

1 **B-105 Microwave Quad-Diversity Upgrade, \$114,200**

2 Q. Provide a listing of the intermittent outages to the microwave radio system
3 that have occurred during the years 2001 to 2006F.

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6 A. Please refer to the attached report for a list of the intermittent outages to the
7 microwave radio system that have occurred during the years 2001 to 2006F.
8 This listing covers the portion of the microwave radio system between Bull
9 Arm Hill (near Sunnyside) and Sandy Brook Hill (near Grand Falls-Windsor).

**Summary of Microwave Interconnect Outages
Engineering Services (Telecontrol)
Newfoundland & Labrador Hydro
August 25, 2006**

This report summarizes the outages experienced on the Microwave Interconnect radio system between April 19, 2004 and the present. The first eight (8) entries are summary reports for the period of April 19, 2004 to September 24, 2004. Following the latter date, detailed reporting commenced due to the outage seconds experienced during the April-September timeframe. The following abbreviations are used in the summary:

BAH – Bull Arm Hill Repeater (near Sunnyside)
SHH – Shoal Harbour Hill Repeater (near Clarenville)
SPH – Square Pond Hill Repeater (near Gambo)
NDH – Notre Dame Hill Repeater (near Lewisporte)
SBH – Sandy Brook Hill Repeater (near Grand Falls-Windsor)

#	Date (yy/mm/dd)	Radio Link	Total Microwave Outage Duration (sec)
1	Between 04/04/19 & 04/06/25	BAH-SBH	4
2	Between 04/06/25 & 04/07/28	BAH-SBH	72
3	Between 04/07/28 & 04/08/03	BAH-SBH	14
4	Between 04/08/03 & 04/08/12	BAH-SBH	4
5	Between 04/08/12 & 04/08/20	BAH-SBH	1
6	Between 04/08/20 & 04/08/23	BAH-SBH	1
7	Between 04/08/23 & 04/08/27	BAH-SBH	4
8	Between 04/08/27 & 04/09/24	BAH-SBH	66
9	05/01/07	SBH-NDH	3
10	05/01/11	SBH-NDH	1
11	05/01/24-25	SBH-NDH	4
12	05/01/28	SBH-NDH	3
13	05/02/02	SBH-NDH	1
14	05/02/03	SPH-SHH NDH-SPH SBH-NDH	143 11 16
15	05/02/17	SBH-NDH	25
16	05/02/20-21	BAH-SHH	48

#	Date (yy/mm/dd)	Radio Link	Total Microwave Outage Duration (sec)
17	05/03/09	NDH-SPH	1
18	05/03/19	BAH-SHH	5
19	05/03/20	BAH-SHH	2
20	05/03/22	BAH-SHH	1
21	05/03/23	BAH-SHH	1
22	05/03/24	BAH-SHH	1
23	05/03/27	BAH-SHH	1
24	05/05/08	SBH-NDH NDH-SPH SPH-SHH SHH-BAH	4 12 14 12
25	05/05/26	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	262 163 148 8
26	05/05/29	BAH-SHH SHH-SPH SPH-NDH	305 31 29
27	05/05/30	BAH-SHH SHH-SPH SPH-NDH	196 116 95
28	05/06/01	BAH-SHH SHH-SPH SPH-NDH	3 2 3
29	05/06/02	BAH-SHH SHH-SPH SPH-NDH	2 3 1
30	05/06/03	BAH-SHH SHH-SPH	13 28
31	05/06/05	BAH-SHH SHH-SPH SPH-NDH	13 2 2
32	05/06/09	BAH-SHH SHH-SPH SPH-NDH	4 2 2
33	05/06/10	BAH-SHH SHH-SPH SPH-NDH	4 3 9
34	05/06/14	BAH-SHH SHH-SPH	3 1

#	Date (yy/mm/dd)	Radio Link	Total Microwave Outage Duration (sec)
35	05/06/15	BAH-SHH SHH-SPH SPH-NDH	6 5 6
36	05/06/22	BAH-SHH	1
37	05/07/04	BAH-SHH SHH-SPH	21 36
38	05/07/05	BAH-SHH SHH-SPH SPH-NDH	12 47 1
39	05/07/07	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	8 8 28 14
40	05/07/15	BAH-SHH	28
41	05/07/25-26	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	11 93 11 11
42	05/08/08	SPH-SHH	1
43	05/08/27-31	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	1 66 10 16
44	05/09/15	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	3 44 10 16
45	05/10/26	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	1 1 1 1
46	05/11/10	SPH-NDH NDH-SBH	30 42
47	05/11/22	SHH-SPH SPH-NDH NDH-SBH	1 2 1
48	05/12/1-2	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	121 1353 230 271
49	05/12/23	BAH-SHH SPH-NDH	19 8

#	Date (yy/mm/dd)	Radio Link	Total Microwave Outage Duration (sec)
50	05/12/28	BAH-SHH SHH-SPH	1 1
51	06/02/09	SHH-SPH SPH-NDH NDH-SBH	2 3 2
52	06/02/24	SBH-NDH	12
53	06/04/24	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	10 1064 68 93
54	06/05/01	SHH-SPH SPH-NDH NDH-SBH	174 334 388
55	06/05/03	SHH-SPH	3
56	06/05/09	BAH-SHH SHH-SPH	2 3
57	06/05/11	BAH-SHH SHH-SPH SPH-NDH NDH-SBH	4 108 15 18
58	06/06/05	SHH-SPH SPH-NDH NDH-SBH	10 2 3
59	06/07/07	NDH-SBH	2