	4	0	2
609N-301	13	20	16
609V-311	9	131	70
610H-211	0	0	0
610H-213	0	0	0
610N-301	12	0	6
611N-301	4	22	13
612N-301	0	0	0
613N-301	0	0	0
613V-211	0	0	0
614N-301	0	0	0
616N-311	367	2,012	1,189
617N-311	0	0	0
618N-201	0	0	0
618V-311	1	3	2
619N-301	3,493	2,352	2,922
619N-301G	8	516	262
619V-311	0	31	15
61C-311	0	54	27
61N-201	1,739	0	869
61N-202	0	0	0
61N-204	0	7	4

Customer Interruptions

Feeder Section	2006	2007	Average
589C-311G	98	0	49
58C-403	3	1,259	631
58C-403G	2	12	7
58C-405	3	2,495	1,249
58C-405G	404	432	418
58C-405H	2,248	804	1,526
58C-405HA	37	186	112
58H&111H-Dist	0	0	0
58H-421	4,929	30	2,480
58H-421G	0	0	0
58H-431	0	58	29
590C-311	485	10	248
591C-311	0	4	2
591N-311	0	0	0
592C-211	0	1	1
592N-301	0	0	0
593C-211	0	0	0
593N-301	0	1	1
594C-211	0	3	2
595C-311	0	0	0
595N-311	0	0	0
596C-311	0	0	0
598C-311	0	0	0
599C-211	1	0	1
59C-401	558	18	288
59C-402	0	1,767	884
59C-402G	15	70	43
59C-402H	1,007	9	508
59C-402HA	32	0	16
59C-402HB	210	481	346
59C-402HBA	121	0	61
59C-403	203	530	367
5N-301	608	583	596
600C-311	4	0	2
601V-311	0	8	4
605V-211	0	0	0
607N-301	15	0	8
607N-301G	1,211	2	607
607N-301GA	232	234	233
608N-301	1	0	1
609N-301	4	2	3
609V-311	2	8	5
610H-211	0	0	0
610H-213	0	0	0
610N-301	5	0	3
611N-301	1	1	1
612N-301	0	0	0
613N-301	0	0	0
613V-211	0	0	0
614N-301	0	0	0
616N-311	117	113	115
617N-311	0	0	0
618N-201	0	0	0
618V-311	1	2	2
619N-301	1,019	824	922
619N-301G	2	106	54
619V-311	0	5	3
61C-311	0	2	1
61N-201	1,656	0	828
61N-202	0	0	0
61N-204	0	1	1

Customer Hours of Interruption

Feeder Section	2006	2007	Average
61N-205	16	424	220
61S-311	0	0	0
61S-311G	5,092	2,422	3,757
620H-201	0	0	0
620V-311	0	0	0
621V-311	22	1,007	514
622H-211	0	0	0
622V-211	0	0	0
624V-311	3,229	5,788	4,509
625V-311	0	0	0
626N-311	195	252	223
627H-211	0	0	0
627N-311	725	145	435
627V-311	1	14	8
628H-211	0	0	0
628V-211	0	0	0
629N-311	3	254	128
62H-301	0	0	0
62H-302	2	766	384
62H-303	0	0	0
62H-304	2	500	251
62N-411	2	2,887	1,444
62N-412	0	30	15
62N-413	3,082	1,204	2,143
62N-413J	2	58	30
62N-413L	15	84	49
62N-413LA	51	42	46
62N-414	48	3,137	1,592
62N-414G	12	43	28
62N-415	1	1,256	629
62N-415G	56	1	28
62N-416	35	72	54
62N-416G	1,493	324	908
630N-311	0	220	110
630V-311	0	464	232
631N-311	577	358	468
632N-311	0	0	0
633N-311	0	37	18
633V-311	4	90	47
634H-211	0	0	0
634V-311	0	4	2
636N-311	0	26	13
637H-311	0	0	0
637N-311	0	0	0
637V-311	0	0	0
639N-311	32	2,414	1,223
639N-321	38	1,516	777
639V-311	0	1,070	535
63C-311	0	43	21
63V-311	1	2,720	1,360
63V-312	1,663	5,970	3,816
63V-313	854	1,302	1,078
63V-313G	0	127	64
640N-311	0	0	0
640V-311	25	11	18
641V-311	2	0	1
641V-311G	0	888	444
642H-311	0	0	0
642V-311	313	8,589	4,451
642V-311G	0	0	0
643N-211	3	32	17

Customer Interruptions

Feeder Section	2006	2007	Average
61N-205	5	553	279
61S-311	0	0	0
61S-311G	263	194	229
620H-201	0	0	0
620V-311	0	0	0
621V-311	8	204	106
622H-211	0	0	0
622V-211	0	0	0
624V-311	839	932	886
625V-311	0	0	0
626N-311	71	63	67
627H-211	0	0	0
627N-311	38	52	45
627V-311	1	2	2
628H-211	0	0	0
628V-211	0	0	0
629N-311	1	8	5
62H-301	0	0	0
62H-302	1	142	72
62H-303	0	0	0
62H-304	1	6	4
62N-411	2	1,160	581
62N-412	0	1	1
62N-413	2,156	778	1,467
62N-413J	1	34	18
62N-413L	5	4	5
62N-413LA	15	7	11
62N-414	8	1,707	858
62N-414G	1	4	3
62N-415	1	1,603	802
62N-415G	10	1	6
62N-416	5	6	6
62N-416G	409	108	259
630N-311	1	79	40
630V-311	0	151	76
631N-311	134	104	119
632N-311	0	0	0
633N-311	0	2	1
633V-311	1	3	2
634H-211	0	0	0
634V-311	0	1	1
636N-311	0	1	1
637H-311	0	0	0
637N-311	0	0	0
637V-311	0	0	0
639N-311	3	257	130
639N-321	10	207	109
639V-311	0	91	46
63C-311	0	4	2
63V-311	1	84	43
63V-312	557	2,240	1,399
63V-313	320	245	283
63V-313G	0	43	22
640N-311	0	0	0
640V-311	4	3	4
641V-311	1	0	1
641V-311G	0	102	51
642H-311	0	0	0
642V-311	103	568	336
642V-311G	0	0	0
643N-211	1	1	1

Customer Hours of Interruption

Feeder Section	2006	2007	Average
643V-311	24	955	490
644N-311	101	0	51
644V-311	0	302	151
645V-311	1	280	140
646H-311	16	30	23
646V-311	0	131	65
647N-311	0	7	4
647N-311G	300	1,891	1,096
647N-312	1	19	10
648H-311	0	0	0
648V-311	0	0	0
649H-311	0	562	281
649N-311	0	0	0
649V-211	0	0	0
64N-201	2	0	1
64V-301	1,222	2,210	1,716
64V-302	410	0	205
64V-303	0	0	0
650H-311	0	0	0
650V-211	0	0	0
651N-311	0	0	0
651V-211	0	15	7
652N-311	2	0	1
652V-211	3	0	1
652V-212	0	1	0
654N-311	0	8	4
654V-211	0	0	0
655N-311	0	0	0
655V-211	0	0	0
656N-311	0	0	0
656V-211	0	0	0
657V-211	0	0	0
658N-211	284	0	142
658V-211	0	0	0
659V-211	0	0	0
65N-201	50	0	25
65S-211	0	0	0
65V-301	695	546	621
65V-301G	794	6,211	3,502
65V-301GA	0	448	224
65V-302	4	18,678	9,341
65V-302G	4,297	29,503	16,900
65V-302GA	432	8,425	4,429
65V-302GB	1	600	301
65V-302H	307	158	232
65V-302HA	0	0	0
65V-302HAA	19	2,267	1,143
65V-303	3,126	3,845	3,485
660V-201	0	0	0
661N-311	0	0	0
661V-201	0	0	0
662H-311	1	3	2
662N-311	7	6	7
662V-211	0	0	0
663N-311	114	0	57
663V-211	0	0	0
664N-211	89	0	44
665H-311	201	0	101
665N-311	139	813	476
665V-311	0	0	0
666H-311	7	0	3

Customer Interruptions

Feeder Section	2006	2007	Average
643V-311	12	45	29
644N-311	52	0	26
644V-311	0	171	86
645V-311	1	62	32
646H-311	1	12	7
646V-311	0	3	2
647N-311	0	1	1
647N-311G	117	720	419
647N-312	1	4	3
648H-311	0	0	0
648V-311	0	0	0
649H-311	0	60	30
649N-311	0	0	0
649V-211	0	0	0
64N-201	1	0	1
64V-301	807	119	463
64V-302	197	0	99
64V-303	0	0	0
650H-311	0	0	0
650V-211	0	0	0
651N-311	0	0	0
651V-211	0	2	1
652N-311	1	0	1
652V-211	1	0	1
652V-212	0	1	1
654N-311	0	2	1
654V-211	0	0	0
655N-311	0	0	0
655V-211	0	0	0
656N-311	0	0	0
656V-211	0	0	0
657V-211	0	0	0
658N-211	185	0	93
658V-211	0	0	0
659V-211	0	0	0
65N-201	11	0	6
65S-211	0	0	0
65V-301	496	264	380
65V-301G	807	1,086	947
65V-301GA	0	217	109
65V-302	2	2,070	1,036
65V-302G	1,094	2,261	1,678
65V-302GA	94	722	408
65V-302GB	1	118	60
65V-302H	290	7	149
65V-302HA	0	0	0
65V-302HAA	4	415	210
65V-303	4,063	1,625	2,844
660V-201	0	0	0
661N-311	0	0	0
661V-201	0	0	0
662H-311	1	1	1
662N-311	2	1	2
662V-211	0	0	0
663N-311	64	0	32
663V-211	0	0	0
664N-211	32	0	16
665H-311	77	0	39
665N-311	44	23	34
665V-311	0	0	0
666H-311	7	0	4

Customer Hours of Interruption

Feeder Section	2006	2007	Average
666N-311	0	4,024	2,012
668N-411	0	0	0
669N-201	0	0	0
66V-201	0	2,635	1,317
670N-311	0	7	4
672N-211	0	0	0
673N-311	3	0	1
675N-311	0	0	0
676N-311	0	0	0
677H-211	0	0	0
677N-301	2	59	30
678H-211	0	0	0
678N-301	0	0	0
679H-311	0	1,177	588
679N-301	0	0	0
67C-411	3,600	47,133	25,367
67C-411G	9	3,223	1,616
67C-411H	17	10	14
67C-411HA	839	28	434
67C-411HAA	0	0	0
67C-412	79	5,846	2,963
67C-412G	0	0	0
67C-412GA	75	168	121
67C-412GAA	0	0	0
67C-412GB	0	0	0
67C-412H	79	552	316
680N-211	0	0	0
681N-211	0	0	0
682N-211	0	0	0
684H-211	0	0	0
685H-211	0	0	0
686H-311	28	61	45
687H-211	0	0	0
688H-211	0	0	0
689H-211	0	0	0
690H-211	0	0	0
695H-311	0	0	0
697H-311	13	89	51
698H-311	0	0	0
699H-311	0	0	0
69C-311	59	72	66
69C-312	14	7	11
69V-201G	0	0	0
69V-211	17	0	8
6C	0	0	0
6C-301	0	0	0
6C-302	0	0	0
6C-311	0	0	0
6N-301	0	6	3
6N-302	0	6	3
6S-221	0	0	0
6S-223	0	0	0
6S-224	0	3	2
6S-225	0	9	4
6W-201	0	0	0
700H-311	1	844	422
701H-211	0	0	0
702H-311	0	0	0
703H-311	1,816	630	1,223
704H-311	0	1,898	949
705H-211	0	0	0

Customer Interruptions

Feeder Section	2006	2007	Average
666N-311	0	163	82
668N-411	0	0	0
669N-201	0	0	0
66V-201	0	803	402
670N-311	0	3	2
672N-211	0	0	0
673N-311	1	0	1
675N-311	0	0	0
676N-311	0	0	0
677H-211	0	0	0
677N-301	1	3	2
678H-211	0	0	0
678N-301	0	0	0
679H-311	0	424	212
679N-301	0	0	0
67C-411	1,278	10,420	5,849
67C-411G	1	867	434
67C-411H	4	2	3
67C-411HA	182	190	186
67C-411HAA	0	0	0
67C-412	27	2,220	1,124
67C-412G	0	0	0
67C-412GA	46	18	32
67C-412GAA	0	0	0
67C-412GB	0	0	0
67C-412H	7	247	127
680N-211	0	0	0
681N-211	0	0	0
682N-211	0	0	0
684H-211	0	0	0
685H-211	0	0	0
686H-311	36	1	19
687H-211	0	0	0
688H-211	0	0	0
689H-211	0	0	0
690H-211	0	0	0
695H-311	0	0	0
697H-311	1	3	2
698H-311	0	0	0
699H-311	0	0	0
69C-311	11	4	8
69C-312	3	3	3
69V-201G	0	0	0
69V-211	6	0	3
6C	0	0	0
6C-301	0	0	0
6C-302	0	0	0
6C-311	0	0	0
6N-301	0	2	1
6N-302	0	1	1
6S-221	0	0	0
6S-223	0	0	0
6S-224	0	2	1
6S-225	0	1	1
6W-201	0	0	0
700H-311	1	141	71
701H-211	0	0	0
702H-311	0	0	0
703H-311	329	164	247
704H-311	0	224	112
705H-211	0	0	0

Customer Hours of Interruption

Feeder Section	2006	2007	Average
706H-211	0	0	0
707H-211	1	0	1
708H-211	0	0	0
709H-221	0	0	0
70V-311	1,640	2,811	2,225
70V-311G	107	102	105
70V-311GA	10	5,420	2,715
70V-311GAA	0	0	0
70V-311GAB	0	0	0
70V-311GAC	0	0	0
70V-311GB	0	0	0
70V-311GC	7	242	125
70V-312	0	0	0
70V-312G	638	1,882	1,260
70V-312H	1,532	559	1,046
70W-203	0	0	0
70W-204	1,376	0	688
70W-311	636	209	422
70W-311G	169	1,270	720
70W-311H	42	827	434
70W-311HA	0	0	0
70W-312	3	119	61
70W-313	257	3,234	1,745
70W-313G	237	421	329
70W-313GA	0	0	0
70W-314	466	556	511
70W-321	1,655	21	838
70W-321G	5	326	165
70W-321H	0	0	0
70W-322	0	0	0
70W-322G	13	2	8
73S-201	0	0	0
73W-411	2,144	12,975	7,559
73W-411G	527	3,589	2,058
73W-411GA	36	8,297	4,167
73W-411GB	1,767	12,841	7,304
73W-411GC	332	2,235	1,284
73W-411GCA	4,451	2,069	3,260
73W-411H	1,102	58,039	29,571
73W-411J	610	4,448	2,529
73W-412	3	0	1
74N-411	141	0	70
74N-412	2,165	1,385	1,775
74S-211	0	6	3
74V-301	0	0	0
74V-302	0	0	0
74W-301	0	0	0
75N-251	0	0	0
76V-301	14	1,204	609
76V-301G	32	18,324	9,178
76V-301H	4	3,025	1,514
76W-201	0	0	0
77V-301	0	0	0
77V-302	2,518	60	1,289
77V-302G	574	0	287
77V-302H	6,615	394	3,505
77V-302J	17	0	8
77V-303	222	10	116
77V-401	5	0	2
78C-311	8	2,188	1,098
78W-301	738	251	494

Customer Interruptions

Feeder Section	2006	2007	Average
706H-211	0	0	0
707H-211	1	0	1
708H-211	0	0	0
709H-221	0	0	0
70V-311	1,892	1,903	1,898
70V-311G	119	68	94
70V-311GA	5	315	160
70V-311GAA	0	0	0
70V-311GAB	0	0	0
70V-311GAC	0	0	0
70V-311GB	0	0	0
70V-311GC	1	173	87
70V-312	0	0	0
70V-312G	131	426	279
70V-312H	561	171	366
70W-203	0	0	0
70W-204	268	0	134
70W-311	437	393	415
70W-311G	10	110	60
70W-311H	21	140	81
70W-311HA	0	0	0
70W-312	1	34	18
70W-313	2,230	2,168	2,199
70W-313G	127	20	74
70W-313GA	0	0	0
70W-314	135	470	303
70W-321	1,353	1	677
70W-321G	1	42	22
70W-321H	0	0	0
70W-322	0	0	0
70W-322G	4	1	3
73S-201	0	0	0
73W-411	911	838	875
73W-411G	55	2,339	1,197
73W-411GA	8	1,224	616
73W-411GB	257	1,926	1,092
73W-411GC	248	970	609
73W-411GCA	1,623	446	1,035
73W-411H	101	3,836	1,969
73W-411J	237	422	330
73W-412	1	0	1
74N-411	62	0	31
74N-412	1,588	1,639	1,614
74S-211	0	1	1
74V-301	0	0	0
74V-302	0	0	0
74W-301	0	0	0
75N-251	0	0	0
76V-301	14	300	157
76V-301G	6	852	429
76V-301H	1	152	77
76W-201	0	0	0
77V-301	0	0	0
77V-302	1,344	25	685
77V-302G	390	0	195
77V-302H	2,951	118	1,535
77V-302J	1	0	1
77V-303	74	3	39
77V-401	2	0	1
78C-311	2	107	55
78W-301	51	21	36

Customer Hours of Interruption

Feeder Section	2006	2007	Average
78W-301G	4,380	381	2,380
78W-302	12	23	17
79S-311	86	434	260
79S-311G	0	0	0
79V-401	0	200	100
79V-401G	11	55	33
79V-401GA	0	0	0
79V-401H	5,984	7,950	6,967
79V-402	2,149	29	1,089
79V-402G	0	51	26
79V-402GA	0	0	0
79V-403	478	702	590
7C	0	0	0
7C-202	0	0	0
7C-211	0	15	7
7H-291	0	0	0
7H-292	0	5	3
7N-211	0	0	0
7N-301	11	507	259
7N-301G	10	10	10
7N-301H	6	337	172
7N-302	0	7	3
7N-302G	0	29	14
7N-302H	0	0	0
80W-301	202	116	159
80W-302	0	0	0
80W-302G	576	3,361	1,968
80W-302H	3,631	1,225	2,428
80W-303	0	0	0
81N-411	0	0	0
81N-412	6,310	13	3,161
81N-412G	10	91	51
81N-412H	0	298	149
81S-301	0	15	7
81S-302	28	104	66
81S-303	238	0	119
81S-303G	87	66	76
81S-303H	213	35	124
81S-304	169	114	142
81S-305	35	121	78
81S-305G	0	0	0
81S-305H	0	0	0
81S-306	3	206	105
81S-306G	0	0	0
81S-307	141	12	76
81W-Dist	0	0	0
82S-302	0	0	0
82S-303	4	12	8
82S-304	47	42	45
82V-401	804	10,665	5,734
82V-401G	0	0	0
82V-401GA	0	0	0
82V-401H	0	0	0
82V-402	13	328	170
82V-402G	4	70	37
82V-402H	0	0	0
82V-402HA	0	0	0
82V-403	51	701	376
82V-403G	10,628	5	5,317
82V-403GA	26	4,513	2,269
82V-403H	0	0	0

Customer Interruptions

Feeder Section	2006	2007	Average
78W-301G	391	85	238
78W-302	2	5	4
79S-311	26	44	35
79S-311G	0	0	0
79V-401	0	8	4
79V-401G	1	6	4
79V-401GA	0	0	0
79V-401H	2,227	1,031	1,629
79V-402	3,370	36	1,703
79V-402G	0	2	1
79V-402GA	0	0	0
79V-403	78	449	264
7C	0	0	0
7C-202	0	0	0
7C-211	0	1	1
7H-291	0	0	0
7H-292	0	3	2
7N-211	0	0	0
7N-301	4	55	30
7N-301G	2	2	2
7N-301H	2	114	58
7N-302	0	2	1
7N-302G	0	1	1
7N-302H	0	0	0
80W-301	31	19	25
80W-302	0	0	0
80W-302G	298	445	372
80W-302H	859	170	515
80W-303	0	0	0
81N-411	0	0	0
81N-412	2,337	3	1,170
81N-412G	2	11	7
81N-412H	0	23	12
81S-301	0	3	2
81S-302	2	28	15
81S-303	16	0	8
81S-303G	3	4	4
81S-303H	6	9	8
81S-304	7	12	10
81S-305	2	6	4
81S-305G	0	0	0
81S-305H	0	0	0
81S-306	1	19	10
81S-306G	0	0	0
81S-307	4	1	3
81W-Dist	0	0	0
82S-302	0	0	0
82S-303	1	1	1
82S-304	2	9	6
82V-401	160	6,545	3,353
82V-401G	0	0	0
82V-401GA	0	0	0
82V-401H	0	0	0
82V-402	4	9	7
82V-402G	1	7	4
82V-402H	0	0	0
82V-402HA	0	0	0
82V-403	2,374	469	1,422
82V-403G	3,061	1	1,531
82V-403GA	5	1,446	726
82V-403H	0	0	0

Customer Hours of Interruption

Feeder Section	2006	2007	Average
82V-422	0	0	0
82V-422G	0	0	0
82V-423	0	0	0
82V-423G	0	0	0
82V-423GA	0	0	0
82W-Dist	0	0	0
83N	0	0	0
83V-301	1,238	2,422	1,830
83V-302	0	5,327	2,663
83V-302G	0	0	0
83V-303	3,400	3,117	3,259
83V-303G	1,974	2,330	2,152
83V-303H	0	0	0
84N	0	0	0
84S-302	746	2	374
84S-303	0	0	0
84S-304	0	0	0
84S-305	448	30	239
84W-301	1,830	15,758	8,794
84W-301G	0	0	0
84W-302	3,127	16,035	9,581
85N	0	0	0
85N-101	0	0	0
85N-102	0	0	0
85S-401	18	76	47
85S-401G	0	2,989	1,495
85S-401GA	0	315	158
85S-401GB	1,635	37	836
85S-401GBA	678	21	349
85S-402	2,185	0	1,093
85S-402G	3	0	2
85S-402H	0	0	0
85W-Dist	0	0	0
86N	0	0	0
87C-311	6,037	5,893	5,965
87C-311G	0	422	211
87H-311	4,407	528	2,467
87H-311G	13	140	76
87H-312	1,651	27,820	14,736
87H-312G	2	11,827	5,915
87H-312H	3	338	170
87H-313	4,620	3,155	3,887
87H-313G	15	405	210
87H-313H	0	2,984	1,492
87H-313J	3,639	8,198	5,919
87H-313JA	2	134	68
87H-313JB	7	124	65
87H-313K	0	1,320	660
87W-311	0	0	0
87W-311G	1,063	255	659
87W-311H	4,358	1,549	2,953
87W-311HA	1,555	459	1,007
87W-312	4,999	3,240	4,120
87W-312G	94	20	57
87W-312GA	27	388	208
88H-401	61	3,698	1,879
88H-401G	29	18	24
88H-401H	34	3,372	1,703
88H-401J	1,088	3,959	2,524
88H-401JA	152	2	77
88H-402	2,262	29,948	16,105

Customer Interruptions

Feeder Section	2006	2007	Average
82V-422	0	0	0
82V-422G	0	0	0
82V-423	0	0	0
82V-423G	0	0	0
82V-423GA	0	0	0
82W-Dist	0	0	0
83N	0	0	0
83V-301	954	1,388	1,171
83V-302	0	1,637	819
83V-302G	0	0	0
83V-303	500	1,043	772
83V-303G	599	700	650
83V-303H	0	0	0
84N	0	0	0
84S-302	211	1	106
84S-303	0	0	0
84S-304	0	0	0
84S-305	241	1	121
84W-301	326	1,063	695
84W-301G	0	0	0
84W-302	889	1,093	991
85N	0	0	0
85N-101	0	0	0
85N-102	0	0	0
85S-401	8	22	15
85S-401G	0	2,288	1,144
85S-401GA	0	210	105
85S-401GB	1,069	2	536
85S-401GBA	382	2	192
85S-402	1,005	0	503
85S-402G	1	0	1
85S-402H	0	0	0
85W-Dist	0	0	0
86N	0	0	0
87C-311	340	674	507
87C-311G	0	207	104
87H-311	924	75	500
87H-311G	4	6	5
87H-312	1,072	760	916
87H-312G	1	260	131
87H-312H	1	8	5
87H-313	1,703	117	910
87H-313G	2	92	47
87H-313H	0	478	239
87H-313J	1,029	1,320	1,175
87H-313JA	1	41	21
87H-313JB	2	11	7
87H-313K	0	280	140
87W-311	0	0	0
87W-311G	126	60	93
87W-311H	802	544	673
87W-311HA	337	358	348
87W-312	238	261	250
87W-312G	17	5	11
87W-312GA	5	25	15
88H-401	15	3,016	1,516
88H-401G	7	2	5
88H-401H	6	1,518	762
88H-401J	161	215	188
88H-401JA	53	1	27
88H-402	1,498	3,018	2,258

Customer Hours of Interruption

Feeder Section	2006	2007	Average
88H-402G	22	27	24
88H-402H	1	970	486
88H-402J	0	0	0
88N	0	0	0
88W-311	0	0	0
88W-311G	0	0	0
88W-311H	0	0	0
88W-312	3	0	1
88W-312G	22	0	11
88W-321	3	0	2
88W-321G	0	0	0
88W-322	1	0	1
88W-323	0	2	1
88W-323G	4	0	2
88W-323H	8	3	5
88W-323HA	0	44	22
89H-401	53	69	61
89W-301	0	0	0
89W-302	0	806	403
89W-302G	691	152	421
89W-303	339	2,944	1,641
89W-303G	1,445	151	798
89W-303H	0	0	0
89W-304	0	145	73
89W-304G	0	0	0
8C-201	0	0	0
8C-311	0	0	0
8H-211	0	0	0
8H-212	0	0	0
91W-411	6,015	16,091	11,053
92H-331	4,452	33,624	19,038
92H-331G	164	891	527
92H-331GA	0	692	346
92H-332	101	678	390
92H-333	0	0	0
92H-333/L-3202	0	0	0
92H-334	131	6,259	3,195
92V-200	0	0	0
92W-301	1,933	1,095	1,514
92W-302	258	650	454
92W-302G	156	33	94
93V-311	654	298	476
93V-311G	0	0	0
93V-312	5	0	2
93V-312G	16	0	8
93V-313	20	77	49
93V-313G	8	30	19
93V-313GA	30	5	17
95V-101	0	0	0
96H-411	17	327	172
96H-411G	2	1,355	678
96H-411H	7	2,983	1,495
96H-412	1,146	5,005	3,075
96H-412G	258	23	141
96H-412GA	8	6	7
96V	0	0	0
96V-101	0	0	0
99H-311	1,554	2,436	1,995
99H-312	3	91	47
9C-301	2	29	15
9C-302	5	0	2

Customer Interruptions

Feeder Section	2006	2007	Average
88H-402G	2	4	3
88H-402H	2	259	131
88H-402J	0	0	0
88N	0	0	0
88W-311	0	0	0
88W-311G	0	0	0
88W-311H	0	0	0
88W-312	1	0	1
88W-312G	4	0	2
88W-321	2	0	1
88W-321G	0	0	0
88W-322	1	0	1
88W-323	0	1	1
88W-323G	1	0	1
88W-323H	2	1	2
88W-323HA	0	43	22
89H-401	9	18	14
89W-301	0	0	0
89W-302	0	486	243
89W-302G	502	7	255
89W-303	222	187	205
89W-303G	691	6	349
89W-303H	0	0	0
89W-304	0	6	3
89W-304G	0	0	0
8C-201	0	0	0
8C-311	0	0	0
8H-211	0	0	0
8H-212	0	0	0
91W-411	1,946	2,375	2,161
92H-331	1,213	2,424	1,819
92H-331G	94	19	57
92H-331GA	0	432	216
92H-332	20	378	199
92H-333	0	0	0
92H-333/L-3202	0	0	0
92H-334	22	2,847	1,435
92V-200	0	0	0
92W-301	420	669	545
92W-302	65	659	362
92W-302G	30	2	16
93V-311	106	157	132
93V-311G	0	0	0
93V-312	1	0	1
93V-312G	5	0	3
93V-313	7	17	12
93V-313G	1	3	2
93V-313GA	9	1	5
95V-101	0	0	0
96H-411	5	25	15
96H-411G	1	449	225
96H-411H	2	1,400	701
96H-412	905	1,974	1,440
96H-412G	78	2	40
96H-412GA	3	1	2
96V	0	0	0
96V-101	0	0	0
99H-311	1,906	1,917	1,912
99H-312	1	1	1
9C-301	1	2	2
9C-302	1	0	1

Customer Hours of Interruption

Feeder Section	2006	2007	Average
9C-303	7	35	21
9C-303G	0	152	76
9C-304	1	2,420	1,211
9H-221	57	0	28
9H-222	0	0	0
9H-224	1	0	1
L-4048	0	0	0
Z999-201	0	0	0
Grand Total	650,018	1,339,870	994,944

Customer Interruptions

Feeder Section	2006	2007	Average
9C-303	1	6	4
9C-303G	0	75	38
9C-304	1	174	88
9H-221	565	0	283
9H-222	0	0	0
9H-224	1	0	1
L-4048	0	0	0
Z999-201	0	0	0
Grand Total	219,525	276,255	247,890

Avoided Customer Hours of Interruption

Year	Feeder	Customers	Average CHI	ACHI
2009	80W-301	600	159	172
2009	77V-303	986	116	126
2009	36W-301	694	5,576	6,025
2009	55V-311	1088	75	81
2009	77V-302	1342	1,289	1,393
2009	70W-203	272	0	0
2009	88W-321	613	2	2
2009	70W-204	267	688	743
2009	20V-311	1071	115	124
2009	70W-312	633	61	66
2009	64V-301	847	1,716	1,854
2009	20W-312	139	86	93
2009	22W-311	1104	0	0
2009	70W-313	1048	1,745	1,886
2009	22N-404	353	1	1
2009	104H-413	1658	5,360	5,791
2009	104H-433	1566	52	56
2009	104H-441	1975	13	14
2009	62H-304	2430	251	271
2009	2H-411	286	28	30
2009	99H-311	1906	1,995	2,156
2009	126H-311	1090	2,180	2,355
2009	7N-301	1371	259	280
2009	7N-302	430	3	4
2009	9H-221	890	28	31
2009	9H-222	3	0	0
2009	9H-224	936	1	1
2009	104H-421	1574	1,452	1,569
2009	23H-301	1159	1	1
2009	104H-412	1611	7,770	8,395
2009	23H-301	1159	1	1
2009	104H-412	1611	7,770	8,395
2009	84W-301	1605	8,794	9,501
2009	92H-331	2131	19,038	20,569
2009	124H-301	183	0	0
2009	84W-302	239	9,581	10,351
2009	92H-334	1014	3,195	3,452
2009	124H-302	179	0	0
2009	103H-434	1091	6	7
2009	48H-302	1452	93	101
2009	48H-304	874	7	8
2009	101H-423	2773	9	10
2009	62H-302	1490	384	415
2009	113H-434	2869	25	27
2009	103H-433	1503	0	0
2009	113H-443	2110	558	602
2009	99H-312	900	47	51
2009	108H-412	528	1	2
2009	104H-412	1611	7,770	8,395
2009	84W-301	1605	8,794	9,501
2009	92H-331	2131	19,038	20,569
2009	87W-311	1769	0	0
2009	48H-303	294	112	121

Avoided Customer Hours of Interruption

Year	Feeder	Customers	Average CHI	ACHI
2009	108H-411	556	0	0
2009	92H-334	1014	3,195	3,452
2009	124H-302	179	0	0
2009	92H-332	886	390	421
2009	131H-421	3803	2,682	2,897
2009	88H-401	1182	1,879	2,030
2009	87H-311	1831	2,467	2,666
2009	62N-412	197	15	16
2009	4N-312	1865	69	74
2009	15N-402	41	0	0
2009	85S-401	1461	47	51
2010	22C-403	532	1,528	1,667
2010	3S-405	22	0	0
2010	103C-314	751	6	7
2010	73W-411	4048	7,559	8,248
2010	36V-303	1748	143	157
2010	36V-302	1530	12,678	13,833
2010	87H-312	937	14,736	16,078
2010	4N-312	1865	69	75
2010	62N-415	786	629	686
2010	20N-203	81	0	0
2010	1H-429	17	0	0
2010	127H-412	5	0	0
2010	92H-333	1	0	0
2010	59C-402	1031	3,658	3,991
2010	59C-401	370	1,416	1,545
2011	100C-421	727	5,553	6,118
2011	4C-430	1174	4,675	5,151
2011	84S-303	1	0	0
2011	22V-314	220	102	112
2011	37W-201	245	9	10
2011	88w-312	1891	1	2
2011	55V-312	926	25	27
2011	93V-312	773	2	3
2011	19W-312	1011	998	1,100
2011	91W-411	719	11,053	12,178
2011	50W-411	1073	6,172	6,800
2011	83V-303	1041	3,259	3,590
2011	21W-311	385	112	123
2011	88W-311	769	0	0
2011	12V-304	972	519	572
2011	93V-311	1589	476	524
2011	70V-311	1396	2,225	2,452
2011	93V-313	1810	49	54
2011	82V-402	2470	170	188
2011	37N-411	509	1,657	1,826
2011	50N-411	1123	48	53
2011	96H-412	771	3,075	3,388
2011	4C-430	1174	4,675	5,151
2012	57C-422	464	2,084	2,318
2012	100C-422	368	2,928	3,258
2012	1C-412	2	0	0
2012	22W-313	947	60	66

Avoided Customer Hours of Interruption

Year	Feeder	Customers	Average CHI	ACHI
2012	57W-401	743	7,798	8,675
2012	55V-313	1552	182	203
2012	16W-301	1719	149	166
2012	89W-302	841	403	448
2012	25W-303	1106	2,965	3,298
2012	12V-303	644	6	7
2012	81N-412	1195	3,161	3,517
2012	81N-411	286	0	0
2012	37N-414	393	7,823	8,703
2012	22N-403	803	357	398
2012	1N-404	209	1,217	1,354
2012	104S-313	522	5,568	6,194
2012	57S-401	2033	2,645	2,942
2013	11S-301	1480	1,610	1,809
2013	9C-301	1	15	17
2013	9C-302	8	2	3
2013	9C-303	211	21	23
2013	9C-304	62	1,211	1,360
2013	67C-411	1477	25,367	28,492
2013	65V-302	2019	9,341	10,491
2013	55V-314	1047	239	268
2013	21W-312	279	30	34
2013	102W-311	1096	949	1,066
2013	70V-312	829	0	0
2013	65V-301	489	621	697
2013	25W-301	825	704	791
2013	88W-323	1182	1	1
2013	88W-322	293	1	1
2013	24C-443	1008	2,371	2,663
2013	7N-301	1361	259	291
2013	56N-401	528	23	26
2013	50N-412	232	1,128	1,266
2013	37N-413	350	342	384
2013	57C-417	60	952	1,069
2013	24C-442	714	11,340	12,737
2013	89H-401	82	61	68
2013	3N-301	545	60	68
2013	30N-412	254	180	203
2013	3N-411	31	0	0
2013	96H-411	1009	172	193
2013	50N-311	5	0	0
2013	4S-321	1759	79	88
2013	4S-322	442	262	294
2013	4S-323	754	84	95
2013	4S-324	1114	33	37
2013	4S-331	882	8	8
2013	4S-332	824	3	3
2013	4S-333	924	160	180
2013	4S-334	88	0	0
2013	11S-411	3526	783	879
2013	85S-402	500	1,093	1,227
2013	3S-403	1782	8	9
2013	15S-301	1886	422	474

Avoided Customer Hours of Interruption

Year	Feeder	Customers	Average CHI	ACHI
2013	15S-302	1384	825	927
2013	15S-303	1188	158	178

Avoided Customer Interruptions

Year	Feeder	Customers	Average CI	ACI
2009	80W-301	600	25	24
2009	77V-303	986	39	37
2009	36W-301	694	1,458	1,399
2009	55V-311	1088	51	49
2009	77V-302	1342	685	657
2009	70W-203	272	0	0
2009	88W-321	613	1	1
2009	70W-204	267	134	129
2009	20V-311	1071	10	10
2009	70W-312	633	18	17
2009	64V-301	847	463	444
2009	20W-312	139	24	23
2009	22W-311	1104	0	0
2009	70W-313	1048	2,199	2,110
2009	22N-404	353	1	0
2009	104H-413	1658	6,041	5,796
2009	104H-433	1566	25	24
2009	104H-441	1975	5	4
2009	62H-304	2430	4	3
2009	2H-411	286	5	5
2009	99H-311	1906	1,912	1,834
2009	126H-311	1090	844	809
2009	7N-301	1371	30	28
2009	7N-302	430	1	1
2009	9H-221	890	283	271
2009	9H-222	3	0	0
2009	9H-224	936	1	0
2009	104H-421	1574	876	841
2009	23H-301	1159	1	0
2009	104H-412	1611	902	865
2009	23H-301	1159	1	0
2009	104H-412	1611	902	865
2009	84W-301	1605	695	666
2009	92H-331	2131	1,819	1,745
2009	124H-301	183	0	0
2009	84W-302	239	991	951
2009	92H-334	1014	1,435	1,376
2009	124H-302	179	0	0
2009	103H-434	1091	3	2
2009	48H-302	1452	4	3
2009	48H-304	874	1	0
2009	101H-423	2773	3	3
2009	62H-302	1490	72	69
2009	113H-434	2869	1	1
2009	103H-433	1503	0	0
2009	113H-443	2110	571	548
2009	99H-312	900	1	1
2009	108H-412	528	1	0
2009	104H-412	1611	902	865
2009	84W-301	1605	695	666
2009	92H-331	2131	1,819	1,745
2009	87W-311	1769	0	0
2009	48H-303	294	3	3

Avoided Customer Interruptions

Year	Feeder	Customers	Average CI	ACI
2009	108H-411	556	0	0
2009	92H-334	1014	1,435	1,376
2009	124H-302	179	0	0
2009	92H-332	886	199	191
2009	131H-421	3803	2,028	1,945
2009	88H-401	1182	1,516	1,454
2009	87H-311	1831	500	479
2009	62N-412	197	1	0
2009	4N-312	1865	16	15
2009	15N-402	41	0	0
2009	85S-401	1461	15	14
2010	22C-403	532	573	555
2010	3S-405	22	0	0
2010	103C-314	751	2	1
2010	73W-411	4048	875	847
2010	36V-303	1748	909	880
2010	36V-302	1530	1,526	1,479
2010	87H-312	937	916	888
2010	4N-312	1865	16	15
2010	62N-415	786	802	777
2010	20N-203	81	0	0
2010	1H-429	17	0	0
2010	127H-412	5	0	0
2010	92H-333	1	0	0
2010	59C-402	1031	884	856
2010	59C-401	370	288	279
2011	100C-421	727	896	877
2011	4C-430	1174	1,508	1,476
2011	84S-303	1	0	0
2011	22V-314	220	123	120
2011	37W-201	245	1	1
2011	88w-312	1891	1	0
2011	55V-312	926	1	1
2011	93V-312	773	1	0
2011	19W-312	1011	524	512
2011	91W-411	719	2,161	2,114
2011	50W-411	1073	3,335	3,263
2011	83V-303	1041	772	755
2011	21W-311	385	4	4
2011	88W-311	769	0	0
2011	12V-304	972	540	528
2011	93V-311	1589	132	129
2011	70V-311	1396	1,898	1,857
2011	93V-313	1810	12	12
2011	82V-402	2470	7	6
2011	37N-411	509	1,124	1,100
2011	50N-411	1123	7	7
2011	96H-412	771	1,440	1,409
2011	4C-430	1174	1,508	1,476
2012	57C-422	464	720	711
2012	100C-422	368	230	227
2012	1C-412	2	0	0
2012	22W-313	947	6	5

Avoided Customer Interruptions

Year	Feeder	Customers	Average CI	ACI
2012	57W-401	743	1,101	1,087
2012	55V-313	1552	109	108
2012	16W-301	1719	17	16
2012	89W-302	841	243	240
2012	25W-303	1106	1,296	1,280
2012	12V-303	644	1	1
2012	81N-412	1195	1,170	1,156
2012	81N-411	286	0	0
2012	37N-414	393	565	558
2012	22N-403	803	226	223
2012	1N-404	209	230	227
2012	104S-313	522	814	804
2012	57S-401	2033	1,047	1,034
2013	11S-301	1480	1,076	1,073
2013	9C-301	1	2	1
2013	9C-302	8	1	0
2013	9C-303	211	4	3
2013	9C-304	62	88	87
2013	67C-411	1477	5,849	5,834
2013	65V-302	2019	1,036	1,033
2013	55V-314	1047	42	42
2013	21W-312	279	3	2
2013	102W-311	1096	1,156	1,153
2013	70V-312	829	0	0
2013	65V-301	489	380	379
2013	25W-301	825	236	235
2013	88W-323	1182	1	0
2013	88W-322	293	1	0
2013	24C-443	1008	727	725
2013	7N-301	1361	30	29
2013	56N-401	528	1	1
2013	50N-412	232	1,147	1,144
2013	37N-413	350	255	254
2013	57C-417	60	89	88
2013	24C-442	714	826	823
2013	89H-401	82	14	13
2013	3N-301	545	17	16
2013	30N-412	254	43	42
2013	3N-411	31	0	0
2013	96H-411	1009	15	15
2013	50N-311	5	0	0
2013	4S-321	1759	27	27
2013	4S-322	442	414	412
2013	4S-323	754	58	57
2013	4S-324	1114	3	2
2013	4S-331	882	1	1
2013	4S-332	824	1	0
2013	4S-333	924	13	13
2013	4S-334	88	0	0
2013	11S-411	3526	42	41
2013	85S-402	500	503	501
2013	3S-403	1782	2	2
2013	15S-301	1886	36	35

Avoided Customer Interruptions

Year	Feeder	Customers	Average CI	ACI
2013	15S-302	1384	29	29
2013	15S-303	1188	6	6

NON-CONFIDENTIAL

1 **Request IR-37:**

2

3 **Question 37 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **Pages 6- 18 contain vegetation management budgets for various circuits with several**
7 **different "average span costs". What is the reason for the lower and higher span costs?**

8

9 Response IR-37:

10

11 Costs per span may vary based on many conditions including but not limited to the following:

12

- 13 • The density of vegetation
- 14 • The nature of vegetation
- 15 • The management techniques required to clear the vegetation
- 16 • The location of the right-of-way: rural, urban or remote

NON-CONFIDENTIAL

1 **Request IR-38:**

2

3 **Question 38 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **How was the number of Spans to Treat determined?**

7

8 Response IR-38:

9

10 The number of spans to treat were based on scoping collected by NS Power Forestry
11 Coordinators.

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1 **Request IR-39:**

2

3 **Question 39 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **What is the difference between the "feeder inspection activity" and the "feeder**
7 **performance activity" categories?**

8

9 Response IR-39:

10

11 Please refer to Liberty IR-60 Attachment 1, Sections 2.2.1 and 2.2.2.

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1 **Request IR-40:**

2

3 **Question 40 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **Why is the "feeder inspection activity" described as 2008 and the "feeder performance**
7 **activity" described as 2009?**

8

9 Response IR-40:

10

11 Regarding 2008 feeder inspection activity, please refer to Liberty IR-60 Attachment 1, Section
12 4.1.1.

13

14 Regarding 2008 feeder performance activity, please refer to Liberty IR-60 Attachment 1, Section
15 4.1.2.

16

17 Regarding 2009 to 2013 feeder inspection activity, please refer to Liberty IR-60 Attachment 1,
18 Section 4.2.1.

19

20 Regarding 2009 to 2013 feeder performance activity, please refer to Liberty IR-60 Attachment 1,
21 Section 4.2.2.

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1 **Request IR-41:**

2

3 **Question 41 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **Has the Company done any vegetation management described on these pages since 2008?**

7

8 Response IR-41:

9

10 Yes. Please refer to Attachment 1.

2009 Activity

Region	Geographic Area	Feeder	Spans Completed
West	Kempt Road	104H-413	130
West	Indian Path	80W-301	174
West	Digby	77V-303	137
West	East Green Harbour	36W-301	251
West	Waterville	55V-311	179
West	Digby	77V-302	118
West	High Street	70W-203	32
West	Pleasant St. Yarmouth	88W-321	77
West	High Street	70W-204	52
West	Greenwood	64V-301	78
West	Lr. East Pubnico	20W-312	48
West	Barrington	22W-311	0
Central	Church Street	22N-404	40
Central	Kempt Road	104H-441	12
Central	Albro Lake	62H-304	44
Central	Porters Lk	126H-311	92
Central	Sackville	101H-423	297
Central	Lakeside	103H-433	0
Central	Lakeside	103H-434	0
Central	Burnside	108H-411	26
Central	Burnside	108H-412	25
Central	Dartmouth East	113H-434	32
Central	Dartmouth East	113H-443	20
Central	Akerley Blvd	124H-301	50
Central	Lucasville	131H-421	594
Central	Truro	15N-402	46
Central	Rockingham	23H-301	138
Central	Penhorn	48H-302	97
Central	Penhorn	48H-303	194
Central	Penhorn	48H-304	97
Central	Tatamagouche	4N-312	262
Central	Albro Lake	62H-302	177
Central	Haliburton	62N-412	56
Central	Robinson's Corner	84W-301	9
Central	Robinson's Corner	84W-302	198
Central	Musquodobit Harbour	87H-311	480
Central	Hubbards	87W-311	606
Central	Upper Musquodobit	88H-401	95
Central	Tidewater	92H-331	18
Central	Tidewater	92H-332	50
Central	Tidewater	92H-334	47
Central	Farrell St	99H-312	112
Central	Back yard feeders	Various	62
East	Cheticamp	103C-314	237
East	Cleveland	22C-403	390
East	Point Tupper	85S-401	682

2010 Activity

Region	Geographic Area	Feeder	Spans Completed
West	Auburndale	73w-411	1058
West	Hilliton	36V-303	331
West	Hilliton	36V-302	177
Central	Musquduobit Hbr	87H-312	480
Central	Tatamagouche	4N-312	512
Central	Haliburton	62N-415	160
Central	Park Street	20N-203	14
Central	Back yard feeders	Various	62
Central	Metro feeder trimming	Various	9
Central	Water Street	1H-429	
Central	Fall River	127H-412	44
Central	St Margarets bay	92H-333	58
East	St. Peters	59C-402	377
East	St. Peters	59C-401	536
East	Mulgrave	100C-421	248
East	Antigonish	4C-430	660
East	Little VJ	84S-303	15

2011 Activity

Region	Substation	Feeder	Spans Completed
West	New Minus	22V-314	73
West	Lockeport	37w201	41
West	Pleasant St Yarmouth	88w-312	44
West	Waterville	55V-312	248
West	Claire	93V-312	19
West	Argyle	19w-312	92
West	Middlefield	91w-411	285
West	Milton	50w-411	48
West	Wolfville	83v-303	55
West	Lr. Woods Harbour	21w-311	33
West	Pleasant St Yarmouth	88w-311	46
West	Lequille	12v-304	122
West	Claire	93v-311	14
West	Bridgetown	70V-311	275
West	Claire	93V-313	28
Central	Elmsdale	82V-402	126
Central	Parrsboro	37N-411	57
Central	Trenton	50N-411	297
Central	Metro feeder trimming	Various	355
Central	Back yard feeders	Various	124
Central	Sheet Harbour	96H-412	384
East	Antigonish	4C-430	83
East	Salmon River	57C-422	84
East	Mulgrave	100C-422	117
East	Point Tupper	1C-412	44

2012 Activity

Region	Substation	Feeder	Spans Completed	Comments
West	Barrington	22W-313		Work Scheduled for 2012
West	Caledonia	57w401		Work Scheduled for 2012
West	Waterville	55v-313	33	
West	Hebron	16w301	2	
West	Bridgewater East	89w-302		Work Scheduled for 2012
West	Shelburne	25w-303		Work Scheduled for 2012
West	Lequille	12V-303		Work Scheduled for 2012
Central	Metro feeder trimming	Various		Work Scheduled for 2012
Central	Back yard feeders	Various		Work Scheduled for 2012
Central	Debert	81N-412		Work Scheduled for 2012
Central	Debert	81N-411		Work Scheduled for 2012
Central	Parrsboro	37N-414		Work Scheduled for 2012
Central	Church Street	22N-403		Work Scheduled for 2012
Central	Onslow	1N-404	30	
East	Englishtown	104S-313	153	
East	Fortress Loiusbourg	57S-401	67	
East	Boisdale	11S-301		Work Scheduled for 2012
East	Aberdeen	9C-(all)	231	
East	Whycocomagh	67C-411	18	

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1 **Request IR-42:**

2

3 **Question 42 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **Has the Company done any vegetation management on the feeders listed on these pages?**

7

8 Response IR-42:

9

10 Please refer to SBA IR-41.

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1 **Request IR-43:**

2

3 **Question 43 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **How is the information on the number of customers per feeder utilized?**

7

8 Response IR-43:

9

10 Tree contact outages on feeders with high customer counts result in high customer interruptions
11 and customer hours of interruption. Customer count is one of the measures utilized to prioritize
12 vegetation management work on distribution feeders in order to target the greatest possible
13 reliability improvements.

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1 **Request IR-44:**

2

3 **Question 44 is based on NSP's Five Year Vegetation Management Plan (Liberty IR-60**
4 **Attachment).**

5

6 **Is it correct that the analytical basis for finding that Vegetation Management is most**
7 **effective way to improve reliability is NSPI's assumptions about avoided interruptions**
8 **from more vegetation management? Please provide all backup for these assumptions.**

9

10 **Response IR-44:**

11

12 **Please refer to SBA IR-30.**

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1 **Request IR-45:**

2
3 **The response to SBA IR-24 indicates that NSPI made changes to its employee pension plan**
4 **in 2004 with the goal of reducing benefit costs. Have any cost-reducing changes to benefits**
5 **been made since that time?**

6
7 Response IR-45:

8
9 Any substantive changes to plan design for union members must be negotiated with the IBEW
10 Local 1928. Since 2004, there was collective bargaining in 2007 and NS Power is currently in
11 ongoing collective bargaining. NS Power's policy is to provide similar benefits to union and
12 non-union employees.

13
14 Since 2004, NS Power has made changes to its Post-Retirement Health Benefit plan and its Long
15 Service Award plan:

- 16
17 • Effective August 1, 2007, the Long Service Award was closed to all new hires.
18
19 • A new Post Retirement Health Benefit plan applies to all non-union employees hired on
20 or after January 1, 2004. Union employees hired after January 1, 2004 may choose
21 between the new and old plans. All active employees as at January 1, 2004 had a one-
22 time option to convert to the new plan.

23
24 The term "pension expense" is generally used to refer to the total cost for pension and non-
25 pension benefit plans. The above changes reduce NS Power's pension expense.

26
27 NS Power aims to maintain total compensation for employees at the median of its competitors
28 for skilled labour. Therefore, if the Company provided value of the pension plan or health

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- 1 benefits are reduced, there may be a corresponding increase in other forms of compensation in
- 2 order to maintain total compensation at median levels.

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1 **Request IR-46:**

2

3 **When does NSPI next expect to develop new contracts for union or non-union employees?**

4

5 Response IR-46:

6

7 Each non-union employee signs an offer letter when hired and this represents their employment
8 contract. NS Power is presently in collective bargaining for the union collective agreement.

REDACTED

1 **Request IR-47:**

2
3 **The following question refers to the PowerPoint presentation “Power Production**
4 **Transformation Strategy” attached to NSPI’s response to Avon IR-6.**

5
6 **Please provide the following data for each Strategist modeling scenario referenced in the**
7 **presentation:**

- 8 **a. Monthly natural gas commodity prices.**
- 9 **b. Monthly coal commodity prices for both PRB and non-PRB coal.**
- 10 **c. Monthly delivered natural gas prices.**
- 11 **d. Monthly delivered coal prices for both PRB and non-PRB coal.**
- 12 **e. Type and amount of resources added to NSPI’s portfolio each year.**
- 13 **f. Each coal unit’s assumed heat rate.**
- 14 **g. NOx, SO2, and CO2 prices or constraints.**

15
16 **Response IR-47:**

17
18 (a-c) In Power Production Transformation Strategy study, the Strategist simulation took in
19 account only delivered fuel prices.

20
21 Natural gas prices vary by month, while coal prices are supplied as annual quantities.

22 Please refer to the figure below for requested fuel prices:

23

\$/MMBtu	2012	2013	2014	2015	2016	2017	2018	2019	2020

2013 General Rate Application (NSUARB P-893)
 NSPI Responses to Small Business Advocate Information Requests

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\$/MMBtu	2012	2013	2014	2015	2016	2017	2018	2019	2020

1
2
3
4
5
6
7
8

(d) In the Power Production Transformation Strategy study, several load scenarios were studied. In each of the load scenarios only as much new renewable energy as was required to meet the Renewable Electricity Standard (RES) requirement for that load level, was added. The table below represents renewable resources which were added to meet the RES in the base load scenario which assumed no loss of NewPage and Bowater loads. The amount of resources added is expressed as incremental energy added in GWh.

Energy (GWh)	Port Hawkesbury Biomass	IPP* Biomass	IPP* Wind	NS Power Wind	COMFIT**	Maritime Link
2012		27.5				
2013	269	27.5	80			
2014	88			75	24.5	
2015		150	150	75	24.5	
2016					74	
2017					73	
2018					49	1102
2019						
2020						

9
10
11
12
13
14
15

* Independent Power Producer
 ** Community Feed-in Tariff

(e) Assumed heat rates were the same as those used in the 2013 GRA Strategist Fuel and Purchased Power Forecast which were derived by following the FAM Plan of Administration. Assumed heat rates can be found in OE-01A Attachment 1 Page 5 of 28 of the Application.

REDACTED

1
2 (f) Emissions limits were the same in each Strategist run of the Power Production
3 Transformation Strategy studies. The Sulphur Dioxide, Nitrogen Oxides and Mercury
4 emissions limits are legislated by the provincial government and are hard caps that cannot
5 be exceeded. There is no pricing mechanism in lieu of meeting the limits. The limits can
6 be found on the Nova Scotia Government website:

7 <http://www.gov.ns.ca/Just/regulations/regs/envairqt.htm>

8
9 (g) Carbon Dioxide emissions regulations are described in the legislation which can also be
10 found on Nova Scotia Government website:

11 <http://www.gov.ns.ca/just/regulations/regs/envgreenhouse.htm>

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1 **Request IR-48:**

2
3 **The following question refers to the PowerPoint presentation “Power Production**
4 **Transformation Strategy” attached to NSPI’s response to Avon IR-6.**

5
6 **How does NSPI expect to minimize its capital investment in Lingan Units 1 and 2 if they**
7 **enter seasonal operation?**

8
9 Response IR-48:

10
11 • Lingan 1

12
13 Based on typical annual operating hours, the major outage plan for Lingan 1 would see it
14 having a major (boiler / turbine / generator) outage in 2016. However, under a seasonal
15 operating regime and with reduced operating hours, this major outage (and associated
16 expense) will be pushed out most likely beyond its possible retirement date. Therefore, it
17 is possible that a major outage and the associated capital expense (blades, fasteners,
18 nozzles, etc.) may be avoided.

19
20 Similarly, we would expect and plan to have reduced investment in many other asset
21 classes (Balance of Plant, Boiler Components subject to erosion, Fuel Plant and Ash
22 Plant).

23
24 If the decision is made to run these units continuously but at very low load, we would not
25 see proportionately less investment because some components (turbines, for example)
26 wear as a function of operating hours as opposed to capacity utilization.

27
28 • Lingan 2

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1 The planned seasonal operation of Ligan 2 provided opportunity to significantly reduce
2 the need for capital investment in particular in the area of the turbine and generator. The
3 low pressure section of the turbine would see blade inspection and contingency planning
4 for repair or replacement versus the planned replacement that would be required if the
5 mode of operating was continuous operation. The generator retaining rings would also
6 require inspection only and contingency for repair or replacement.

7
8 Capital cost avoidance includes:

- 9
- 10 • Low pressure turbine blade set L-0 (install cost only). Previously purchased.
 - 11 • Low pressure turbine blade set L-1.
 - 12 • High pressure/intermediate pressure nozzle and bolting.
 - 13 • Replacement of generator rotor windings and retaining rings.

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1 **Request IR-49:**

2

3 **The following question refers to the PowerPoint presentation “Power Production**
4 **Transformation Strategy” attached to NSPI’s response to Avon IR-6.**

5

6 **Page 14 of the presentation shows a chart of cost savings for multiple scenarios. Please**
7 **explain why the “PRB+1 Sea+1 Retire” strategy was not preferred over the purely seasonal**
8 **operation strategy given each of the model runs for these scenarios show greater cost**
9 **reductions and comparable amounts of uncertainty as the “2 Seasonal” scenarios.**

10

11 **Response IR-49:**

12

13 The retirement of a generating unit has long reaching effects and the decision requires significant
14 input and planning. As shown by the analysis results as presented in the response to Multeese
15 IR-62, no units can be retired until new capacity is added as planning reserve margins will be
16 compromised. This should provide sufficient time for input to be provided in a structured
17 manner.

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1 **Request IR-50:**

2
3 **The following question refers to the PowerPoint presentation “Power Production**
4 **Transformation Strategy” attached to NSPI’s response to Avon IR-6.**

5
6 **On page 2 of NSPI’s 2012 ACE Plan, NSPI states:**

7 **“Investments in the Lingan Generating Station’s Unit #2 will be minimized to reflect**
8 **the fact that this would be the most likely unit to close under the scenario of reduced**
9 **load, coupled with proposed federal GHG regulations.”**

10
11 **a. Does NSPI continue to stand by this statement?**

12 **b. Please provide any updates to the plans to defer or cancel capital investment in**
13 **Lingan Unit #2.**

14 **c. Do current federal GHG regulations require NSPI to begin retiring its coal units**
15 **in 2015? If not, why not?**

16 **d. Given current GHG regulations, how long does NSPI anticipate it will run**
17 **Lingan Units 1 and 2 seasonally before they are retired?**

18
19 **Response IR-50:**

20
21 (a) Yes.

22
23 (b) Please refer to SBA IR-49.

24
25 (c) The proposed federal greenhouse gas (GHG) regulations would reduce GHGs by
26 mandating that coal plants be shut down when they turn 45 years old. Since the draft
27 federal regulations were brought forward last year, NS Power and the provincial
28 government have had ongoing discussions with federal government representatives,
29 resulting in a new provincial/federal agreement. The agreement means the provincial

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1 rules will take precedence over the federal rules, provided that they achieve an equivalent
2 environmental result.

3
4 The Provincial requirements allow NS Power to achieve the same environmental results
5 without having to close plants simply based on age. This flexibility should help reduce
6 costs for customers. Some of our oldest coal units are actually our most efficient and will
7 continue to be used strategically, and to serve customers during periods of peak demand,
8 particularly during the winter months. However, coal units will be utilized less and less
9 with the addition of more renewables, and they will eventually be closed when it is most
10 advantageous to customers.

11
12 (d) The extent that Lingan Units 1 and 2 will be seasonally operated will be assessed
13 annually based on load, reserve requirements, renewable energy sources and ultimately
14 when it is most economical for customers. GHG regulations will not dictate the timing of
15 seasonal operation. Please also refer to Multeese IR-62.